JOINT REGIONAL PLANNING PROGRAM

Continuing Air Quality
Review Procedure

Technical Memorandum 8/03

JOINT REGIONAL PLANNING PROGRAM

A joint program of The Denver Regional Council of Governments
The Regional Transportation District — Division of Highways, State of Colorado

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Continuing Air Quality Review Procedure

Technical Memorandum 8/03

March, 1976

Prepared by
Colorado Division of Highways
for
Joint Regional Planning Program

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Preface

The Joint Regional Planning Program is charged with the responsibility of assessing air quality for the Denver/Boulder metropolitan areas as it relates to the urban transportation planning process. The Federal Highway Administration has published Air Quality Guidelines in the Federal-aid Highway Program Manual (FHPM 7-7-9), which is contained in Appendix A, for use in planning, location, and construction of highway improvements.

Paragraph 6 of FHPM 7-7-9 requires the development of a continuing review procedure. This technical memorandum will establish the review procedure to be used by and be agreed with by the Colorado Division of Highways, Air Pollution Control Division, and the Joint Regional Planning Program. To assist in the development of the contents of this procedure, joint Federal Highway Administration and Environmental Protection Agency guidelines were used. These joint guidelines were developed at the national level by both Federal Highway Administration (FHWA)and Environmental Protection Agency (EPA). A copy of these joint guidelines are contained in Appendix B.

A. Definitions

State Implementation Plan (SIP) - The plan required by 42 U.S.C. 1857 (Section 110 of the Clean Air Act of 1970) to attain and maintain a national ambient air quality standard. For the purpose of this memorandum, an approved SIP is the implementation plan, or the most recent revision thereof, which has been approved or promulgated by the Environmental Protection Agency under Section 110 of the Clean Air Act of 1970.

Air Pollution Control Division (APCD) - That air pollution control agency as defined by 42 U.S.C. 1857 (Section 302 (b) of the Clean Air Act of 1970).

Colorado Department of Highways, Division of Highways (CDH) - The agency with the primary responsibility for initiating and carrying forward the construction or reconstruction, including associated activities, of a highway section.

Metropolitan Planning Organization (MPO) - That agency responsible for conducting the continuing, comprehensive and cooperative transportation planning process established pursuant to 23 U.S.C. 134, and designated by the Governor of Colorado as the Metropolitan Planning Organization for the Denver metropolitan area pursuant to the 1973 Federal-aid Highway Act.

Air Quality Assessment Statement (AQAS) - That statement prepared by the Colorado Division of Highways in cooperation with the continuing, comprehensive, and cooperative planning agency which assesses the consistency of the transportation plans and programs with the approved State Implementation Plan.

Transportation Control Plan (TCP) - That plan which is designed to address transportation planning in specific Air Quality Control Region. This plan is part of the State Implementation Plan.

Policy Body - That body responsible for establishing policy for the MPO for the transportation planning process pursuant to 23 U.S.C. 134. The structure of the policy body is outlined in the Memorandum of Agreement and the adendums and/or modifications thereto.

Regional Director - The "Regional Director" of the MPO consists of those individuals or individual as outlined in the Memorandum of Agreement and Operations Plan.

B. Introduction

The Federal-aid Highway Program Manual under Volume 7, Chapter 7, Section 9 places a major responsibility on CDH for incorporating air quality considerations into the transportation planning process. CDH, in cooperation with the MPO, must insure that land use and transportation planning conducted pursuant to 23 U.S.C. 134 is coordinated with air quality planning conducted pursuant to 42 U.S.C. 1857.(See Appendix B) To insure that air quality planning is being considered by CDH and the MPO, a continuing air quality review procedure shall be developed in accordance with those items in paragraph 6 of FHPM 7-7-9. (See Appendix A.) There are four steps which must take place in conducting an air quality assessment:

(1) assess the consistency of the transportation plan and program with the approved SIP;

(2) solicit comments annually from the APCD including its assessment of the consistency of the transportation plans and programs with the approved SIP prior to transportation plan approval by the Policy Body;

(3) identify and attempt to resolve differences with the APCD;

(4) the CDH will request the MPO Policy Body to annually determine the consistency of the current transportation plans and programs with the approved SIP.

The CDH will then submit to the Federal Highway Administration (FHWA) a complete record of the documents which result from the air quality review procedure. Then, the Regional Federal Highway Administrator in consultation with the Regional Administrator of the Environmental Protection Agency (EPA) shall:

(1) assess the degree of coordination in the planning process between planning for transportation and air quality planning;

(2) review the determination on consistency between the transportation plan and program and the approved SIP.

The subsequent chapters will further expand and explain each step to be taken during the continuing review procedure. The review procedure flow chart is shown in Figure 2.

C. Organization and Management

1. Purpose

This continuing air quality review procedure is to outline the general procedure to be employed when conducting air quality analysis for the Denver and Boulder metropolitan areas, as it relates to 23 U.S.C. Section 109 (j). An integral part of this procedure, to insure success of the air quality analysis, is to bring together those agencies directly involved in the air quality analysis at regional, state, and federal levels.

2. Need

To obtain better coordination for implementation of this review procedure, an Air Quality Technical Advisory Committee (AQTAC) has been formed. This committee consists of representatives from EPA, FHWA, APCD, and the Regional Review Team (RRT). The AQTAC brings those agencies together in an informal format to advise the MPO on air quality matters. Figure 1 indicates how the AQTAC fits within the existing MPO organizational structure.

3. Functional Responsibilities

Since Figure 1 indicates the AQTAC will be an advisory committee to the RRT, all comments and advice will be considered as informal and advisory. The RRT will be responsible for the overall operation of the AQTAC. This means the RRT will be responsible for determining the need for meetings; preparation and distribution of agendas and minutes of meetings. The topics to be discussed will be confined to those inputs and outputs directly

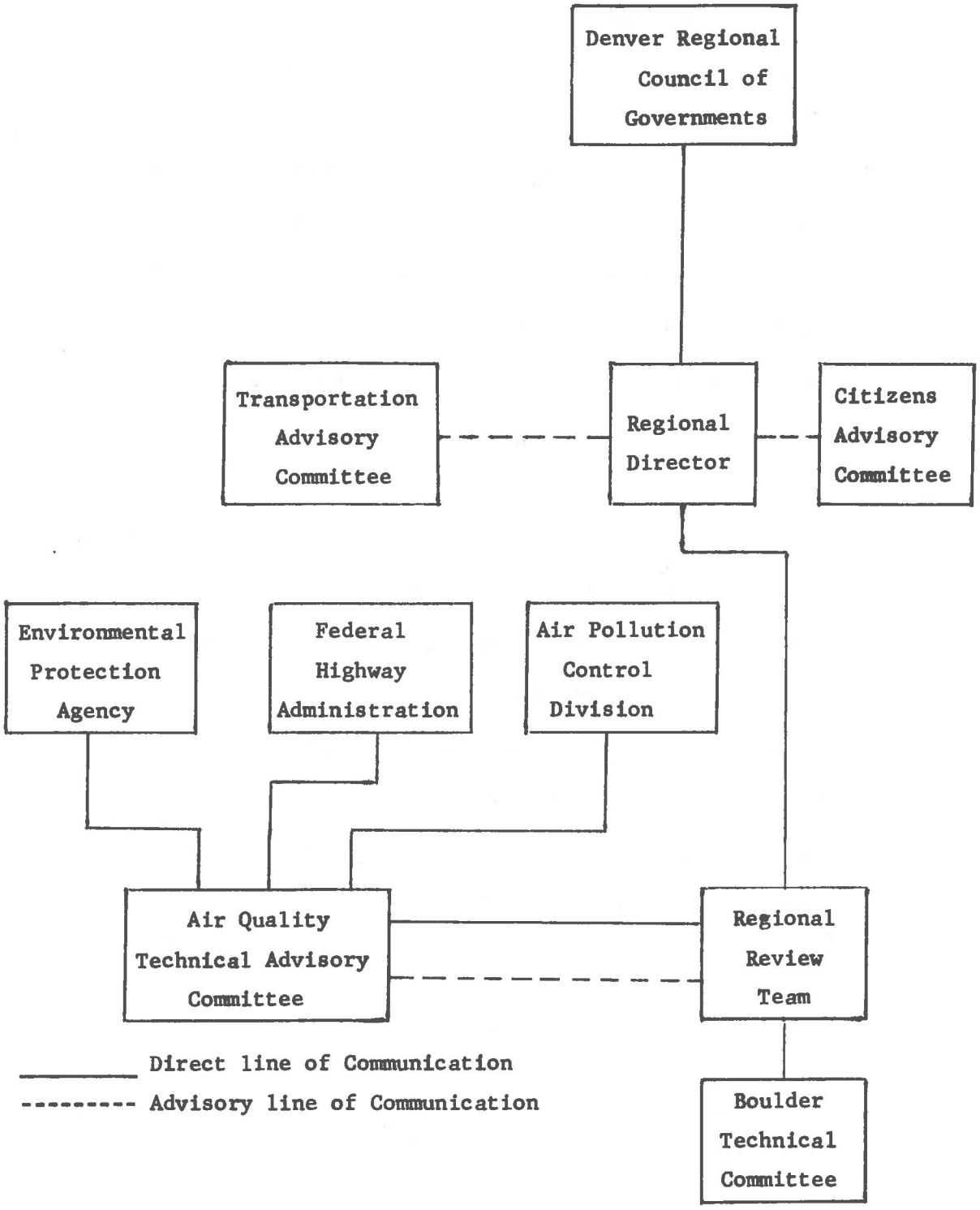


Figure 1

JRPP Organizational Structure

- Air Quality -

related to the air quality analysis and determination of consistency. The chairman of the AQTAC will be a representative of the RRT. CDH will serve as the administrative agent for the RRT.

D. Continuing Air Quality Review Procedure

1. Exchange Plans and Programs

In doing an air quality assessment of the APCD and MPO's plans and programs, it is critical that each agency have the other agency's latest approved plans and programs. Therefore, at the outset of the review procedure, both the APCC and the MPO will compare their respective plans and programs used for the previous air quality assessment to the current and federally approved plans and programs. If this comparison indicates that there is a difference, the current plans and programs will be exchanged by the APCD and the MPO. This exchange will be in the form of a letter with the latest plans and programs attached. The letter will state that, for the purpose of the upcoming air quality assessment, the attached plans and programs should be used. Also, the letter should state the status the plans and programs have with the appropriate Federal agencies. If letters exist granting approval, they should be included, plus policy body action on the plans and programs should be included to verify the status of the plans and programs.

The final product of this portion of the review procedure will be: (1) a letter from the APCD to the MPO transmitting the federally approved SIP with documentation of federal and policy body actions on the attached documents; and (2) a letter from the MPO to the APCD transmitting the land use and transportation plans and the short range transportation improvement program with the documentation of federal and policy body actions on the attached documents.

