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Concurrent Air Quality Analysis Under The National Environmental Policy Act and Transportation/Air Quality Conformity

This paper addresses the direct and indirect relationships between the National Environmental Policy Act (NEPA) and the new conformity requirements. This paper concludes that NEPA and transportation/air quality conformity processes should be concurrent. The need for concurrent determinations is supported by five arguments: 1) the legislative history of conformity indicates that project conformity determinations be made during the NEPA process; 2) general NEPA requirements specify coordination between environmental processes; 3) the level of technical detail required for conformity analyses meets or exceeds the level already required for NEPA; 4) unless conformity is taken into account, alternatives and mitigation measures generated during the NEPA analytical process may later result in a negative conformity determination; and 5) public comment periods, unless coordinated, would run consecutively rather than concurrently, potentially delaying project implementation.

by *Susan Shaheen¹, Randall Guensler, Ph.D.²,
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The Conformity Rule, adopted in November 1993 by the U.S. Environmental Protection Agency under the requirements of Section 176 of the Clean Air Act, establishes strict procedures for determining the conformity of transportation plans and state air quality management plans. Conformity requirements apply to all transportation plans, programs, and projects, funded or approved under title 23 (Highways) U.S.C. or the Federal Transit Act. Under Conformity, trans-

portation planning agencies must apply transportation activity and vehicle emission rate models to demonstrate that transportation plans, programs and projects will not exceed allowable emissions budgets established in the air quality management plan. Furthermore, transportation planning agencies must apply microscale air quality impact models to demonstrate that projects will not cause a violation of local air quality standards. Introduction

The consequences of a more mobile

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population include air pollution, health effects, poor visibility, greenhouse gas emissions and ozone layer depletion. In recognition of these problems, the United States has developed legislation to regulate transportation activity in consideration of the environment. Some legislation is focused directly on reducing the environmental impacts of the transportation system, such as the mobile source provisions of the 1970 Clean Air Act (CAA) and its subsequent amendments that require cleaner vehicles and the implementation of transportation control measures (TCMs). Other legislation focuses on transportation planning and development processes, primarily to ensure that transportation plans are developed and decisions are made with an assessment of the environmental consequences of these decisions and that mitigation will be considered and incorporated when feasible. The National Environmental Policy Act of 1969 (NEPA) is a long standing example of a planning-oriented law. A new planning-oriented regulation, known as the Conformity Rule (Rule), is designed to affect the planning and decisionmaking process and essentially requires that transportation and air quality planning be coordinated.

When Congress passed the 1990 CAA, Section 176(c)(4)(A) required the Administrator of the U.S. Environmental Protection Agency (USEPA), with the concurrence of the Secretary of Transportation, to adopt criteria and procedures for demonstrating conformity of transportation plans, programs, and projects. On November 24, 1993, the USEPA and the U.S. Department of Transportation (USDOT) promulgated the conformity requirements in response to the conformity requirements in Rule contained at 40 CFR Parts 51 and 93.

Conformity requirements are applicable to all transportation plans, programs and projects, funded or approved under title 23 (Highways) U.S.C. or the

Federal Transit Act in nonattainment and maintenance areas.³ The Rule applies to specific transportation-related pollutants for which ambient air quality standards exist, including: ozone, carbon monoxide, nitrogen dioxide and particulates with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM_{10}). Conformity also applies to certain precursor pollutants in nonattainment and maintenance areas including: volatile organic compounds and nitrogen oxides in ozone areas, nitrogen oxides in nitrogen dioxide areas and, in certain cases, volatile organic compounds, nitrogen oxides and PM_{10} in PM_{10} areas (40 CFR §51.394).

The Rule requires that transportation planning agencies employ travel demand and vehicle emission rate models to ensure that transportation plans and regionally significant projects contained in a plan will not cause exceedances in the allowable emissions budgets established in the air quality management plan. Transportation planning agencies must also apply microscale air quality impact models to demonstrate that projects will not violate ambient air quality standards.

This paper explains the history of conformity, the CAA planning process and the applicable requirements of NEPA. The paper explores the relationship between the Rule and the previously existing requirements of NEPA. It provides a framework for the assertion that integration of the planning processes under NEPA and conformity satisfies the need for thorough environmental analysis and comprehensive planning, while addressing public participation requirements. A concurrent approach is argued to assist planners in obtaining positive conformity determinations from the Federal Highway Administration (FHWA) and Metropolitan Planning Organizations (MPOs).

