Role of the Federal Highway Administration Under the Clean Air Act Amendments of 1977

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The Federal Highway Administration first became involved in air quality planning in the summer of 1973 when it assisted the U.S. Environmental Protection Agency in the review of transportation control strategies. Later the two agencies worked together to implement the consistency requirements of section 109j of title 23, U.S. Code. Cooperation in the development of analysis techniques, handbooks and manuals, technical conferences, workshops, and courses created the foundations for better understanding between air quality planners and transportation planners. This new understanding improves the chances of success under the Clean Air Act Amendments of 1977. The Clean Air Act Amendments of 1977 (Public Law 95-95) reveal that (a) the transportation control planning approach failed because of a lack of institutional mechanisms and inadequate technical evidence to justify the requirement of politically unacceptable measures; (b) the specification of the end product is not enough: The political, institutional, administrative, and technical processes must also be emphasized; (c) each federal agency should participate more actively in cleaning up the air; and (d) more emphasis should be given to the costs and economic consequences of proposed transportation measures. The responsibilities of the Federal Highway Administration under the new amendments include (a) assistance to the U.S. Environmental Protection Agency in developing guidelines for transportation control plans; (b) ensurance that transportation control planning is properly incorporated into the comprehensive, cooperative, and continuing urban transportation planning process; (c) ensurance that no highway projects are delayed because state implementation plans are not submitted on time; (d) ensurance that transportation plans and programs of metropolitan planning organizations conform to state implementation plans; (e) ensurance that all highway projects conform to the appropriate state implementation plan; and (f) ensurance that priority is given to the implementation of pertinent portions of the state implementation plans in the exercise of its authority.

The Federal Highway Administration (FHWA) first became involved in air quality planning in the summer of 1973 when it assisted the U.S. Environmental Protection Agency (EPA) in a review of the first round of transportation control strategies. At about the same time, FHWA began a series of consultations with EPA to develop the instructions for implementation of section 109j of title 23, U.S. Code, which requires consistency between highways constructed under that title and the approved state implementation plans to meet the ambient air quality standards.

The first round of transportation control strategies in the state implementation plans (SIP) were developed by air quality planners under extremely tight deadlines, with little advice from transportation planners. These strategies proved difficult to implement because they were, in essence, wish-lists of strategies that could only be implemented if clean air were the only objective being pursued. There was a clear need to sensitize air quality planners to the multitude of other urban objectives worthy of achievement. Transportation planners, on the other hand, needed a better understanding of how the development and operation of transportation facilities could help attain and maintain clean air in urban areas.

The air quality guidelines implementing section 109j were issued in the Federal Register on December 24, 1974, and codified in part 770 of the Code of Federal Regulations. The most important element of these guidelines for long-term effect has been the continuing review procedure that each federal urban transportation planning agency is required to establish with the cognizant air pollution control agency. Thus, transportation planners and air quality planners have been working together for a couple of years. They are beginning to appreciate each other's roles, responsibilities, and obligations.

Experience under the section 109j consistency requirement also sharpened the technical capabilities of planners in analyzing air quality impacts of transportation facilities. We are better prepared for quantitative analysis of transportation proposals and less likely to be lured into solutions that look good on paper but prove counterproductive in application.

The SAPOLLUT computer program probably has been the tool used most extensively to analyze quantitatively the air quality impacts of transportation plans. Several other computer techniques have been modeled after SAPOLLUT. Other computer programs, such as the California Line Source model, the Kansas Air Pollution Package, APRAC-1A, and more recently APRAC-2, have proved to be very helpful to both transportation and air quality planners.

The requirements of section 109j have also provided the impetus for a surge of research activity within FHWA and by state departments of transportation. The majority of this activity has been concerned with developing more sophisticated analysis techniques, such as air quality simulation models for photochemical oxidants. Numerous technical conferences, workshops, and courses have also been held. A variety of handbooks and manuals have been developed. We can safely say that transportation and air quality analysts now speak the same language and understand each other.

The Clean Air Act Amendments of 1977 (Public Law 95-95) will produce more realistic, practical, and technically sound results because it will be implemented in a more mature environment. There is little room for optimism, however, in hoping that the transportation control plans (TCP) will have a dramatic effect on air quality. The evidence shows that even under the most ambitious assumptions, improvements beyond a 2 to 5 percent level will not be forthcoming from transportation management schemes because the measures with greater yields are not yet feasible in a practical or political sense and their impact on our lifestyles is too drastic.