2. Evaluation of Air Quality by the MPO

Before an evaluation can be undertaken by the MPO, a common agreement must be reached between the MPO and the APCD on the scope and detail of the air quality assessment. In a joint publication by the Federal Highway Administration and the Environmental Protection Agency dated April, 1975, entitled Guidelines for Analysis of Consistency Between Transportation and Air Quality Plans and Programs, (See Appendix B) a method of analysis has been agreed upon by both agencies on a national level. These guidelines will be used, for the most part, in deciding on the scope and detail of air quality analysis.

The air quality analysis is separated into four components. Through the use of variations of each component, the appropriate degree of air quality analysis can be obtained, which is commensurate with the air quality problems, existing or potential. The four components are:

a. Analysis Area Air Quality
b. Analysis Years
c. Analysis Input Data Requirements
d. Analysis Methods

a. Analysis Area Air Quality

The level of air quality analysis should be based on the nature and severity of the existing and forecasted air quality problems in the MPO Planning area. There are four criteria which should be used to determine the nature and severity of the transportation-related air quality problems:

1) Air quality control region priority classification for carbon monoxide (CO), photochemical oxidants (O_x), and notrogen dioxide (NO_2).

2) TCP adoption or promulgation.

3) Air quality maintenance area designation for CO, O_x, and NO_2.

4) Violations of appropriate state and federal air quality standards.

For the Denver metropolitan area the following priority exists for three air pollutants listed above:

1) CO - Priority I

   O_x - Priority I

   NO_2 - Priority III

2) TCP for pollutants listed under item #1; a TCP exists for both CO and O_x.

3) The MPO has CO, O_x, and NO_2 designation as an Air Quality Maintenance Area (AQMA) since the potential exists for violation of National Ambient Air Quality Standards (NAAQS).

b. Analysis Years

The years to be analyzed should be compatible with the nature and severity of the air pollution problem in the MPO Planning area, and by whether violations of NAAQS are existing or the potential for violation exists.

1) Initial Air Quality Analysis Year

   This will allow for the establishment of a relationship between air pollutant emissions and concentrations which can be used in forecasting the future year emissions. For the JRPP area, the year 1974

will be used since the Colorado Department of Health conducted a very complete and comprehensive air pollution sampling study for that year. Extrapolated 1974 traffic data was used based on traffic data gathered in 1971 during the origin and destination study. The extrapolated 1974 traffic data consisted of updating the 1971 traffic count data by obtaining 1974 traffic counts on selected streets.

2) Long-range Plan Year

The travel forecasting year used by the MPO is the year 2000. All land use and transportation plans (highway and transit) are developed using 2000 as the target year.

The MPO has already gone through the development stage of plan selection with the official adoption of a land use, highway, and public transportation plan for the year 2000. Therefore, the only systems to be evaluated will be the year 2000 adopted transportation plans and the "no build", i.e. existing plus committed.

3) Interim Analysis Years

To assure attainment and maintenance of NAAQS, one or more years between the base year and the long-range plan year will be analyzed as part of the air quality analysis

Three interim years proposed for analysis in the FHWA publication are: (1) attainment year (1977);

(2) Short-range Transportation Improvement Program year; and (3) Air Quality Maintenance Plan (AQMP) year. The JRPP presently is making land use allocations for 1980, 1985, 1990 and 2000. Transportation plans for 1980, 1985 and 1990 will be developed as part of the air quality analysis. It is felt that for the air quality analysis 1980, 1985 and 1990 will be adequate for the intermediate analysis years. Extrapolations can be made for any additional years.

c. Analysis Input Data Requirements

In making a consistency determination the appropriate data level should be used that is commensurate with the air quality problem. Also, for each analysis year, such as the long-range plan year, base year, and interim analysis years; the data level should be determined separately.

1) Development of Data Levels

There are basically two different data levels, A and B. Level A data is that information obtained from the land use and transportation modeling process. Whereas, level B data is that information which does not directly result from the land use and transportation modeling process. The area's designation will have a major impact on the level of data. For example, if an urbanized area is part of a priority I Air Quality Control Region, but has not been designated as an Air Quality Maintenance Area and has no Transportation Control Plan requirements, then level B data would be appropriate for the intermediate year analysis.

2) Determination of Appropriate Data Level

Table 1[1] indicates the appropriate data levels for various analysis years. This table indicates that level A should be used for both the base year and the long-range plan year. However, since level A data can be obtained for 1980, 1985 and 1990 these years will be analyzed to the same degree as the base year and long-range year. For the intermediate years other than 1980, 1985 and 1990, level B data will be used such as, NAAQS attainment year, Short-Range Transportation Improvement Program year and Air Quality Maintenance Plan year.

It is important to note that, in doing the air quality assessment in Subsequent years, either 1980 or 1990 will be the short-range Transportation Improvement Program Year.

d. Analysis Method

There are three general methods that can be used to assess the MPO land use and transportation plans and programs on air quality:

1) Total Pollutant Burden

2) Proportional Modeling

3) Air Quality Simulation Modeling

Listed below are the possible air quality analysis methods available and an explanation of the applicability to the JRPP. This review procedure does indicate which technique

[1]Guidelines for Analysis of Consistency Between Transportation and Air Quality Plans and Programs, Federal Highway Administration, Environmental Protection Agency, April, 1975, Page 11.

Table 1

RECOMMENDED METHODS OF ANALYSIS FOR ASSESSING
THE AIR QUALITY EFFECTS OF MPO PLANS AND PROGRAMS

AQCR CATEGORY	ANALYSIS YEARS: INITIAL AIR QUALITY ANALYSIS YEAR	NAAQS ATTAINMENT YEAR	SHORT-RANGE TIP/AQMP YEAR	LONG-RANGE PLAN YEAR
Priority III AQCR for CO, O_x, NO_2 with no AQMA designation for CO, O_x, NO_2	No annual analysis required; analysis only required at time of level 2 major reviews*	No analysis required	No analysis required	No annual analysis required; analysis only required at time of level 2 major reviews
Priority 1 AQCR for CO, O_x, NO_2 with no TCP and no AQMA designation for CO, O_x, or NO_2	A level transportation and land use data used to estimate emissions; emissions -- air quality relationship established	No analysis required	B level transportation and land use data used to estimate emissions; air quality estimated using proportional model	A level transportation and land use data used to estimate emissions; air quality estimated using proportional model
TCP area, but no AQMA designation for CO, O_x, or NO_2		B level transportation and land use data used to estimate emissions; air quality estimated using proportional model		
AQMA designation for CO, O_x, or NO_2, but no TCP		No analysis required	B level transportation and land use data used to estimate emissions until level 2 major review; level A data used for year of level 2 review; air quality estimated using proportional model	
TCP area and AQMA designation for CO, O_x, or NO_2		B level transportation and land use data used to estimate emissions; air quality estimated using proportional model		

*Analysis at the time of a level 2 major review should be the same as the analysis required for a priority I AQCR with no TCP and no AQMA designation.

NOTE: Once an air quality analysis has been satisfactorily performed, a reanalysis should be performed only when either the transportation plan is revised or updated or when there are changes in air quality requirements, or when other changes occur that significantly affect pollution.

will be used. However, the option exists to use alternative air quality techniques, other than the ones listed below, for a very general type analysis.

1) Total Pollutant Burden -

This approach involves estimating the total pollutant burden, which means the total amount of pollution for the area, for only motor vehicle and stationary sources. However, this approach is only appropriate for those urbanized areas where no transportation control strategies are required and no violations of NAAQS for CO, NO_2, or O_x have been forecasted.

2) Proportional Modeling

This modeling technique is of a non-simulation type. In other words, rollback modeling assumes that pollutant concentrations are proportional to pollutant emissions. Both linear and nonlinear techniques can be used. This technique has no applicability to the Denver/Boulder air quality analysis.

3) Air Quality Simulation Modeling -

Air quality simulation models are numerical computer models which estimate pollutant concentrations under various meteorological conditions and time of day.

Denver area -

The Colorado Division of Highways retained a

consulting firm to develop an air quality simulation computer model which measures both stationary and mobile sources under various meterological conditions. This model will be referred to as the SAI model. The SAI model has been calibrated for a winter condition and summer condition. The SAI will be used for project data for projects in the Denver area.

It is proposed that, when doing a system selection analysis for numerous transportation systems, a less sophisticated air quality simulation model be used to make a relative determination of the air quality value of each alternative. Then, for the four or five transportation systems, the SAI model will be used for the final air quality analysis.

Boulder area -

Since the Boulder area has not progressed to the state of the Denver area, in air quality modeling, a different simulation modeling technique will be employed. There are presently three other air quality simulation models available besides SAI: (1) California Line Source; (2) APRAC-1A: and (3) UROAD. It is important to note that only CO will be modeled using the air quality simulation models. A roll back technique will be explored to

determine whether or not other pollutants can be modeled.

The California Line Source is more project oriented rather than system oriented. This model would not be applicable for a system planning evaluation of alternative transportation systems. The APRAC-1A model has more system planning applicability. The planning area is divided into one or two mile grid cells. Then, the pollutant concentrations are calculated for each grid cell. The pollutant concentrations are only for mobile sources (vehicles). Stationary source pollutants cannot be input to obtain total pollutant concentrations.

The UROAD model has the same capability as APRAC-1A with the exception that there are no provisions for inputting meteorological information. This exception is critical since there is no mixing taking place.

Therefore, APRAC-1A will be used in the Boulder area for conducting an air quality analysis. However, for doing alternative transportation system analysis, UROAD will be used since this model is applicable to the present travel forecasting model structure.