Although the Rule does not specify

ally require coordination of NEPA and conformity analyses, the paper presents five arguments to support the conclusion that the most efficient and effective method of transportation planning is to undertake NEPA and conformity processes concurrently: 1) the legislative history of conformity indicates that project conformity determinations should be made during the NEPA process; 2) general NEPA requirements specify coordination between environmental processes; 3) the level of technical detail required for conformity analyses meets or exceeds the level already required for NEPA; 4) unless conformity is taken into account, alternatives and mitigation measures generated during the NEPA analytical process may later result in a negative conformity determination; and 5) public comment periods, unless coordinated, would run consecutively rather than concurrently, potentially delaying project implementation.

Conformity History

In the 1970 CAA, Congress advanced the concept of National Ambient Air Quality Standards (NAAQS) to protect the health and well being of citizens (42 U.S.C.A. §7409(a)). Primary standards were set to protect public health. Secondary standards are less stringent and protect the public from "any known or anticipated adverse effects associated with the presence of [air pollutants] in the ambient air" (42 U.S.C.A. §7409(b)(2)). These health-based air quality standards, untempered by economic feasibility, were adopted by the USEPA. Not surprisingly, Congress intended the NAAQS to be the ultimate regulatory goal and measure of programmatic success of the CAA (Schoenbaum & Rosenberg, 1991). Failure of many areas to attain these standards spurred the 1977 CAA Amendments.

In the 1977 amendments to the CAA, Congress adopted initial conformity provisions to emphasize that air quality and transportation agencies must strive to conform with the NAAQS commitments that are established in state implementation plans (SIPs). These provisions, however, consisted of only 13 lines of text and did little to actually define conformity. Throughout the 1980s, the many ambiguities in the provisions led to disagreements between the USDOT and the USEPA (Hawthorn, 1991), which ultimately produced few substantive changes in the planning procedures.

Again, the failure of many regions to achieve the 1987 attainment deadline spurred the 1990 CAA Amendments, which strengthened the conformity mandates. The USEPA and the USDOT were tasked with developing a regulation that would implement the general conformity language of Section 176 of the CAA (42 U.S.C.A. §7506(c)(4)(A)). In November 1993, the USEPA published the Conformity Rule, entitled "Criteria and Procedures for Determining Conformity to State or Federal Implementation Plans of Transportation Plans, Programs and Projects Funded or Approved Under Title 23 U.S.C. or the Federal Transit Act" to implement and enforce the CAA conformity mandate.

The Rule prescribes the processes to be followed by FHWA, the Federal Transit Administration (FTA) and MPOs in making conformity determinations for highway and transit plans, programs and projects. The requirements of the Rule work to ensure the integrity of a state's implementation plan by requiring transportation plans, programs and projects to conform with the SIP or federal implementation plan (FIP) for the area. The Rule also includes several requirements reminiscent of the NEPA process. For example, the conformity regulations include explicit public participation requirements as does NEPA. Both the Rule

and NEPA provide fairly detailed guidelines for managing the environmental assessment of proposed project actions. In addition, both regulations require that agencies work cooperatively, disclose agency decisions to the public and offer an opportunity for public involvement.

The Sip and Emission Budgets

The 1990 CAA requires states to adopt and submit SIPs that provide for the attainment, maintenance, and enforcement of ambient air quality standards, based upon results of empirical modeling and social and environmental considerations brought to light through the public participation process. The criteria to be included in a SIP are listed at 42 U.S.C.A. §7410(2). SIPs serve three primary functions: 1) assessing the nature of air quality within a jurisdiction, 2) determining the air quality improvements needed to meet or maintain the NAAQS and 3) assigning air pollution control responsibilities to a wide variety of sources in a state (Schoenbaum & Rosenberg, 1991). In some states, the SIP is a conglomeration of multiple local air quality management plans (AQMPs) or mini-SIPs. It is important to note that SIP development includes an open public process and that the 1990 CAA allows tremendous flexibility in SIP and AQMP development, such that states and local governments can develop emission control strategies that best fit the needs of their communities. Although states may devise their own plans to attain the NAAQS, the plans must adhere to the deadlines set by the CAA. The 1990 CAA established final attainment deadlines for nonattainment areas based upon their nonattainment classification: marginal areas, November 15, 1993; moderate areas, November 15, 1996; serious areas, November 15, 1999; severe areas, November 15, 2005; and extreme, No-

vember 15, 2010 (42 U.S.C.A., §7511(a)(1)).

Emissions inventories and emissions budgets are developed in the initial planning stages of SIP development. The current emission inventory is estimated for every source category (the baseline emissions inventory). Onroad motor vehicles constitute a number of specific source categories (e.g. light-duty vehicles, medium-duty vehicles, heavy-duty vehicles).