THE CLEAN AIR ACT AMENDMENTS OF 1977

The Clean Air Act Amendments of 1977 tell us that the TCP approach failed because (a) the institutional mechanisms were lacking, (b) there was inadequate technical evidence to justify requiring TCPs, and (c) the proposed measures were politically unacceptable. Thus, the law requires a clear-cut definition and assignment of responsibilities at the local level, introduces a direct role for the metropolitan planning organizations (MPO), requires coordination with transportation planning, and directs EPA to issue regulations governing consultation

between governmental units. On the technical side, the law requires EPA, in cooperation with the U.S. Department of Transportation (DOT), to issue information on 18 specific transportation proposals to reduce mobile source pollutants, including assessments of effectiveness and impacts on transportation, economy, energy, and the environment. Further, EPA is directed to develop guidelines in consultation with DOT to govern a continuing TCP process for air quality. These guidelines will help focus both the institutional and the technical processes.

The law also tells us that specification of the end product is not enough and that the air quality agencies at the federal, state, and local levels should concern themselves with the political, institutional, administrative, and technical processes. Thus, the law mandates reasonable public notice and hearings (section 129), continued planning (section 105), consultation (section 119), periodic review of ambient air quality standards (section 106), and systematic deferrals of attainment dates with incremental conditions (section 129).

The law directs each federal agency to be a more active participant with EPA in cleaning up the air. Thus, each department, agency, or instrumentality of the federal government is directed to conform with SIP in administering its program and to give priority to projects that are proposed for improving air quality (section 129).

Lastly, the law focuses on the costs and economic consequences of measures proposed to reduce air pollution. Apart from the new section on economic impact assessment (section 307), which applies to EPA regulations on standards and significant deterioration, the law is sprinkled with requirements that direct attention to economic impacts. Thus, the Secretary of Labor is directed to study the potential employment dislocations due to EPA's programs (section 403). Step-wise extensions are provided for areas in which the standards for photochemical oxidants or carbon monoxide (CO) cannot be met by available measures (section 129). EPA is directed to disseminate information on methods of pollution reduction and document the energy and economic impacts in addition to the environmental impacts of these methods (section 105). EPA is directed to study the increased use of cost-effectiveness analyses in devising strategies to control pollution and report to Congress not later than January 1, 1979 (section 223).

The continuing review procedures established to achieve consistency between transportation plans prepared by the MPOs and the SIPs prepared by the air quality agencies have set the stage for implementing the new requirements of the Clean Air Act Amendments of 1977. Congress appears to have used the experience accumulated under section 109j as a model in writing the transportation control planning requirements into law. The states are urged to cooperate with local officials and designate, where feasible, the MPO as the responsible agent to prepare TCPs. In any case, preparation of the implementation plans shall be coordinated with the federal urban transportation planning process required under section 134 of title 23, U.S. Code.

Transportation control planning under the Clean Air Act Amendments of 1977 should consist of a natural extension of the procedures begun under section 109j of title 23, U.S. Code. It would be fortunate indeed if in all areas needing transportation control planning the MPOs were designated as the responsible agencies. The federal oversight would be minimized because the transportation implementation programs and TCPs would be one and the same and, therefore, consistent by definition. The quality of planning should also improve because of new funding from EPA for transportation control planning.

In those areas in which some other agency is designated for transportation control planning and the MPOs are required to conform to the measures established by this agency or promulgated by EPA, one can expect duplication in the planning work, miscommunications, increased federal oversight, a delay in the implementation of any measures, and a general diffusion of the planning dollar. Any measure not developed through the federal urban transportation planning process cannot be built with federal-aid highway or Urban Mass Transportation Administration (UMTA) funds. Therefore, any measure developed by the air quality agency that requires capital from either FHWA or UMTA programs must be included in the MPO's program. The air quality planning agency must pay particular attention to cultivating open, cooperative relations with the MPO.

The consistency determinations under section 109j of title 23, U.S. Code, will continue until at least January 1, 1979, when new SIPs are due. After the new SIPs become effective, transportation plans and programs developed by MPOs will be required to conform to the SIPs, and FHWA and UMTA must be certain that any projects utilizing their funds also conform to the SIPs. At that stage, the existing consistency determination and the conformance finding should be one federal action.