3. Format of Air Quality Assessment Statement

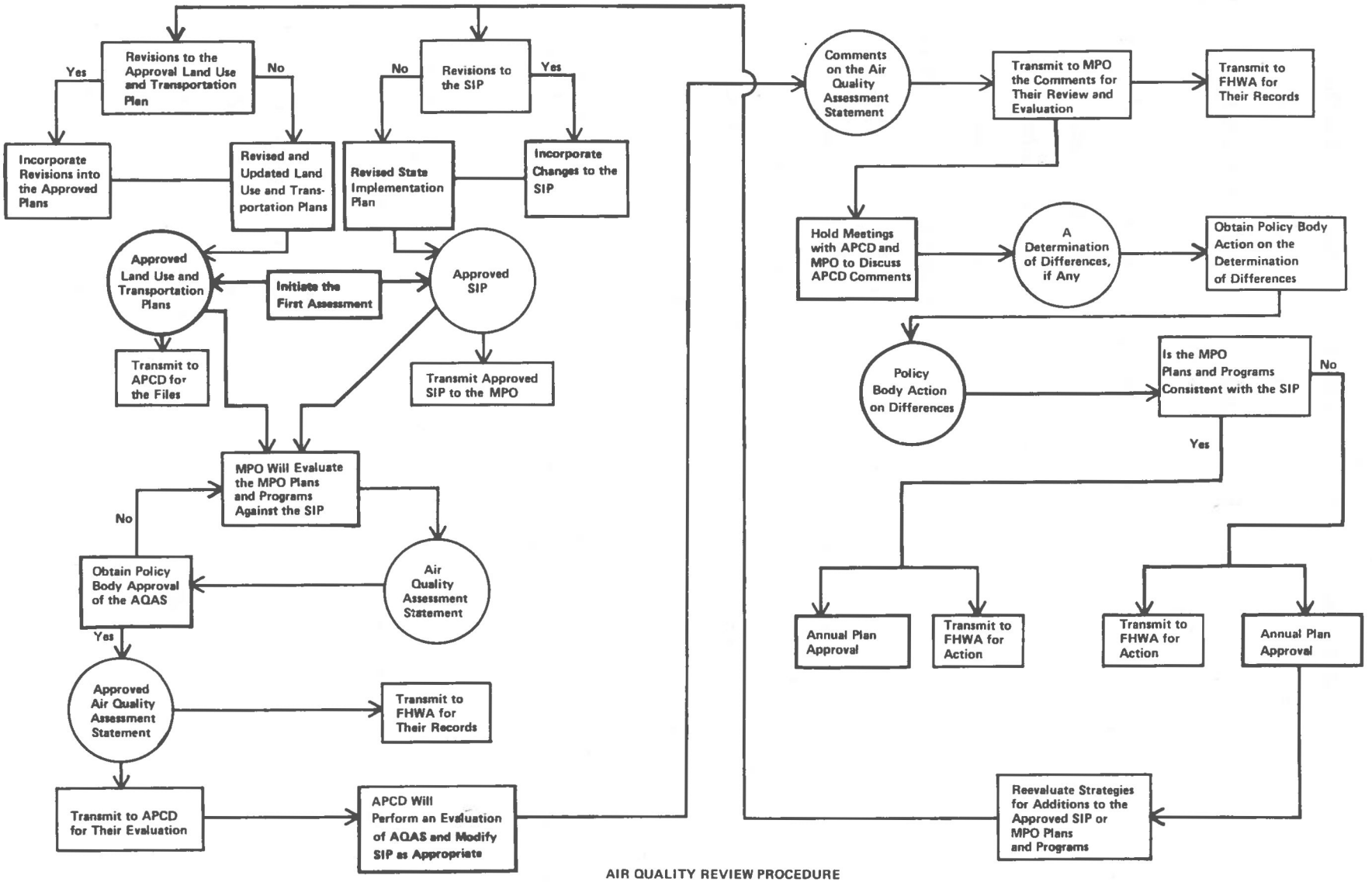
The first phase in the preparation of the air quality

assessment statement is the development of the format for the statement. Figure 2 indicates that the APCD will perform an evaluation of the Air Quality Assessment Statement. To facilitate this evaluation, the air quality assessment statement will be structured according to the format in the approved SIP. The statement will address those items in the SIP. These criteria are outlined in the joint FHWA and EPA publication. (See Appendix B, page 16.)

a. The MPO transportation plans and programs must not exacerbate any existing violations of NAAQS. This does not mean that new highways or highway modifications cannot be completed until NAAQS are attained, only that proposed facilities should not increase pollutant concentrations beyond the levels that already exist.

b. The MPO transportation plans and programs must not contribute to a violation of NAAQS for a pollutant for which no concentrations in violation of standards have been measured.

c. The MPO transportation plans and programs must not delay the attainment of NAAQS. The attainment deadline for NAAQS, as now specified in the Clean Air Act, is 1975 unless an extension has been granted by the Administrator of the EPA. Extensions have been granted through May 31, 1977 for the Denver AQMA. The EPA has requested from Congress authority to grant further extensions in meeting deadlines, if all reasonable control measures



AIR QUALITY REVIEW PROCEDURE
FLOW CHART

Figure 2

have been implemented and NAAQS still cannot be attained.

d. The MPO transportation plans and programs must not interfere with maintenance of NAAQS, once the standards are attained.

e. The MPO transportation plans and programs must include all appropriate portions of State plans to implement NAAQS, including the transportation control measures either adopted by a State or promulgated by the EPA to reduce air pollution. AQAS will address the SIP strategies, such as stationary hydrocarbon control, gasoline limitation, bus/carpool lanes, parking limitation, and mass transit improvements. Other transportation control measures to reduce pollutant emissions from individual vehicles should not be included in MPO transportation plans and programs, but should be reflected in the estimation of emissions as part of the air quality analyses. For example, measures such as mandatory inspection and maintenance of vehicles will reduce hydrocarbon and carbon monoxide emissions from individual vehicles. This reduction should be taken into account in forecasting such emissions for future years.

The final format of the AQAS will be jointly agreed upon by the APCD and MPO as indicated by signatures at the end of the technical memorandum. The final AQAS will include the results of the SAI model. The results will be air pollution isochronal lines for each analysis year requiring a level A analysis.

4. Policy Body Action on Air Quality Assessment Statement

Once the air quality assessment has been completed by the MPO, the next step is to obtain policy body approval of the consistency statement. This procedure consists of the Regional Review Team (RRT) recommending to the Regional Director that the MPO Policy Body approve the statement; then the Regional Director review the statement and either concurs or sends the statement back to the Regional Review Team of the MPO for further work. If the Regional Director concurs, then the statement is forwarded to the MPO Policy Body for action. This procedure is in conformance with the established procedure in the approved MPO Operations Plan.

The Regional Director, once Policy Body action is obtained, will forward the approved Air Quality Assessment Statement to the APCD for their review. Also, a copy of the approved statement will be forwarded to the FHWA by CDH for their information and FHWA will be able to monitor the progress of the air quality assessment.

5. Evaluation of the AQAS by the APCD

After receiving the approved MPO AQAS from the Regional Director, the APCD will perform an evaluation of the statement against the SIP. Estimates of the air quality and corresponding level reduction strategies in the SIP will be adjusted as appropriate based on the results in the MPO's Air Quality Assessment Statement. This consistency determination will be made by examining the plans and programs exchanged between each agency at the outset of this process, among other things as deemed necessary by APCD. Each item of the Air Quality Assessment Statement prepared by the MPO shall be addressed

in either a positive or negative manner. In other words, the APCD must either concur or disagree with each item of the AQAS, or APCD could provide general comments on the AQAS, if they so desire. If there is a disagreement cited, then a reason must be given by the APCD. The APCD will prepare a summary report on its evaluation of each item in the AQAS. This summary will then be transmitted to the MPO for its review and evaluation.

6. Resolution of Differences Between the APCD and the MPO.

Once the APCD summary report is received by the MPO an evaluation will be performed by the MPO on the APCD comments to establish a MPO position. The Regional Review Team of the MPO will then schedule a meeting with the APCD. This meeting will bring these technical individuals from both the APCD and MPO, responsible for air quality analysis, together to discuss the APCD comments. Each comment made by the APCD can be discussed to attempt to reach a common position on each item of the AQAS where differences exist. The number of meetings between the two agencies will vary from year to year depending on the severity of the differences cited by the APCD in its consistency determination.

The product of these meetings will be a list of differences which could not be resolved through the meetings. With the differences noted, a position statement will be prepared by both the APCD and the MPO. This list of differences will be part of the final AQAS that will go to the MPO Policy Body. A representative of each agency will sign the position statement document.

7. Policy Body Action on the Differences

The MPO Policy Body will review the approved AQAS and the attached position paper which cites each agency's position on the unresolved differences. The policy body will then take a policy position on each unresolved difference, if any. The product of this policy body action will be a list of policy body positions on the unresolved differences. Then, this approved policy body position on the differences will be transmitted to the FHWA and APCD; along with the approved AQAS, the letter from the MPO requesting the APCD evaluation as to the consistency of the AQAS and the minutes of meetings between the APCD and the MPO on attempting to agree on differences.

This entire package of information will be forwarded to FHWA for final action by the Regional Administrator of FHWA and EPA. The results of this process will become part of the certification process for the Denver and Boulder urbanized areas.

8. Procedure Recycling After Policy Body Action on the Difference.

After the Policy Body has taken a policy position on each unresolved difference, if any existed, two situations will exist. First, the SIP and the MPO Plans and Programs were found to be consistent. Therefore, no additional changes should be made to either the SIP or the MPO Plans and Programs. Or second, the SIP and MPO Plans and Programs were found not to be consistent. This will require a recycling back by the APCD and MPO. This process will require an investigation of additional strategies in the SIP or a reevaluation of the MPO Plans and Programs. The air quality

modeling results from the Air Quality Assessment Statement will be used as a guide in the reevaluation of both the APCD's SIP strategies and the MPO's Plans and Programs.

9. Plan Approval

After the air quality analysis process has been completed by the MPO and the APCD and MPO Policy Body action has been completed, the Policy Body must reaffirm its position on the latest approved Land Use and Transportation Plans. The annual plan approval must consider the results of the air quality analysis and then determine the validity of the MPO plans and programs.

This final action by the policy body concludes the entire air quality analysis process as outlined in Figure 1.

E. Agency Endorsement

We, the agencies involved in the Air Quality Analysis for the Denver and Boulder urbanized areas, do hereby agree to the continuing air quality review procedure, as outlined in this technical memorandum.

Director
Air Pollution Control Division

Robert Farley,
Executive Director,
Denver Regional Council
of Governments

John Simpson
Executive Director,
Regional Transportation
District

Jack Kinstlinger
Executive Director
Colorado Department
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APPENDIX A

FEDERAL AID HIGHWAY PROGRAM MANUAL
VOLUME 7, CHAPTER 7, SECTION 9
AIR QUALITY GUIDELINES

U. S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

FEDERAL-AID HIGHWAY PROGRAM MANUAL

VOLUME	7	RIGHT-OF-WAY AND ENVIRONMENT
CHAPTER	7	ENVIRONMENT
SECTION	9	AIR QUALITY GUIDELINES

Transmittal 105
November 26, 1974
HEV-10

Par. 1. Purpose
2. Authority
3. Definitions
4. Policy
5. Application
6. Urban Transportation Plans and Programs
7. Highway Sections
8. Construction of Highways

1. PURPOSE

* *To issue policy and procedures covering air quality guidelines for use in planning, location and construction of highway improvements pursuant to 23 U.S.C.*

2. AUTHORITY

a. 23 U.S.C., Sections 109(h) and 109(j).

b. 42 U.S.C., Section 4332.

3. DEFINITIONS

a. Action. The construction or reconstruction, including associated activities, of a highway section.

b. Air Quality Control Region. An interstate or intrastate area designated by the Administrator of the Environmental Protection Agency (EPA) pursuant to U.S.C. 1857 (Section 108 of the Clean Air Act of 1970).