The emissions inventory for each source category is also projected for the attainment year, assuming no changes in regulatory programs (the future baseline emission inventory or the baseline attainment year emissions inventory). These future baseline emissions estimates include projections of: 1) emissions reductions associated with fleet turnover and the entrance of cleaner vehicles into the fleet and 2) emissions increases associated with increases in population growth, tripmaking and vehicle miles of travel.

Using modeling techniques, the allowable emissions during the attainment year are estimated (attainment emission inventory), based upon the modeled emissions carrying capacity of the basin for attainment level concentrations to be met. Typically, a portion of the final attainment year inventory is allocated to the stationary and mobile source sectors. The 1990 CAA requires that a set schedule of annual emission reductions be achieved in making progress toward attainment. Hence, the emission budgets, or allowable emissions for any calendar year are estimated.

In the final process of SIP development, emission control measures are proposed for a wide variety of source categories, and the potential emissions control strategies are analyzed for their emissions reduction potential (and cost effectiveness). Emission control strategies are selected for implementation on

a phased basis, presumably minimizing total social cost, to meet required annual emission reduction targets.

After the SIP is adopted and implemented, emission reduction progress is periodically evaluated (during "milestone" years). The air quality management agency must demonstrate that the projected emission reductions have been met or exceeded (i.e. the emission budget for milestone years have been achieved). Milestone years under the CAA began in 1993 and continue in three year intervals (42 U.S.C.A. §7511(a)) until attainment is reached. Failure to attain projected reductions for those milestone years can result in: 1) an acceleration in nonattainment classification status (with additional CAA requirements applicable to the new classification), 2) implementation of SIP contingency measures or 3) implementation of a market incentive program (such as emission fee systems, discharge permit auctions or marketable permit programs).

In nonattainment areas, conformity determinations are required for the adoption, acceptance, approval, or support of transportation plans and TIPs and for the approval, funding or implementation of FHWA or FTA projects.

Under conformity, emission budgets must also be prepared and met for each transportation planning horizon year. The transportation plan has at least a 20 year time horizon (and is updated triennially in nonattainment and maintenance areas) as specified in 23 CFR §450.322(a). The transportation improvement program (TIP) outlines a specific implementation program for the regional transportation plan and typically has a three year time horizon as specified in 23 CFR §450.324.

Conformity Determinations

A conformity determination, as pre-

scribed by the Rule, is the mechanism for demonstrating and assuring conformity of transportation plans, programs, and projects with the applicable SIP. In nonattainment areas, conformity determinations are required for the adoption, acceptance, approval, or support of transportation plans and TIPs and for the approval, funding or implementation of FHWA or FTA projects.

To be found in conformance with the NAAQS, a transportation plan, program,

or project must "conform" to the emissions budgets for milestone and attainment years contained in the SIPs as well as for transportation plan and TIP horizon years. Transportation plans and programs must demonstrate consistency with the motor vehicle emissions budget for each pollutant and precursor identified in the SIP (58 FR 62193 and 62194). For a TIP to obtain a positive conformity determination, each program year of the TIP must also demonstrate the availability of expected federal funds and state and local matching funds. In addition, the regional emissions analysis for the current transportation plan must be applicable to the TIP. If these criteria are not satisfied, the motor vehicle emissions budget of the SIP must go through additional regional emissions analysis to demonstrate TIP conformity. Federal projects and regionally significant non-federal projects must be included in conforming transportation plans and TIPs,

unless specific criteria for "projects not from a conforming plan and TIP" are satisfied (see Guensler, et al., 1994a).

Before projects may be implemented, the Rule requires that a conforming transportation plan and TIP exist at the time of project approval. If a project is not addressed in a conforming plan and program, it must be consistent with the motor vehicle emissions budgets in the applicable SIP or SIP submission.

If a project is subject to a conformity determination, the agency must demonstrate that the project will not cause or contribute to any new violations of air quality standards, exacerbate existing violations, or interfere with the timely attainment or the required interim emissions reductions necessary for attainment (58 FR 62188). These demonstrations are achieved through modeling, using the latest planning assumptions and emissions analysis techniques. Quantitative analysis must employ USEPA-approved models and conform to the USEPA modeling guidelines.⁵ Not surprisingly, conformity requires that all emissions models and data are timely and accurate and that modeling assumptions be reasonable. In general, achieving conformity through modeling demonstrations is complex, requiring accurate information from a number of different sources.⁶

Local MPOs, in consultation with the appropriate air quality planning agencies, must prepare conformity analyses for plans and local projects.⁷ The assurance of conformity shall be an affirmative responsibility of the head of such department, agency, or instrumentality" (CAA §176(c)(1)). Both the USDOT and the USEPA stand behind the Rule (Shrouds, 1994; USEPA, 1994).