FHWA'S RESPONSIBILITIES UNDER THE CLEAN AIR ACT AMENDMENTS OF 1977

To delineate the FHWA's responsibilities under the 1977 amendments, we should view the requirements of this piece of legislation against the backdrop of title 23, which is the legislative source of the Federal-Aid Highway Program. The following list enumerates FHWA's role:

1. FHWA must assist EPA in developing guidelines for transportation control planning by utilizing its expertise, which resides both in its field organizations and the headquarters office. FHWA must ensure that the guidelines are realistic and workable.
2. Together with EPA, FHWA must publish sound technical information on processes, procedures, and methods to reduce pollutants as an aid to those responsible for proposing and implementing transportation measures to help reduce mobile source pollutants.
3. FHWA must ensure that transportation control planning is incorporated into section 134 planning required under title 23, U.S. Code. The unified work program reviews provide the framework for this activity. FHWA should encourage the continuing involvement of EPA regions in the intermodal planning groups and the incorporation of EPA-funded planning studies in the unified work program.
4. FHWA must ensure that no highway projects are delayed because SIPs are not submitted on time. This will entail getting together with state and local officials to assist EPA in writing the consultation regulations required by the Clean Air Act Amendments of 1977, such that the continuing review procedures established under section 109j of title 23, U.S. Code, are reinforced and plans are developed on time.
5. FHWA must ensure that transportation plans and programs submitted by an MPO conform to an SIP that has been approved or promulgated under the Clean Air Act.
6. FHWA must ensure that all highway projects approved under title 23 conform to the appropriate SIP that has been approved or promulgated under the Clean Air Act.

FHWA must give priority to the implementation of pertinent portions of the SIPs in the exercise of its authority, consistent with statutory requirements under title 23, which specify priorities also in other areas. For example, title 23 directs the secretary to give priority to projects that: (a) expedite completion of Interstate highways (section 105c), (b) provide safety benefits (section 105f), (c) provide access to air and water ports (section 105g), and (d) improve traffic flow (section 135). The priority given to SIP projects must be, therefore, in balance with the above priorities.

Integrating Air Quality Considerations and the Transportation Planning Process: Experience in the Washington Area

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Any discussion of the relation between transportation and air quality planning on a metropolitan scale must necessarily begin with a brief explanation of the roles and responsibilities of key agencies and organizations. Accordingly, this paper starts with a summary description of those planning and implementing agencies in the National Capital Region that contribute to the integration of air quality considerations into transportation planning. This is followed by a review of the area's experience with the annual assessment of consistency of the region's transportation plans and programs to state implementation plans to achieve air quality. Several of the key issues that have generated controversy between transportation planners and air quality planners are identified and discussed. And, finally, this paper reports on the current organizational and planning approach being developed for the metropolitan Washington area to meet the requirements of the Clean Air Act Amendments of 1977.

AGENCY ROLES AND RESPONSIBILITIES

The areawide umbrella agency that has both transportation and air quality-related responsibilities on the metropolitan planning scale is the Metropolitan Washington Council of Governments (COG). COG was established in 1957 for the primary purpose of coordinating mutual efforts by the major governments in the Washington area against common interjurisdictional problems. COG is the region's only areawide, multipurpose organization, where local officials direct a comprehensive assessment of the problems and opportunities that confront the region and determine cooperative courses of action. An integral part of COG's program is the development of policies on the future form, structure, and quality of life in the metropolitan area. These policies are put forth as general guidelines for decision makers in agencies in the Washington area. The power to implement the policies lies in the hands of these governments and agencies.

COG coordinates comprehensive planning, transportation planning, and transit planning and programming by the many regional, subregional, and local agencies in the Washington metropolitan area. COG has been designated as the metropolitan clearinghouse for the area and has the responsibility to review and comment on whether proposed federal-aid projects are consistent with areawide policies, goals, and objectives.

In a formal sense, COG is a nonprofit corporation, and membership in it is voluntary. It operates on a basis of consensus and does not have coercive authority. Figure 1, the COG organizational chart, indicates the broad spectrum of functional planning activities within COG's comprehensive planning umbrella.

The National Capital Region Transportation Planning Board (TPB), a member of the COG family, is responsible for conducting the continuing, comprehensive, and cooperative transportation planning process for the Washington metropolitan area in accordance with the requirements of the Federal-Aid Highway Act of 1962 and the Urban Mass Transportation Act of 1964, as amended. Its policy body is made up of local government officials, representatives of the state transportation agencies and the regional transit authority, and appropriate federal agencies. The governors of Maryland and Virginia and the mayor of the District of Columbia have designated the TPB as the metropolitan planning organization (MPO) for the Washington metropolitan area. The TPB also serves as the transportation planning arm of COG to ensure that transportation planning is integrated with comprehensive metropolitan planning and development and is responsive to the local political decision-making process.

The Air Quality Planning Committee (AQPC), another member of the COG family, was established by administrative agreement between the governors of Maryland and Virginia and the mayor of the District of Columbia to coordinate the interjurisdictional planning aspects of the air pollution control activities within the National Capital Interstate Air Quality Control Region. The AQPC is composed of local government officials and air pollution control agency officials in the three major jurisdictions. It plans for the preservation, protection, and improvement of air quality in the region and develops recommendations to ensure attainment and maintenance of air quality standards.