*Regulatory material is italicized

c. *Air Pollution Control Agency. The State, local or multistate agency as defined by 42 U.S.C. 1857 (Section 302(b) of the Clean Air Act of 1970).*

d. *Environmental Impact Statement (EIS). A detailed statement prepared in response to 42 U.S.C. 4332 (Section 102(2)(C) of the National Environmental Policy Act of 1969).*

e. *Highway Agency. The agency with the primary responsibility for initiating and carrying forward the action. For highway sections financed with Federal-aid highway funds, the highway agency will normally be the appropriate State, county or city highway agency. For highways financed with other funds, such as forest highways, park roads, etc., the highway agency will be the appropriate Federal or State agency with the primary responsibility for initiating and carrying forward the action.*

f. *Highway Section. A highway development proposal between logical termini (population centers, major traffic generators, major crossroads, etc.) as normally included in a location study or multiyear highway improvement program.*

g. *Indirect Source Review Agency. The agency designated in an applicable State implementation plan to meet the requirements of 40 CFR 51.18 (38 Federal Register 15834, June 18, 1973).*

h. *National Ambient Air Quality Standards. The National Ambient Air Quality Standards established pursuant to 42 U.S.C. 1857 (Section 109 of the Clean Air Act of 1970).*

i. *Negative Declaration. A document supporting a determination that a proposed major action will not have a significant impact upon the quality of the human environment of a magnitude to require the processing of an EIS.*

j. *Policy Board (Policy Committee, Coordinating Committee, etc.). That group of local officials, individuals or representatives of agencies or organizations which have been designated by the State to provide policy guidance and direction in the conduct of the urban transportation planning process in an urbanized area.*

k. *Urban Transportation Planning Process (3C Planning Process).* *The continuing, comprehensive and cooperative planning process established pursuant to 23 U.S.C. 134.*

l. *State Implementation Plan (SIP).* *The plan required by 42 U.S.C. 1857 (Section 110 of the Clean Air Act of 1970) to attain and maintain a national ambient air quality standard. For the purpose of this directive, an approved SIP is the implementation plan, or most recent revision thereof, which has been approved or promulgated by the Environmental Protection Agency under Section 110 of the Clean Air Act.*

m. *Urban Transportation Plans and Programs.* *Proposed areawide plans and proposed capital improvement programs developed through the urban transportation planning process.*

4. POLICY

It is the policy of the Federal Highway Administration (FHWA) that highway agencies responsible for the planning, location and construction of highways pursuant to 23 U.S.C. consult with the local, State and Federal air pollution control agencies, as appropriate, and assure that decisions on highways are consistent with approved State implementation plans and that adequate consideration is given to preservation and enhancement of air quality.

5. APPLICATION

Land use, air quality and transportation planning are interdependent. It is, therefore, essential that planning activities be closely coordinated in the conceptual stages and throughout the highway development process. The highway agency shall follow the appropriate procedures outlined in paragraphs 6 through 8 in order to assure that the planning, location, and construction of highways are consistent with the approved State implementation plan for attainment and maintenance of air quality standards.

a. *The continuing review procedure described in paragraph 6 shall be a requirement for each transportation planning process established pursuant to 23 U.S.C. 134.*

b. The procedures for consideration of air quality described in paragraph 7 shall apply to the processing of Federal-aid highway proposals.

c. The procedures described in paragraph 8 shall apply to the consideration of construction specifications as related to air quality.

6. URBAN TRANSPORTATION PLANS AND PROGRAMS

a. To assure that land use and transportation planning conducted pursuant to 23 U.S.C. 134 and air quality planning conducted pursuant to 42 U.S.C. 1857 and the transportation plans resulting therefrom are coordinated, the responsible highway agency in cooperation with each 3C planning agency shall establish a continuing review procedure with the air pollution control agency to:

(1) assess the consistency of the transportation plan and program with the approved State implementation plan,

(2) solicit comments annually from the air pollution control agency including its assessment of the consistency of the transportation plan and program with the approved State implementation plan prior to transportation plan approval by the policy board, and

(3) identify and attempt to resolve differences with the air pollution control agency.

b. The highway agency shall request the policy board to annually determine the consistency of the current transportation plan and program with the approved State implementation plan. The highway agency shall furnish FHWA a record of this determination along with any written comments received from the air pollution control agency and the policy board's disposition of these comments.

c. The Regional Federal Highway Administrator, in consultation with the Regional Administrator of the Environmental Protection Agency, shall annually:

(1) assess the degree of coordination in the planning process between planning for transportation and air quality planning, and

(2) review the determination on consistency between the transportation plan and program and the approved State implementation plan.

d. Any deficiencies shall be cited to the highway agency. Significant deficiencies (including major instances of inconsistency) shall be considered by the Regional Federal Highway Administrator as grounds for withholding planning certification.

7. HIGHWAY SECTIONS

a. The following procedures shall apply to highway sections for which both the draft and the final environmental impact statement are submitted to FHWA or for which a negative declaration is considered by FHWA after the effective date of this directive:

(1) The studies and coordination activities related to the construction or reconstruction of a highway section shall include an appropriate consideration of air quality. The level of this consideration and/or the air quality analysis is to be determined on the basis of the nature and location of the highway section, anticipated traffic volume, existing air quality problems, sensitivity of nearby receptors to air pollution, and meteorological conditions. It is anticipated that lower volume facilities in areas without critical air quality problems can be satisfactorily analyzed using simplified analysis techniques and that onsite measurements will not be required. High volume facilities in areas with critical air quality problems will usually require onsite data gathering and a high level of analysis.

(2) For highway sections where a negative declaration rather than an EIS is to be prepared, the negative declaration shall briefly outline the air quality considerations involved in the development of the highway proposal. For highway sections subject to the requirements of 40 CFR 51.18 (see Attachment 1), *"Review of New Sources and Modifications," the negative declaration shall also include a record*

of required coordination with the indirect source review agency. The FHWA Division Engineer shall review the air quality information in the negative declaration for adequacy. FHWA adoption of the negative declaration shall constitute the FHWA determination that the highway is considered to be consistent with the approved State implementation plan.

(3) For highway sections on which a draft EIS is prepared, the draft shall contain:

(a) an identification of the air quality impact of the highway section,

(b) an identification of the analysis methodology utilized,

(c) a brief summary of the early consultation with the air pollution control agency and, where applicable, a brief summary of consultation with the indirect source review agency,

(d) any comments received from the air pollution control agency and, where applicable, any comments received from the indirect source review agency, and

(e) the highway agency's determination on the consistency of each alternative under consideration with the approved State implementation plan.

(4) Where required by 40 CFR 51.18 (see Attachment 1), *the preferred alternative shall be submitted to the indirect source review agency for review. The proposed final EIS shall not be submitted to the FHWA Regional Administrator for adoption if the indirect source review agency has found as a part of the procedures established pursuant to 40 CFR 51.18 that the highway section will result in a violation of applicable portions of the control strategy or will interfere with the attainment or maintenance of the National Ambient Air Quality Standards.*

(5) The final EIS may be adopted by the FHWA only after FHWA has determined that the proposed highway section is consistent with the approved State implementation plan. The determination on consistency shall be made by the Regional Federal Highway Administrator.

(6) In making his determination, the Regional Federal Highway Administrator shall consider the following:

(a) the adequacy and the conclusions of the air quality analysis,

(b) the comments received from the air pollution control agency resulting from the requirements of paragraphs 6a(2) and 7a(3) (Where issues raised by the air pollution control agency have not been resolved by the highway agency or the FHWA Division Engineer prior to submission of the proposed final EIS to the FHWA, the Regional Administrator shall not make a positive determination on consistency without first consulting with the EPA Regional Administrator), and

(c) comments received from other agencies as part of the EIS procedure and the disposition of these comments.

(7) The Regional Federal Highway Administrator shall furnish the results of any consultation with the EPA Regional Administrator on the final EIS and the FHWA determination on consistency in the transmitted information for those final environmental impact statements which require review by FHWA Headquarters.

b. The following procedures shall apply to highway sections for which the draft environmental impact statement was submitted to the FHWA prior to the effective date of this directive and for which the final environmental impact statement is submitted to FHWA after the effective date of this directive:

(1) Prior to the processing of the final EIS, the highway agency, in consultation with the FHWA Division Engineer, shall review available material

on the development of the highway section, including the draft EIS, and shall make a written determination on the adequacy of the consideration of air quality for the highway section.

(2) If the determination concludes that the consideration of air quality is adequate, the final EIS may be processed following established EIS processing procedures.

(3) If the determination concludes that additional information and/or analysis are necessary, a revised draft or supplement shall then be furnished to appropriate local, State and Federal agencies with expertise in air quality. At least 45 days shall be allowed for comment by interested agencies.

(4) Comments received shall be incorporated and addressed in the final EIS as required in Volume 7, Chapter 7, Section 2 of the Federal-Aid Highway Program Manual, *"Environmental Impact and Related Statements."*

(5) Where required by 40 CFR 51.18 (see Attachment 1), *the preferred alternative shall be submitted to the indirect source review agency for review. The proposed final EIS shall not be submitted to the FHWA Regional Administrator for adoption if the indirect source review agency has found as a part of the procedures established pursuant to 40 CFR 51.18 that the highway section will result in a violation of applicable portions of the control strategy or will interfere with the attainment or maintenance of the National Ambient Air Quality Standards.*

(6) Where issues raised by the air pollution control agency have not been resolved by the highway agency or the FHWA Division Engineer prior to submission of the proposed final EIS to the FHWA, the FHWA Regional Administrator shall not make a positive determination on consistency without first consulting with the EPA Regional Administrator.

(7) Adoption of the final EIS by the FHWA shall constitute the FHWA determination that the highway section is considered to be consistent with the approved State implementation plan.

c. The following procedures shall apply to highway sections for which the final environmental impact statement is submitted to FHWA not later than the effective date of this directive, for which a substantial amount of the grade and drain work remains to be advertised for bids, and for which a decision on the consistency of the highway section with the approved State implementation plan has not been made by the Regional Federal Highway Administrator:

(1) The highway agency shall review the information available on the development of the highway section, including the final EIS, and shall prepare a report for the FHWA on the consistency of the proposed action with the approved State implementation plan.

(a) If the highway agency or the FHWA Division Engineer concludes that additional information and/or analysis are necessary to make a determination on consistency, the highway agency shall develop such information or perform such analysis before making the report.

(b) If the information on the development of the highway section or the air quality analysis indicates that implementation of the proposed action will result in a significant air quality impact, the highway agency shall solicit comments from and consult with the air pollution control agency. In such cases, the report shall set forth the anticipated air quality effects of the proposal, a brief summary of coordination with the air pollution control agency, including comments received, and a discussion of substantial unresolved air quality issues, if any.

(2) The FHWA Division Engineer may concur in such reports, except those which include an inconsistency finding by the air pollution control agency. Concurrence in the report by the FHWA Division Engineer shall constitute the FHWA determination that the highway section is considered to be consistent with the approved State implementation plan.