The new Conformity Rule requires that states revise their SIPs to include conformity criteria and procedural guidelines consistent with the Rule. In addition, the Rule requires that SIP revisions

be submitted to the USEPA by November 25, 1994. The SIP revisions, mandated by the 1990 CAA amendments, require USEPA approval. The review process provides USEPA with an opportunity to correct serious conformity deficiencies and to ensure that state air agencies will be more involved in the conformity process (Hawthorn, 1991). Conformity determinations must satisfy the requirements of the Rule, the guidelines that are adopted in the revised SIP and any applicable court orders (40 CFR §51.410(a)).

The National Environmental Policy Act (NEPA)

NEPA is one of the most significant pieces of environmental legislation in U.S. history. Passed by Congress in 1969 and signed into law in 1970, NEPA requires federal agencies to consider the environmental consequences of their actions before executing them. In preparing and passing NEPA, Congress recognized "the profound impact of man's activity on the interrelations of all components of the natural environment, particularly the profound influences of population growth, high-density urbanization, industrial expansion, resource exploitation, and new and expanding technological advances" (42 U.S.C.A. §4331(a)). The language of NEPA recognizes the importance of several things: 1) preserving the environment for future generations; 2) maintaining the safety, health, productivity, and well being of the American people; 3) using the products and materials of the natural environment of the country without diminishing them to the point of destruction; and 4) maintaining a balance between the growing population of the United States and the countries natural resources.

NEPA requires all agencies of the federal government to assess the possible

adverse environmental impacts of proposed actions and legislation. NEPA applies to actions where FHWA, FTA or agencies delegated the authority for such decisions have control over project approval. Consequently, NEPA applies to many of the projects to which conformity applies. In addition, it should be noted that if NEPA provides a categorical exclusion for a particular transportation project, a conformity analysis may still be required, unless the project is specifically exempt under the Rule as well.

If a federally proposed project has the potential to yield a significant environmental impact, compliance with the NEPA mandates is accomplished through the preparation of an environmental impact statement (EIS). Under NEPA, all EISs must include: 1) a detailed statement on the environmental impact of the proposed action, 2) a description of any adverse environmental effects that cannot be avoided should the proposal be implemented, 3) a discussion of alternatives to the proposed action, 4) a treatment of the relationship between local short-term uses of the environment and long-term productivity of the area and 5) a discussion of any irreversible commitments of resources to be involved in a proposed action (42 U.S.C.A. §4332(c)).

In Title II of NEPA, Congress established the Council on Environmental Quality (CEQ) as the administering agency of NEPA. The CEQ developed a set of regulations for implementing the NEPA mandates that are contained in 40 CFR Parts 1500 to 1508. Under the CEQ Regulations, federal agencies must adopt procedures ensuring that applicable project-related decisions are made in accordance with the policies and purposes

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of NEPA. The USDOT's FHWA and FTA NEPA regulations are contained in 23 CFR Part 771.

Summary of References to NEPA in the Conformity Rule

NEPA is defined in the Conformity Rule at 40 CFR §51.392 as "the National Environmental Policy Act of 1969, as amended (42 U.S.C.A. §4321 et seq.)." In the same section of the Rule, "NEPA

NEPA requires all agencies of the federal government to assess the possible adverse environmental impacts of proposed actions and legislation.

process completion is defined as "the point at which there is a specific action to make a determination that a project is categorically excluded, to make a Finding of No Significant Impact [FONSI], or to issue a Record of Decision [ROD] on a Final EIS under NEPA" (40 CFR §51.392). The term "NEPA process completion", is defined in the Rule primarily because project proposals that have already received a categorical exclusion or have been issued a FONSI or ROD may be grandfathered as existing projects and exempted from conformity determinations.

In reference to transportation plans and TIPs, the Rule states that "the degree of specificity required in the transportation plan and the specific travel network assumed for air quality modeling do not preclude the consideration of alternatives in the NEPA process or other project development studies" (40 CFR §51.406). If the NEPA process results in a final project with a design concept and scope significantly different from that in

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the transportation plan or TIP, the project must meet the conformity criteria for projects not from a conforming plan and TIP (40 CFR §51.410 through §51.446) prior to NEPA process completion (i.e., before the NEPA process can be deemed complete and the final EIS can be approved).

None of the NEPA references in the Rule discussed above explicitly state that conformity determinations for individual projects must be made within the NEPA process. Nevertheless, the conformity requirements are intertwined with the requirements of NEPA, as will be discussed in the next section.

Concurrent NEPA and Conformity Analysis

The Rule does not require that NEPA and conformity determinations be made concurrently for transportation projects. However, the specific requirements of the NEPA and conformity processes result in a *de facto* requirement that the determinations be made concurrently. Five basic arguments that support this conclusion follow:

Argument One: Legislative history indicates that project conformity determinations be made during the NEPA process.

As mentioned previously, conformity requirements already existed with the passage of the 1977 amendments to the CAA. In June 1980, the USEPA and the USDOT jointly released a conformity guidance document entitled: "Procedures for Conformance of Transportation Plans, Programs, and Projects with Clean Air Act State Implementation Plans" (58 FR 62189). This guidance document required that conformity determinations be documented as a necessary element in all certifications, TIP reviews and EIS findings in nonattainment areas (58 FR 62189). At the time of that publication,

however, conformity was defined differently; it was defined in the context of TCM implementation, rather than in terms of emissions budgets and air quality impact analysis (58 FR 62189). Notwithstanding the current USEPA interpretation that an emissions budget for mobile sources is a precise enforceable estimable quantity that may not be exceeded, the concept of undertaking conformity analyses as a part of the NEPA process has clear historical precedent.⁸

In addition, the Background of the Conformity Rule provides guidance on NEPA/conformity analyses in Section V, number 7 (40 CFR Parts 51 and 93, Background, V(A)(7)). The Background states that the process for making USDOT conformity determinations is similar to the way NEPA analyses are conducted, and the USEPA expects that most project-level conformity determinations will be made as a part of the NEPA process.

Argument Two: General NEPA requirements specify coordination between environmental processes.

Federal agencies are required to integrate the NEPA process with the processes of other planning regulations at the earliest possible time (40 CFR §1501.2). Hence, because conformity is an environmental planning process, the general requirements of NEPA can be interpreted to require the coordination of conformity with NEPA. This coordination is also required in USDOT's FHWA NEPA regulation that states that the "final EIS or FONSI should document compliance with requirements of all applicable environmental laws, Executive orders and other related requirements" (23 CFR §771.33).

Argument Three: The level of technical detail required for NEPA and conformity are similar.

Although the level of technical detail required by conformity and NEPA are generally similar, the requirements of

conformity are clearly more stringent. First, the Rule stipulates specific modeling methodologies deemed as the best practice that must be employed to support conformity analyses and determining practices prescribed in the Rule are not allowed unless agreement is reached through the interagency consultation process.

Second, the Rule requires a level of technical analysis for projects that is unprecedented in previous environmental legislation (Guensler, et al., 1994a). The analytical requirements of the Rule are much more specific than those outlined by NEPA. And, in practice, the minimum level of technical detail required to support NEPA analyses is generally less exhaustive than the requirements of conformity.

Under NEPA, agencies shall ensure that professional integrity and scientific integrity are incorporated into the discussions and analyses of EISs (40 CFR §1502.24). The modeling requirements under the Rule mandate more analytical stringency. Because the travel demand modeling requirements of the Rule will reflect the findings of a recent technical assessment of modeling approaches undertaken for the National Association of Regional Councils (Harvey and Deakin, 1993), conformity analysis should more than satisfy NEPA air quality analysis requirements. In addition, recent court decisions, ruling on the accuracy of travel demand models, support the assertion that the technical analysis required by conformity will satisfy the current level of detail requirements for air quality analysis for NEPA.⁹

In addition, it should be noted that many courts have found EISs inadequate because of poor writing, despite scientifically adequate analysis. The CEQ

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regulations specifically require that NEPA documents be clearly written (40 CFR §1502.8). The EIS must be written in language that is understandable to non-technical minds and yet contain enough scientific reasoning to alert specialists to the particular problems within

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their field of expertise (40 CFR §1502.24 and *Environmental Defense Fund, Inc. v. Corps. of Engineers of the U.S. Army* (470 F2d 289(1972)). Consequently, the NEPA process should ensure that accurate technical analyses are performed (i.e., analyses that include detailed methodologies, data, and assumptions and are made available for scientific peer review) and that technical summaries are clearly written and understandable to decisionmaking bodies and the general public.

Argument Four: Adoption of alternatives or mitigation measures may change the project scope or air quality impact, resulting in a negative conformity determination.

NEPA and conformity contain provisions relating to alternatives analysis and mitigation of project impacts. Although the requirements are very different, the net effects of the two regulatory requirements are significant. Unless project alternative and mitigation analyses are prepared prior to making a conformity determination, a previously conforming project may no longer conform once it is modified.