(3) *Reports containing an inconsistency finding shall be forwarded to the FHWA Regional Administrator. Before concurring in proposed highway section approvals, the FHWA Regional Administrator shall consult with the EPA Regional Administrator for the purpose of reviewing the air quality information and consistency determination presented in the report.*

(4) *Concurrence in proposed highway section approvals by the FHWA Regional Administrator shall constitute the FHWA determination that the highway section is considered to be consistent with the approved State implementation plan.*

(5) *The FHWA Regional Administrator may request preparation and processing of a revised or supplemental EIS for the highway section where, in his judgement, the air quality issues raised are of such magnitude as to make the processing in this form necessary. The revised or supplemental EIS shall be processed in accordance with procedures contained in* Volume 7, Chapter 7, Section 2 of the Federal-Aid Highway Program Manual, *"Environmental Impact and Related Statements."*

d. *Advancement of highway sections may continue under the provisions of 23 U.S.C. where the Regional Federal Highway Administrator has made a consistency determination in accordance with the interim regulations (23 CFR 770, 38 FR 31677) or where a substantial amount of the grade and drain work has been authorized prior to the effective date of this directive.*

8. CONSTRUCTION OF HIGHWAYS

a. *The highway agency shall take steps to assure that its current specifications, and any revisions thereof, and the use of specific equipment and/or materials associated with construction are consistent with the approved State implementation plan. This shall be accomplished in coordination with the air pollution control agency.*

b. *The highway agency shall establish procedures in order that any changes in the State implementation plan will be reviewed to determine if revisions to the construction specifications will be necessary.*

c. Revisions to the construction specifications resulting from the above requirements shall be made in consultation with FHWA.

REVIEW OF NEW SOURCES AND MODIFICATIONS
(40 CFR 51.18)
"Indirect Source Regulations"

As a result of a court order by the U.S. Court of Appeals for the District of Columbia, Code of Federal Regulations Title 40, Chapter I, Part 51, Section 18 (40 CFR 51.18), "Review of New Sources and Modifications," was promulgated June 18, 1973, requiring the States to submit revisions to the State implementation plans in order to include a consideration of the air quality impact not only of pollutants emitted directly from the stationary sources, but also of pollution arising from mobile source activity associated with such buildings or facilities (termed indirect sources). Indirect sources were defined to include, but were not limited to, highways and roads, shopping centers, commercial or industrial developments, recreation centers, parking lots and garages, sports stadiums and airports.

In order to comply with the indirect source regulations, the States were to submit revisions to their State implementation plans by August 15, 1973; where States submitted inadequate plan revisions or where no submission was made, the Environmental Protection Agency (EPA) was required to promulgate plan revisions which would meet the air quality maintenance requirements.

By August 15, 1973, only a very few States had submitted acceptable revisions to their State implementation plans. Consequently, EPA promulgated regulations for review of indirect sources for those States not submitting acceptable revisions. The promulgated regulations (40 CFR 52.22) were published in final form on February 25, 1974 (39 FR 7270), and revised on July 9, 1974 (39 FR 25292).

These regulations assign the responsibility for review of indirect sources to the Administrator of EPA. The revised regulation (40 CFR 52.22) requires that those highways in Standard Metropolitan Statistical Areas (SMSA) meeting the following criteria be subject to indirect source review:

1. any new highway project with an anticipated average annual daily traffic volume of 20,000 or more vehicles per day within 10 years of construction, or

2. any modified highway project which will increase average annual daily traffic volume by 10,000 or more vehicles per day within 10 years after modification.

For new highway projects with anticipated traffic volume greater than 20,000 but less than 50,000 vehicles per day, an evaluation of the carbon monoxide concentration at reasonable receptor locations is required.

For new highway projects with an anticipated average daily traffic volume of 50,000 or more vehicles within 10 years of construction (or modified highway projects resulting in an increase of the average daily traffic volume by 25,000 or more vehicles within 10 years after modifications) an area-wide analysis of expected concentrations of photochemical oxidants and nitrogen dioxide is required in addition to the evaluation of carbon monoxide concentrations.

The regulations provide that the construction or modification of an indirect source shall not commence after December 31, 1974, without approval from EPA. The phrase "to commence construction" has been defined in the regulation as follows: "To engage in a continuous program of onsite construction including site clearance, grading, dredging, or land filling specifically designed for an indirect source in preparation for the fabrication, erection, or installation of the building components of the indirect source."

The regulations establish a process with specific time frames identified for each element of the review process. Within 30 days of receipt of an indirect source application, EPA is required to make a preliminary determination of approval or disapproval and to notify the public of the proposal and of its preliminary determination. EPA is also required to allow an additional 30 days for public comment. No later than 10 days after the 30-day comment period, the applicant may submit a written response to any comments submitted by the public. EPA must take final action on the application within 30 days after the close of the public comment period (or within 90 days of the application date).

The Administrator of EPA has continued to encourage States to develop and submit their own indirect source review procedures with the understanding that EPA will revoke its promulgated plan upon finding a State's procedures to be acceptable.*

*As of September 1, 1974, the States of Alabama, Florida, Kentucky, and North Carolina had submitted acceptable revisions to their State implementation plans to provide for the review of indirect sources.

APPENDIX B

GUIDELINES FOR ANALYSIS OF CONSISTENCY BETWEEN TRANSPORTATION AND AIR QUALITY PLANS AND PROGRAMS

GUIDELINES FOR ANALYSIS OF CONSISTENCY

BETWEEN TRANSPORTATION AND AIR QUALITY PLANS AND PROGRAMS

PREPARED JOINTLY BY

THE FEDERAL HIGHWAY ADMINISTRATION

and

THE ENVIRONMENTAL PROTECTION AGENCY

April 1975

Form FHWA 121 (Rev. 5-73)

UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

DATE: APR [illegible]

SUBJECT: "Guidelines for Analysis of Consistency Between Transportation and Air Quality Plans and Programs"

In reply refer to: HHP-23

FROM : Associate Administrator for Planning
Washington, D.C. 20590

TO : Regional Federal Highway Administrators
Regions 1 through 10

The attached "Guidelines for Analysis of Consistency Between Transportation and Air Quality Plans and Programs" were developed jointly by the Federal Highway Administration (FHWA) and the Environmental Protection Agency (EPA). The guidelines represent agreement between the FHWA and the EPA, at the national level, on the methods of analysis appropriate for determining whether metropolitan planning organization transportation plans and programs are consistent with State plans for implementing national ambient air quality standards. A primary objective in developing the guidelines was to identify levels of analysis commensurate with the severity of the air pollution problem in a specific geographic area.

The guidelines for analysis are being distributed to assist in implementing the procedures described in the FHWA "Air Quality Guidelines," Volume 7, Chapter 7, Section 9, of the Federal-Aid Highway Program Manual. As noted in the introduction to the guidelines for analysis, the guidelines should not be interpreted as a limitation on the types of air quality assessment methods that may be used. The purpose of the analysis guidelines is to provide assistance to all the agencies preparing and reviewing consistency determinations in reaching agreement on what constitutes an adequate air quality analysis.

The joint FHWA-EPA working group that prepared the analysis guidelines will refine and supplement the guidelines, as necessary, based on the experience gained during the consistency determination reviews. Any comments you may have concerning the analysis guidelines will be appreciated.

The EPA concurs in the recommendations of air quality analysis procedures contained in "Guidelines for Analysis of Consistency Between Transportation and Air Quality Plans and Programs."

William L. Mertz

Attachment

Concurrence by: Roger Strelow

Roger Strelow
Assistant Administrator for Air and
Waste Management
Environmental Protection Agency

Date: APR 25 1975

GUIDELINES FOR ANALYSIS OF PLAN AND PROGRAM CONSISTENCY

I. INTRODUCTION

The 1970 Federal-Aid Highway Act added Section 109(j) to Title 23 U.S.C. and directed the Department of Transportation to develop and promulgate guidelines to assure that highways constructed with Federal funds are consistent with any approved plan for implementation of any ambient air quality standard. On November 26, 1974, the Federal Highway Administration (FHWA) published final regulations [1/] setting forth the procedures for establishing such consistency with approved State air quality implementation plans. The regulations require annual determinations by the policy board of Metropolitan Planning Organizations (MPO's) that the transportation plans and programs of the agencies are consistent with the State implementation plans. The regulations also require continuing coordination between the transportation planning process and the relevant air pollution control agencies.

Under the FHWA regulations, the Environmental Protection Agency (EPA) has certain responsibilities in the implementation of section 109(j). The FHWA regional administrator must consult annually with the regional administrator of the EPA to (1) assess the degree of coordination in the planning process between planning for transportation and air quality planning, and (2) review the determination on consistency between the transportation plan and program and the approved State implementation plan. The primary purpose of these guidelines, developed jointly by the EPA and FHWA, is to assist State and local agencies in identifying the appropriate levels of analyses for determining the effect of MPO's transporation plans and programs on air quality and to provide EPA

and FHWA regional offices with guidance in reaching agreement in their review of air quality assessments upon which the policy board's consistency determinations are made.

The EPA and the FHWA recognize that, in many instances, these guidelines will not be available in sufficient time to be used by State and local agencies in making the consistency determinations required for the 1975 fiscal year. These guidelines should not be interpreted as a limitation on the types of air quality assessment methods that may be used. The guidelines are not meant to require additional study or analysis if the agencies preparing the air quality assessments to be used as a basis for the consistency determinations have reached agreement with reviewing agencies on the appropriate methods of analysis. The guidelines are also not meant to restrict the scope of already agreed upon studies. If agreement is not reached on what constitutes an adequate analysis on which to base a consistency determination, these guidelines should be used as a means of reaching agreement. Although some minor changes in the guidelines may occur as a result of the increased experience gained during the 1975 consistency determinations, no major modifications are anticipated.

II. DETERMINATION OF THE LEVEL OF ANALYSIS

The scope and detail of the air quality analysis on which the policy board's consistency determinations are based should be commensurate with existing and possible future air quality problems in the MPO planning areas.

The air quality analysis procedures can be separated into four components. By using variations of each of these components, levels of analysis can be developed which are appropriate for specific air quality problems, existing or potential, in the MPO planning areas.

The four components are:

A. Analysis Area Air Quality

B. Analysis Years

C. Analysis Input Data Requirements

D. Analysis Methods

A. Analysis Area Air Quality

The level of air quality analysis and the years for which the analysis is carried out should be based on the nature and severity of the existing and forecasted air quality problems in the MPO's planning area. Three criteria are used to determine the nature and severity of transportation-related air quality problems:

1. Air quality control region (AQCR) priority classifications for carbon monoxide (CO), photochemical oxidants (O_x) and nitrogen dioxide (NO_2).