Alternatives Analysis and Mitigation Under NEPA. Under NEPA, the alternatives section of the EIS is to be based on

the information and analyses provided in the Affected Environment (§1502.15) and Environmental Consequences (§1502.16) sections of the EIS and should comparatively present the environmental impacts of a proposed action and a reasonable range of alternatives that include both the proposed project and the no-project alternatives. In the heart of an EIS, agencies must: 1) rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives

large number. The CEQ states that a 'reasonable number' will suffice.

The courts have reviewed the adequacy of NEPA alternatives analyses for over twenty years. For instance, in *Town of Mathews v. Department of Transportation* (527 F. Supp. 1055 (1981)), an EIS prepared by the USDOT was invalidated because the agency's discussion of a bypass alternative to a proposed highway was held inadequate by the court. In general, it is not unusual for NEPA documents to be invalidated by the courts for unsatisfactory alternatives analyses. Consequently, it is important that agencies strive to conduct and demonstrate thoughtful alternatives analyses in all

NEPA serves an informational role in the decisionmaking process and does not require the implementation of mitigation measures.

that are eliminated from detailed study, briefly discuss the reasons for their elimination; 2) substantially treat each alternative considered in detail, including the proposed action so that reviewers may evaluate their comparative merits; 3) consider reasonable alternatives not within the jurisdiction of the lead agency; 4) identify the agency's preferred alternative (or alternatives if more than one exists) in the draft statement, and present such an alternative in the final statement, unless another law prohibits this alternative; and 5) include appropriate mitigation measures, which are not already included in the proposed action or alternatives (40 CFR §1502.14(a)-(f)).

In the CEQ NEPA guidance, entitled *Forty Most Asked Questions Concerning CEQ's NEPA Regulations* (46 FR 18026, 18027 (1981)), the CEQ addresses the meaning of an appropriate range of alternatives to be considered. Given that an infinite number of potential project alternatives are conceivable, the CEQ advises agencies to consider a 'full spectrum of alternatives', not necessarily a

EIS. Unlike alternatives analyses required under NEPA, mitigation has received little attention in the courts. NEPA serves an informational role in the decisionmaking process and does not require the implementation of mitigation measures. Nevertheless, projects have been delayed by the courts because an EIS has failed to provide mitigation measures to offset the impacts of a proposed action. In CEQ's NEPA regulations, mitigation includes: 1) avoiding the impact altogether by not taking a certain action or parts of an action; 2) minimizing impacts by limiting the degree or magnitude of the action and its implementation; 3) rectifying the impact by repairing, rehabilitating, and restoring the affected environment; 4) reducing or eliminating the impact over time through preservation and maintenance operations during the life of an action; and 5) compensating for the impact by replacing or providing substitute resources or environments (40 CFR §1508.20).

Alternatives and Mitigation Under Conformity. Not surprisingly, the Rule

supports the alternatives analysis requirements of NEPA. The Rule indicates that "the degree of specificity required in the transportation plan and the specific travel network assumed for air quality modeling do not preclude the consideration of alternatives in the NEPA process or other project development studies" (40 CFR §51.406). If the NEPA process results in a final project with a design concept and scope that is significantly different from that in the transportation plan or TIP, the Rule requires that the revised project undergo a new conformity determination. The revised project must meet the criteria in 40 CFR §51.412 through §51.446 for projects not from a TIP before NEPA process completion (40 CFR §51.406).

Because projects must be consistent with the emissions budget(s) in the applicable implementation plan or implementation plan submission (40 CFR §51.432), analysts must ensure that emissions from the project, in combination with the emissions from all other regionally significant projects planned for an area, do not exceed the mo/or vehicle emissions budget. Not surprisingly, the only method that can realistically be used to assess compliance with this criteria is to re-run the regional model with the final modified project included in the action scenario.

Lastly, it is important that project sponsors remember that project proposals may be mitigated for reasons other than air quality (e.g. wetlands, water quality, cultural resources). Not every mitigated alternative will necessarily receive a positive conformity determination. Unless the alternatives and mitigation components of the NEPA process are conducted concurrently with the conformity requirements, it is possible that projects may enter a circular approval process in which a project must iteratively pass through NEPA analyses and conformity assessments (i.e., a mitigated

project fails conformity and returns to the NEPA mitigation phase).

Argument Five: Public comment periods, unless coordinated, would run consecutively rather than concurrently, potentially delaying project implementation.

Most of the input into the NEPA process is provided by the lead and responsible agencies along with any trustee agency, federal agency, and any party directly affected by a proposed project. However, NEPA also provides for input from members of the general public. Not surprisingly, there are significant benefits that can arise from active public involvement. For instance, valuable input can be gained from members of the public who have an interest in the proposed project. Second, agencies may avoid future legal battles, if the public has an opportunity to participate in a decision that may affect their future.

Public Participation Under NEPA.

Clearly, the NEPA process has been designed to assist federal agencies in determining the potential environmental effects that a project may have on an area by facilitating public participation in project scoping and document review. To begin, the NEPA regulations specify that there shall be an early and open process for determining the scope of an issue to be addressed (40 CFR §1501.7). After a draft EIS is prepared, agencies should obtain comments from other federal agencies that have an interest in the project or that have special expertise. The CEQ regulations also require agencies to invite the participation of: 1) the appropriate state and local agencies; 2) Native American tribes (i.e., if project effects may impact reservations); 3) any agency that requests environmental documents on actions of the kind proposed by the EIS; 4) the applicant; and 5) the public, especially those individuals and organizations that may be affected or interested in the action on en-

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vironmental grounds (40 CFR §1503.1(a)). In general, if a community may be affected by an agency action, the community should be notified. If the potential impacts of an action will be substantial, specific individuals in the community should be contacted. If the impacts are likely to be indirect or insubstantial, newspaper notification is often considered sufficient. Preparation of the draft and final EIS must be followed by document circulation. In addition, agencies preparing the final EIS must respond to comments that are received after draft EIS circulation.

Although the CEQ regulations are fairly detailed, they do not prescribe specific time periods for the public and other interested parties to comment on either the lead agency's decision or any of the prepared documents. For instance, the CEQ regulations state: "the Council has decided that prescribed universal time limits for the entire NEPA process are too inflexible" (40 CFR §1501.8). Because every project is different, neither NEPA nor agency implementing regulations can specify a particular level of public review. Hence, the courts rely on tests of 'reasonableness' or 'good faith' for determining adequate time periods for public participation. This allows courts to test an agency's actions according to subjective criteria for determining 'reasonable treatment.'

The USDOT's FHWA and FTA NEPA regulations provide few guidelines for public comment timeframes in the environmental assessment process, but the regulations do encourage timely proceedings. "Early coordination with appropriate agencies and the public aids in determining the type of environmental document an action requires, the scope of the document, the level of analysis, and related environmental requirements" (23 CFR §71.1.11). If an applicant prepares an environmental assessment (EA), the EA does not have to be circulated,

but it must be made available for public inspection. The minimum time period for public comment on an EA is 30 days from when the EA was made available for written comment (23 CFR §71.1.19(e)).

The draft EIS should be circulated for comment by the applicant on behalf of FHWA or FTA. If a public hearing is held during the circulation period, the draft EIS should be available at least 15 days before the hearing and at the meeting itself. Comment periods on the draft EIS must last for a minimum of at least 45 days from the public notice, which is usually listed in the *Federal Register* (23 CFR §71.1.23(f)). The FHWA and FTA NEPA regulations also provide for public review of the final EIS; this requires that the document be made available in the applicant's office and at the appropriate FHWA or FTA offices at the time the final EIS is filed with the USEPA (23 CFR §71.1.25(g)).

In contrast to the CEQ regulations that address specific timeframes for public review of relevant documents before the issuance of a decision to prepare an EIS or ROD, the USDOT's FHWA and FTA timeframe requirements focus specifically on public participation for the draft EIS. This lack of specificity offers agencies flexibility in determining the length of time required for public participation on other NEPA processes.

Finally, it is important for agencies to note that public involvement is really an on-going activity for offices involved in the NEPA process. If an agency has routinely notified the public of upcoming projects through a newsletter (e.g., small-scale projects included in a TIP), such notification may suffice as an acceptable form of public involvement for site-specific projects that have no direct effects on any agency or person. Consequently, agencies should continually notify the public of their activities, although this may not be specifically re-

quired by NEPA or the Rule.

Public Participation Under the Rule. There are three types of public participation requirements addressed either directly or indirectly in the Rule. First, the Rule indirectly requires public participation as a result of the SIP revisions mandated under conformity. Second, there are several requirements for agencies making conformity determinations outlined at 40 CFR §51.402(e). Finally, there are the public participation requirements of other relevant laws that are incorporated in the Rule by reference, including 23 CFR Part 450.

Under the Rule,

states must submit conformity SIP revisions to the USEPA and the USDOT for review. All of the SIP revisions must satisfy the requirements listed at 40 CFR Part 51 (i.e., "Requirements for preparation, adoption, and submittal of implementation plans"). Under the Rule, states must submit their conformity program criteria and procedures to the USEPA as SIP revisions (40 CFR §51.396). These revisions must satisfy public involvement requirements, which are incorporated by reference to 40 CFR §51.402. Under these requirements, states must hold a public hearing and release a public notice at least 30 days in advance of the meeting to announce the hearing and the availability of the proposed SIP revisions. State submittals that do not satisfy the public participation and other SIP revision requirements may not be approved by the USEPA.