2. Transportation control plan (TCP) adoption or promulgation.

3. Air quality maintenance area (AQMA) designation for CO, O_x or NO_2.

1. AQCR priority classification

In 1972 AQCR's were classified priority I or priority III for CO, O_x, and NO_2, the transportation-related pollutants. The priority classifications were based either on existing air quality measurements or, if no air quality measurements had been made, on the

size of the urban population in the AQCR. The purpose of the classifications was to establish the levels of analysis necessary in preparing State plans to implement the National Ambient Air Quality Standards (NAAQS). AQCR's were classified priority I where pollutant concentrations at certain levels above the NAAQS were measured. In the absence of measured data AQCR's were also classified priority I, with respect to CO, O_x and NO_2, if they contained an area whose 1970 "urban place" population exceeded 200,000. All other AQCR's were classified priority III. The CO, O_x, and NO_2 concentrations used as criteria for making AQCR priority classifications are listed in Appendix A. AQCR's which have been classified priority I for any of these three pollutants are listed in Appendix B. The counties and urban areas in each AQCR are listed in the EPA publication "Federal Air Quality Control Regions."[2/]

Some areas, where there were no air quality measurements and where the 1970 populations were under 200,000, were erroneously designated priority III. Recent air quality monitoring data have revealed that some of these areas now experience pollutant concentrations in excess of the levels used as criteria for priority I classification. In addition, other areas having measured pollutant concentrations less than priority I level at the time of AQCR classification now have levels sufficiently high to be reclassified priority I. Attachment C lists those priority III AQCR's in need of reclassification. Because the EPA intends to change the priority I criteria from the levels listed in Appendix A to levels coinciding with NAAQS, Appendix C lists all priority III areas with measured concentrations above NAAQS. The MPO Policy Board should be aware of the impending classification changes and should begin making preparation for appropriate AQCR air quality analysis.

2. TCP adoption or promulgation

In 31 metropolitan areas, the emission reductions resulting from implementation of relatively stringent stationary source controls and of Federal emission standards for new motor vehicles will be insufficient to attain national ambient air quality standards by the attainment dates required by the Clear Air Act. In these areas measures were adopted by the States or promulgated by the EPA to reduce emissions from individual vehicles or to reduce vehicle travel. The areas in which TCP's are required as parts of the State plans to implement NAAQS are listed in Appendix D.

3. AQMA designation

The States and the EPA have made preliminary identifications of geographical areas where the potential exists for violation of NAAQS in the years following the attainment of these standards through 1985. For these areas, States must include within their air quality implementation plans additional measures to assure the maintenance of the NAAQS, once attained. These additional measures comprise and are referred to as the "air quality maintenance plan" (AQMP) for the period 1975-1985. Areas which have been tentatively designated AQMA's for transportation-related pollutants are listed in Appendix E.

B. Years of Analysis

Again, the years for which analyses of the MPO transportation plans and programs should be carried out as part of the determination of consistency with State air quality implementation plans should be determined by the nature and severity of the air pollution problem

in the planning area and by whether violations of NAAQS are existing or potential. The analyses should be completed for an initial air quality analysis year, for the year of the long-range plan, and for one or more interim years. The interim years may include the year for NAAQS attainment, and the year projects in the short-range transportation improvement program (TIP) are expected to be completed, or the year of the AQMP.

1. Initial air quality analysis year

Analysis of some past year is necessary to establish relationships between air pollutant emissions and concentrations which can then be used in forecasting the future year emissions allowable if NAAQS are to be attained and maintained. The selection of the initial air quality analysis year is determined primarily by the availability of air quality concentration measurements. In some instances, air pollutant concentrations will not have been monitored during the most recent year for which the MPO has collected and analyzed transportation and land use information. In these cases, a proportional type adjustment in the emissions estimated from base year transportation and land use data will be necessary to have measured air quality concentrations and emissions data for a common year.

2. Long-range plan year

The long-range plan year will vary from area to area depending, in part, on the year the transportation planning process was initiated or on the year of the most recent plan update. In general, the target year of the long-range plan will be about 20 to 25

years from the year of plan development or the most recent update and will include evaluation of alternative transportation systems for one or more land use forecasts. One alternative normally evaluated is a "no-build" case where future transportation demands are accommodated on the existing transportation system. In general, the analysis of the effect of the long-range plan on air quality should include an assessment of the no-build alternative as well as of the selected plan alternative.

3. Interim analysis years

To assure attainment and maintenance of NAAQS in AQCR's where violations of the standards now exist or are forecasted, one or more years between the base year and the year of the long-range plan should be analyzed as part of the consistency determination. If a major highway or airport requiring an indirect source permit from EPA or a State, or local agency is being proposed, this may also influence the interim year or years selected for analysis.

a. Attainment year. The 1970 amendments to the Clean Air Act require that NAAQS must be attained by 1975 or no later than 1977, if an extension for attainment has been granted by the Administrator of the EPA. To assure that the air quality standards are attained within the applicable time frame, those areas where transportation control plans have been adopted by States or promulgated by the EPA should be analyzed for the attainment year.

b. Short-range Transportation Improvement Program (TIP) Year. The short-range TIP identifies proposed transportation system improvements proposed for implementation in the planning area in the near term. These programs represent the

MPO's projection of projects proposed for implementation and, as such, provide an indication of what the transportation system will include in some future year prior to the long-range plan target year. By estimating the emissions from the existing transportation system and including the short-range program improvements, it is possible to provide a general indication of the air quality of the area in the year the short-range program is fully implemented and open to traffic. This year will be approximately 10 years from the current year and may coincide with the AQMP year.

c. AQMP year. Additional provisions are being added to State plans to implement NAAQS to assure that the plans provide for maintenance of the standards once attained. States are required by EPA regulations to develop air quality maintenance plans for 1985 for those geographical areas where a potential exists for future violations of standards. For these areas, some form of analysis should be conducted for 1985 to assure that the transportation plan is consistent with the AQMP when AQMP's are required for the transportation-related pollutants (CO, 0_x and NO_2).

C. Analysis Input Data Requirements

Two general levels of transportation and land use data, A and B, may be used as input in estimating the emissions and air quality information necessary to assess whether the plans and programs developed by the MPO's are consistent with State plans to attain and maintain NAAQS. The basic difference between levels A and B is the manner in which motor vehicle travel and land use data, which provide the basis for estimating mobile and stationary source emissions, are determined. The level of data input appropriate for use in the analyses on which the consistency

determinations are based is once again dependent on the severity of the air pollution problem.

1. Development of levels A and B data

Level A analysis data is that information which results from the land use and transportation modeling and survey procedures typically used in transportation planning. In assessing the air quality associated with MPO transportation plans and programs using level A data, the results of these procedures are used directly. For example, motor vehicle emissions for past years are determined using information such as vehicle miles of travel (VMT), average speeds, and travel mode distributions available from the network assignments. Similarly emissions from stationary sources are calculated using information from land use inventories. Emissions for the year of the long-range plan are forecasted using the results of travel models for estimating motor vehicle emissions and the results of an activity allocation process for estimating stationary source emissions.

Level B analysis data is that data which does not result directly from land use and transportation modeling and survey procedures, but is determined by interpolation between information available for the years for which level A analysis data has been developed. Level B analysis data is used primarily to estimate emissions for intermediate years when the air quality problems in a given area appear minor and do not justify development of level A analysis data. For example, if an urbanized area is part of a priority I AQCR, but has not been designated as an AQMA and has no TCP requirements, then B level data would be appropriate for the intermediate year analysis. The travel data needed to estimate mobile source emissions for years between a past year and the year of the long-range plan can be interpolated from the past year travel data developed

through network assignment (A level) and the plan year travel data forecasted by travel models (A level). Similarly, land use data needed to determine intermediate year stationary source emissions can be determined by interpolation between past year land use inventories and projected land use developed through a land use allocation process.

2. Determination of appropriate data level

The development of level A data requires a substantial amount of time and resources. Only a limited number of MPO's develop such data for any years between the year of the long-range plan preparation or update and the target year for the long-range plan. Because of the time and resources required, level A data should be developed for only areas where a serious transportation related air quality problem has been forecasted (see Table I). Also, because of the time and resources required, level A data shall be developed only when the MPO undertakes a level 2 major review of the long-range plan, as described in the FHWA instructional memorandum 50-4-68. The IM prescribes that transportation plans should undergo major reviews every five years. Until a level 2 review is carried out, level B data may be used in the consistency determination.

An additional consideration in determining the interim analysis years for which to develop level A data is the EPA requirement for preconstruction review of major new highways and highway modifications. For proposed new highways having anticipated daily traffic volumes of 50,000 or more vehicles within 10 years of construction or highway modifications which will increase average daily volumes by 25,000 vehicles, an areawide O_x and NO_2 assessment, similar to that necessary for consistency determination, will be required by the EPA. The EPA is now developing indirect source review procedures that will allow the system air quality analyses for consistency determination to be used to satisfy the indirect source requirements for assessments of the effects of new highways or highway modifications on O_x and NO_2 concentrations provided:

TABLE I RECOMMENDED METHODS OF ANALYSIS FOR ASSESSING
THE AIR QUALITY EFFECTS OF MPO PLANS AND PROGRAMS

AQCR CATEGORY	ANALYSIS YEARS: INITIAL AIR QUALITY ANALYSIS YEAR	NAAQS ATTAINMENT YEAR	SHORT-RANGE TIP/AQMP YEAR	LONG-RANGE PLAN YEAR
Priority III AQCR for CO, O_x, or NO_2 with no violations of NAAQS and with no AQMA designation for CO, O_x, or NO_2	No annual analysis required; analysis only required at time of level 2 major reviews*	No analysis required	No analysis required	No annual analysis required; analysis only required at time of level 2 major reviews
Priority 1 AQCR for CO, O_x, NO_2 with no TCP and no AQMA designation for CO, O_x, or NO_2	A level transportation and land use data used to estimate emissions; emissions -- air quality relationship established	No analysis required	B level transportation and land use data used to estimate emissions; air quality estimated using proportional model	A level transportation and land use data used to estimate emissions; air quality estimated using proportional model
TCP area, but no AQMA designation for CO, O_x, or NO_2		B level transportation and land use data used to estimate emissions; air quality estimated using proportional model		
AQMA designation for CO, O_x, or NO_2, but no TCP		No analysis required	B level transportation and land use data used to estimate emissions until level 2 major review; level A data used for year of level 2 review; air quality estimated using proportional model	
TCP area and AQMA designation for CO, O_x, or NO_2		B level transportation and land use data used to estimate emissions; air quality estimated using proportional model		

*Analysis at the time of a level 2 major review should be the same as the analysis required for a priority I AQCR with no TCP and no AQMA designation.

NOTE: Once an air quality analysis has been satisfactorily performed, a reanalysis should be performed only when either the transportation plan is revised or updated or when there are changes in air quality requirements, or when other changes occur that significantly affect pollution.

(1) the transportation systems analyzed include the proposed facility and (2) the analysis is based on A level data.

The indirect source analysis is required for the 10 years after the new highway modification is completed.

D. Methods of Analysis

There are three general methods that can be used to assess the effects of the MPO transportation plans and programs on air quality:

1. Total pollutant burden
2. Proportional or "rollback" modeling
3. Air quality simulation modeling

The method selected for use should reflect the nature and severity of the air pollution problem in the MPO transportation planning area. The conditions under which each method of analysis is generally appropriate are identified in Table I. Additional characteristics of the methods are summarized in the EPA publication, "Guidelines for Air Quality Maintenance Planning and Analysis, Volume 12: Applying Atmospheric Simulation Models to Air Quality Maintenance Areas." 3/

1. Total pollutant burden

The total pollutant burden approach involves estimating only motor vehicle and stationary sources pollutant emissions associated with a particular transportation plan or program and does not include relating the resultant emissions to pollutant concentrations and forecasting air quality. The approach is thus appropriate for making relative comparisons between transportation system alternatives or between systems for different years, but cannot be used to demonstrate attainment or maintenance of NAAQS. The pollutant burden approach is generally most appropriate for urbanized areas where no transportation control strategies

are required and no violations of NAAQS for CO, O_x or NO_2 have been forecasted.

2. Rollback modeling

The basic assumption on which rollback modeling is based is that pollutant concentrations are proportional to pollutant emissions; any increase or decrease in pollutant emissions will be reflected by an accompanying increase or decrease in pollutant concentrations. Both linear and nonlinear models have been developed. In general, the linear models are appropriate for estimating concentrations of the relatively inert pollutants such as carbon monoxide, while the nonlinear models are appropriate for estimating photochemical oxidant concentrations.

3. Air quality simulation modeling

Air quality simulation models are numerical models for estimating the spatial and temporal distribution of pollutant concentrations in an urban area under various meteorological conditions. Models have been developed to determine the concentrations of both the relatively inert and the reactive pollutants. The models for the reactive pollutants are the least developed of the two types and have been applied to only a limited number of urban areas. Because air quality simulation modeling for reactive pollutants is still in essentially a research stage at this time, such modeling should not be a required method of analysis for the section 109 (j) consistency determinations. Modeling for reactive pollutants is an analysis method that is being encouraged to advance the present state-of-the-art in estimating O_x concentrations; it is not recommended for evaluating air quality as part of the MPO consistency determination.

4. Selection of analysis method

Table I combines the four components of analysis and provides general guidance as to the methods which are appropriate for determining the effects of a transportation plan or program on air quality. The recommendations of appropriate methods are based on the nature and severity of the air quality problem and on the quality of the information available. For example, the decision whether to use rollback modeling or total pollutant burden estimation would depend on the availability of air quality concentration measurements at some time relatively close to the base year or update year of the transportation plan.

III. INTERAGENCY COORDINATION

The discussion thus far has focused on the appropriate approaches to be used in completing the analyses necessary for a determination of consistency by the MPO policy board and has not dealt with the possible ways the analyses could be carried out. In many cases, certain expertise and information necessary to complete the analyses will not be readily available to the MPO or to the State transportation agency, but may rather be found in the State or local air pollution control agency. This is particularly true of expertise and information relating to stationary sources of air pollution and their control and to air quality monitoring. Because the results of the air quality analyses for consistency determinations should be useful to both transportation and air pollution control agencies, the FHWA and the EPA strongly encourage that the analyses be a coordinated effort involving both types of agencies. As indicated earlier, the FHWA air

quality guidelines do require interagency coordination; assessments of the coordination are made annually by the regional administrators of the FHWA and the EPA. The AQMP requirements which EPA will be publishing shortly also require interagency coordination.

The variations in State and local governmental organizations and responsibilities and in the expertise and information available within agencies precludes any description of a division of agency responsibilities which will have general applicability. Table II provides one possible way in which agency responsibilities could be divided in a coordinated analysis for consistency determination.

TABLE II. DIVISION OF AGENCY RESPONSIBILITIES IN CONSISTENCY DETERMINATION ANALYSES

Transportation/Land Use Agency Responsibilities	Air Pollution Control Agency Responsibilities
Develop or acquire transportation and land use data for all analysis years.	Estimate stationary source emissions based on land use data supplied by transportation agencies, on technology forecasts, and on existing and future regulations.
Estimate transportation-related emissions for all analysis years	Analyze air quality data and determine allowable transportation-related and stationary emissions of CO, Hydrocarbons, and NO_2
Determine, if necessary, changes in MPO transportation plans or programs to reduce transportation-related emissions	Determine, if necessary, regulatory or other changes to reduce stationary source emissions

IV. DETERMINATION OF CONSISTENCY

For MPO transportation plans and programs to be consistent with State plans to implement NAAQS, the plans and programs, when impmemented, should meet five basic criteria.

1. The MPO transportation plans and programs must not exacerbate any existing violations of NAAQS. This does not mean that new highways or highway modifications cannot be completed until NAAQS are attained, only that proposed facilities should not increase pollutant concentrations beyond the levels that already exist.

2. The MPO transportation plans and programs must not contribute to a violation of NAAQS for a pollutant for which no concentrations in violation of standards have been measured.

3. The MPO transportation plans and programs must not delay the attainment of NAAQS. The attainment deadline for NAAQS, as now specified in the Clear Air Act, is 1975 unless an extension has been granted by the Administrator of the EPA. Extensions may be granted through 1977. The EPA has requested from Congress authority to grant further extensions in meeting deadlines, if all reasonable control measures have been implemented and NAAQS still cannot be attained.

4. The MPO transportation plans and programs must not interfere with maintenance of NAAQS, once the standards are attained.

5. The MPO transportation plans and programs must include all appropriate portions of State plans to implement NAAQS, including the transportation control measures either adopted by a State or promulgated by the EPA to reduce VMT, such as exclusive buslanes, carpool matching programs, etc. Other transportation control measures to reduce pollutant emissions from individual vehicles should not be included in MPO transportation plans and programs, but should be reflected in the estimation of emissions as part of the air quality analyses. For example, measures such as mandatory inspection and maintenance of vehicles will reduce hydrocarbon and carbon monoxide emissions from individual vehicles. This reduction should be taken into account in forecasting such emissions for future years.

The MPO policy board should consider these five criteria, and other appropriate criteria determined jointly with State and local air pollution control agencies, in determining the consistency of the MPO transportation plans and programs. The regional administrators of the FHWA and the EPA will then review board's determination.

REFERENCES

1. U.S. Department of Transportation, Federal Highway Administration, "Air Quality Guidelines," Vol, 7, Chapt. 7, Section 9 Federal-Aid Highway Program Manual, November 26, 1974. The regulations are also published in the December 24, 1974, Federal Register (39 FR 44441).

2. U.S. Environmental Protection Agency, Federal Air Quality Control Regions, AP-102, January 1972.

3. U.S. Environmental Protection Agency, Applying Atmospheric Simulation Models to Air Quality Maintenance Areas, Vol. 12, Guidelines for Air Quality Maintenance Planning and Analysis, EPA-450/4-7-013, September 1974.

4. U.S. Department of Transportation, Federal Highway Administration, "Operations Plans for Continuing Urban Transportation Planning," Instructional Memorandum 50-4-68, May 3, 1968.

APPENDIX A

CRITERIA FOR PRIORITY I CLASSIFICATION FOR CO, O_X, AND NO_2*

POLLUTANT	AMBIENT CONCENTRATION LIMITS
CO	Equal to or above 55 milligrams per cubic meter (48 p.p.m.), 1-hour maximum; or 14 milligrams per cubic meter (12 p.p.m.), 8-hour maximum
NO_2	Equal to or above 110 micrograms per cubic meter (0.06 p.p.m.) annual maximum
O_X	Equal to or above 195 micrograms per cubic meter (0.10 p.p.m.), 1-hour maximum

*Published in the August 14, 1971 Federal Register at page 15488.

APPENDIX B

PRIORITY I AQCR'S FOR CO, O_x, OR NO_2

STATE	AQCR	CO	O_x	NO_2
Alabama	Metropolitan Birmingham Intrastate	x	x	
	Mobile-Pensacola-Panama City-Southern Mississippi Interstate		x	
Alaska	Northern Alaska Intrastate	x		
Arizona	Clark-Mohave Interstate	x	x	
	Phoenix-Tucson Intrastate	x	x	
Arkansas	Metropolitan Memphis Interstate		x	
California	San Francisco Bay Area Intrastate	x	x	
	North Central Coast Intrastate		x	
	Metropolitan Los Angeles Intrastate	x	x	x
	Sacramento Valley Intrastate	x	x	
	San Joaquin Valley Intrastate	x	x	
	Southeast Desert Intrastate		x	
	San Diego Intrastate	x	x	
Colorado	Metropolitan Denver Intrastate	x	x	
Connecticut	New Jersey-New York-Connecticut Interstate	x	x	x
	Hartford-New Haven-Springfield Interstate	x	x	
Delaware	Metropolitan Philadelphia Interstate	x	x	
District of Columbia	National Capital Interstate	x	x	
Florida	Mobile-Pensacola-Panama City-Southern Mississippi Interstate		x	
	Jacksonville-Brunswick Interstate		x	
Georgia	Jacksonville-Brunswick Interstate		x	
Idaho	Eastern Washington-Northern Idaho Interstate	x		

2.

STATE	AQCR	CO	O_x	NO_2
Illinois	Metropolitan Chicago Interstate	x	x	x
	Metropolitan Dubuque Interstate	x		
	Metropolitan St. Louis Interstate	x	x	
Indiana	Louisville Interstate		x	
	Metropolitan Chicago Interstate	x	x	x
	Metropolitan Cincinnati Interstate		x	
	Metropolitan Indianapolis Intrastate	x	x	
Iowa	South Central Iowa Intrastate		x	
Kansas	Metropolitan Kansas City Interstate	x	x	
	South Central Kansas Intrastate		x	
Kentucky	Louisville Interstate		x	
	Metropolitan Cincinnati Interstate		x	
Louisiana	Southern Louisiana-Southeast Texas Interstate		x	
Maryland	Metropolitan Baltimore Intrastate	x	x	x
	National Capital Interstate	x	x	
Massachusetts	Metropolitan Boston Intrastate	x	x	
	Hartford-New Haven-Springfield Interstate	x	x	
Michigan	Metropolitan Toledo Interstate		x	
Minnesota	Minneapolis-St. Paul Intrastate	x		
Mississippi	Mobile-Pensacola-Panama City-Southern Mississippi Interstate		x	
	Metropolitan Memphis Interstate		x	
Missouri	Metropolitan Kansas City Interstate	x	x	
	Metropolitan St. Louis Interstate	x	x	
Nevada	Clark-Mohave Interstate	x	x	
New Jersey	New Jersey-New York-Connecticut Interstate	x	x	x
	Metropolitan Philadelphia Interstate	x	x	
	New Jersey Intrastate	x		

3.

STATE	AQCR	CO	O_x	NO_2
New Mexico	Albuquerque-Mid Rio Grande Intrastate		x	
	El Paso-Las Cruces-Alamogordo Interstate	x	x	
New York	Niagara Frontier Intrastate		x	
	Central New York Intrastate	x	x	
	Genesee-Finger Lakes Intrastate		x	
	New Jersey-New York-Connecticut Interstate	x	x	x
North Carolina	Metropolitan Charlotte Interstate		x	
Ohio	Greater Metropolitan Cleveland Intrastate		x	
	Metropolitan Cincinnati Interstate		x	
	Metropolitan Columbus Intrastate		x	
	Dayton Intrastate		x	
	Metropolitan Toledo Interstate		x	
Oklahoma	Central Oklahoma Intrastate		x	
	Northeastern Oklahoma Intrastate		x	
Oregon	Portland Interstate	x	x	
Pennsylvania	Metropolitan Philadelphia Interstate	x	x	
	Southwest Pennsylvania Intrastate	x	x	
Rhode Island	Metropolitan Providence Interstate	x	x	
South Carolina	Metropolitan Charlotte Interstate		x	
Tennessee	Middle Tennessee Intrastate		x	
	Metropolitan Memphis Interstate		x	
Texas	Austin-Waco Intrastate		x	
	Corpus Christi-Victoria Intrastate		x	
	Metropolitan Houston-Galveston Intrastate		x	
	Metropolitan Dallas-Fort Worth Intrastate		x	
	Metropolitan San Antonio Intrastate		x	
	Southern Louisiana-Southeast Texas Interstate		x	
	El Paso-Las Cruces-Alamogordo Interstate	x	x	

4.

STATE	AQCR	CO	O_x	NO_2
Utah	Wasatch Front Intrastate	x	x	x
Virginia	State Capitol Intrastate		x	
	Hampton Roads Intrastate		x	
	National Capital Interstate	x	x	
Washington	Eastern Washington-Northern Idaho Interstate	x		
	Portland Interstate	x	x	
	Puget Sound Intrastate	x	x	
Wisconsin	Southeastern Wisconsin Intrastate		x	

APPENDIX C

PRIORITY III AQCR'S WITH VIOLATIONS OF NAAQS*

STATE	AQCR	CO	O_x
California	South Central Coast Intrastate	x	x
	Southeast Desert Intrastate	x	
Florida	Southeast Florida Intrastate		x
	Southwest Florida Intrastate		x
Georgia	Metropolitan Atlanta Intrastate	x	
Hawaii	Hawaii	x	x
Illinois	Paducah-Cairo Interstate	x	
Indiana	Evansville-Owensboro-Henderson Interstate	x	
	Louisville Interstate	x	
Iowa	Metropolitan Omaha-Council Bluffs Interstate	x	
	South Central Iowa Intrastate	x	
Kansas	Northeast Kansas Intrastate	x	
	South Central Kansas Intrastate	x	
Kentucky	Evansville-Owensboro-Henderson Interstate	x	
	Huntington-Ashland-Portsmouth-Ironton Interstate	x	
	Louisville Interstate	x	
	Paducah-Cairo Interstate	x	
Maine	Androscoggin Valley Interstate		x
Maryland	Cumberland-Keyser Interstate	x	
Massachusetts	Merrimack Valley-Southern New Hampshire Interstate	x	x
Michigan	Metropolitan Detroit-Port Huron Intrastate		x
Minnesota	Minneapolis-St. Paul Intrastate		x
Nebraska	Metropolitan Omaha-Council Bluffs Interstate	x	

2.

STATE	AQCR	CO	O_x
Nevada	Northwest Nevada Intrastate	x	
New Hampshire	Androscoggin Valley Interstate		x
	Merrimack Valley-Southern New Hampshire Interstate	x	x
New Jersey	Northeast Pennsylvania-Upper Delaware Valley Interstate	x	
New Mexico	Albuquerque-Mid Rio Grande Intrastate	x	
New York	Champlain Valley Interstate		x
	Genesee-Finger Lakes Intrastate	x	
	Hudson Valley Intrastate	x	x
	Niagara Frontier Intrastate	x	
North Carolina	Metropolitan Charlotte Interstate	x	
	Western Mountain Intrastate		x
Ohio	Dayton Intrastate	x	
	Greater Metropolitan Cleveland Intrastate	x	
	Huntington-Ashland-Portsmouth-Ironton Interstate	x	
	Northwest Pennsylvania-Youngstown Interstate		x
Oklahoma	Central Oklahoma Intrastate	x	
	Northeastern Oklahoma Intrastate	x	
Pennsylvania	Northeast Pennsylvania-Upper Delaware Valley Interstate	x	
	Northwest Pennsylvania-Youngstown Interstate		x
South Carolina	Metropolitan Charlotte Interstate	x	
Vermont	Champlain Valley Interstate		x
Virginia	Hampton Roads Intrastate	x	
	State Capitol Intrastate	x	
West Virginia	Cumberland-Keyser Interstate	x	
	Huntington-Ashland-Portsmouth-Ironton Interstate	x	

*Based on "Monitoring and Air Quality Trends Report, 1973," EPA-450/1-74-007, published in October 1974 by the Environmental Protection Agency.

APPENDIX D

AQCR'S WITH TCP'S FOR CO OR O_x

STATE	AQCR	CO	O_x
Alaska	Northern Alaska Intrastate	x	
Arizona	Phoenix-Tucson Intrastate	x	
California	San Francisco Bay Area Intrastate	x	x
	Metropolitan Los Angeles Intrastate	x	x
	Sacramento Valley Intrastate	x	x
	San Joaquin Valley Intrastate	x	x
	Southeast Desert Intrastate	x	x
	San Diego Intrastate	x	x
Colorado	Metropolitan Denver Intrastate	x	x
District of Columbia	National Capital Interstate	x	x
Illinois	Metropolitan Chicago Interstate	x	
Indiana	Metropolitan Indianapolis Intrastate		x
Maryland	Metropolitan Baltimore Intrastate	x	x
	National Capital Interstate	x	x
Massachusetts	Metropolitan Boston Intrastate	x	x
	Hartford-New Haven-Springfield Interstate	x	
Minnesota	Minneapolis-St. Paul Intrastate	x	
New Jersey	New Jersey-New York-Connecticut Interstate	x	x
	Metropolitan Philadelphia Interstate	x	x
New York	Genesee-Finger Lakes Intrastate		x
	New Jersey-New York-Connecticut Interstate	x	x
Ohio	Metropolitan Cincinnati Interstate		x
Oregon	Portland Interstate	x	x
Pennsylvania	Metropolitan Philadelphia Interstate	x	x
	Southwest Pennsylvania Intrastate	x	x

2.

STATE	AQCR	CO	O_x
Texas	Austin-Waco Intrastate		x
	Corpus Christi-Victoria Intrastate		x
	Metropolitan Houston-Galveston Intrastate		x
	Metropolitan Dallas-Fort Worth Intrastate		x
	Metropolitan San Antonio Intrastate		x
	El Paso-Las Cruces-Alamogordo Interstate		x
Utah	Wasatch Front Intrastate	x	
Virginia	National Capital Interstate	x	x
Washington	Eastern Washington-Northern Idaho Interstate	x	
	Puget Sound Intrastate	x	

APPENDIX E

AQCR'S CONTAINING ALL OR PART OF PROPOSED AQMA'S FOR CO, O_x, OR NO_2*

STATE	AQCR	CO	O_x	NO_2
Arizona	Clark-Mohave Interstate	x	x	
	Four Corners Interstate	x		
	Phoenix-Tucson Intrastate	x	x	
California	North Central Coast Intrastate		x	
	Sacramento Valley Intrastate	x	x	
	San Diego Intrastate	x	x	
	San Francisco Bay Area Intrastate		x	
	San Joaquin Valley Intrastate	x	x	
	Metropolitan Los Angeles Intrastate	x	x	x
	Southeast Desert Intrastate	x	x	x
	South Central Coast Intrastate	x	x	x
Colorado	Four Corners Interstate	x		
	Pawnee Intrastate	x	x	
	Metropolitan Denver Intrastate	x	x	x
	San Isabel Intrastate	x		
	Yampa Intrastate	x	x	
	Grand Mesa Intrastate	x	x	
Connecticut	New Jersey-New York-Connecticut Interstate	x	x	x
	Hartford-New Haven-Springfield Interstate	x	x	
District of Columbia	National Capital Interstate		x	x
Florida	West Central Florida Intrastate		x	
Illinois	Metropolitan Chicago Interstate		x	x
	Metropolitan St. Louis Interstate		x	
Indiana	Metropolitan Chicago Interstate		x	x
	Metropolitan Cincinnati Interstate		x	
	Metropolitan Indianapolis Intrastate		x	
Iowa	South Central Iowa Intrastate	x		
Kentucky	Metropolitan Cincinnati Interstate		x	

2.

STATE	AQCR	CO	O_x	NO_2
Louisiana	Southern Louisiana-Southeast Texas Interstate		x	
Maryland	Metropolitan Baltimore Intrastate		x	x
	National Capital Interstate		x	x
Massachusetts	Metropolitan Boston Intrastate		x	
	Metropolitan Providence Interstate		x	
	Merrimack Valley-Southern New Hampshire Interstate		x	
	Hartford-New Haven-Springfield Interstate	x	x	
Missouri	Metropolitan St. Louis Interstate		x	
Montana	Billings Intrastate	x		
	Great Falls Intrastate	x		
	Missoula Intrastate	x		
Nevada	Clark-Mohave Interstate	x	x	
New Jersey	New Jersey-New York-Connecticut Interstate	x	x	x
	Metropolitan Philadelphia Interstate		x	
New Mexico	Albuquerque-Mid Rio Grande Intrastate	x	x	
	Four Corners Interstate	x		
	El Paso-Las Cruces-Alamogordo Interstate	x	x	
	Pecos-Permian Basin Intrastate	x		
	Upper Rio Grande Valley Intrastate	x		
New York	New Jersey-New York-Connecticut Interstate	x	x	x
North Dakota	North Dakota Intrastate		x	x
Ohio	Metropolitan Cincinnati Interstate		x	
Oklahoma	Central Oklahoma Intrastate		x	
	Northeastern Oklahoma Intrastate		x	
Oregon	Portland Interstate	x	x	
Pennsylvania	Southwest Pennsylvania Intrastate		x	
	Metropolitan Philadelphia Interstate		x	
Rhode Island	Metropolitan Providence Interstate		x	

3.

STATE	ACQR	CO	O_x	NO_2
Texas	Southern Louisiana-Southeast Texas Interstate		x	
	Corpus Christi-Victoria Intrastate		x	
	Metropolitan Dallas-Fort Worth Intrastate		x	
	Metropolitan Houston-Galveston Intrastate		x	
	El Paso-Las Cruces-Alamogordo Interstate	x	x	
	Metropolitan San Antonio Intrastate		x	
	Austin-Waco Intrastate		x	
Utah	Four Corners Interstate	x		
	Wasatch Front Intrastate			x
Virginia	National Capital Interstate		x	x
Washington	Portland Interstate	x	x	
Wisconsin	Southeastern Wisconsin Intrastate		x	

*Proposed AQMA's are published in the July 10, 1974 Federal Register at pages 25330-25351 and in the August 12, 1974 Federal Register at pages 28906-28910.