The public participation requirements included in the Rule are outlined in 40 CFR §51.402(e). First, the Rule requires that "agencies making conformity determinations on transportation plans, programs, and projects shall establish a proactive public involvement

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process which provides opportunity for public review and comment prior to taking formal action on a conformity determination for all transportation plans and TIPs, consistent with the requirements of 23 CFR part 450" (40 CFR §51.402(e)). Second, agencies must "provide [an] opportunity for public involvement in conformity determinations for projects where otherwise required by law" (40 CFR §51.402(e)), e.g., NEPA. In addition,

... agencies should continually notify the public of their activities, although this may not be specifically required by NEPA or the Rule.

agencies must address all public comments in writing for regionally significant projects even if these projects have not received FHWA and FTA funding or if these projects have not yet been properly reflected in the emissions analysis to support a proposed conformity finding for a transportation plan or TIP (40 CFR §51.402(e)).

The Rule also incorporates the public participation requirements of 23 CFR Part 450 (i.e., the final rules for statewide and metropolitan planning) by reference (40 CFR §51.402(e)). Under 23 CFR Part 450, a public review period for all transportation plans and TIPs in nonattainment areas is required. Responsible agencies must: 1) provide public notice of the public involvement process, 2) hold open public meetings and 3) provide time for public review and comment on pertinent documentation. Further, "in nonattainment areas, classified as serious and above, the comment period shall last at least 30 days for the plan, TIP, and major amendments" (23 CFR §450.316(b)(1)(iv)). Significant written and oral comments received on a draft transportation plan or TIP, result-

ing from the public involvement process or the conformity interagency consultation process, must be summarized with an accompanying response as a part of the final plan or TIP (23 CFR §450.316(b)(1)(viii)). If the transportation plan or TIP changes significantly between the draft plan or if the TIP is released for public notice, the modified plan or TIP must undergo another public hearing/comment period.

In addition, the transportation planning regulations require that the MPO public participation process "shall be coordinated with other statewide public involvement processes wherever possible to enhance public consideration of the issue, plans, and programs, to reduce redundancies and costs" (23 CFR §450.316(b)(1)(xii)). The authors interpret this requirement to include coordination with the NEPA process. If the NEPA provisions can be interpreted to require that project conformity determinations be made during the EIS process, then the NEPA public comment requirements should apply to conformity.

Finally, the consultation procedures, which must be included in the SIP revision, do not explicitly require the incorporation of public involvement procedures. In fact, the Rule's language only indicates that "[t]he implementation plan revision[s] required under [40 CFR §51.396...will include procedures for interagency consultation (federal, state, and local) and [the] resolution of conflicts" (40 CFR §51.402(a)). Nevertheless, this paper recommends that specific public comment procedures should be developed in the consultation process and incorporated into the SIP; this would render these procedures enforceable through the SIP.

Coordination of NEPA and Conformity Public Comment Periods. As a result of the extensive public comment requirements of the NEPA and conformity programs, this paper recommends

that the conformity process be implemented concurrently with the EIS process so that conformity determinations can be made during the final EIS stage. Unless the NEPA and conformity processes are coordinated, the 45-day to 60-day NEPA public comment periods would be followed by the conformity public involvement requirements. In addition, if a negative conformity determination follows NEPA process completion, the NEPA process must begin anew as the project cannot be approved. Also, in the rare event that a transportation plan or program changes significantly from the final plan or program, public participation will likely be required for the revised plan or program (23 CFR Part 450).

Again, this paper advises the coordination of the public participation requirements of the Rule, transportation planning regulations (23 CFR Part 450), and NEPA.

Conclusions

This paper focuses on the roles of conformity and NEPA in mitigating the environmental impacts of new transportation projects. The Rule focuses on the approval of transportation plans, programs, and projects that are funded and approved under title 23 of the United States Code or the Federal Transit Act. Although the conformity regulations were adopted much more recently, the NEPA regulations continue to play an important role in environmental conservation through federal, state, and local agency planning.

The paper concludes that the most effective method of planning for transportation projects under the conformity regulations is to complete the NEPA and conformity processes concurrently. Although the Rule does not specifically require the concurrent preparation of NEPA and conformity analyses, confor-

mity determinations can and should be made during the process of preparing an EIS under NEPA.

Integration of the planning processes under NEPA and conformity satisfies the need for thorough environmental analysis and comprehensive planning, while addressing the public participation requirements. A concurrent analytic process would assist planners in achieving the dual goals of obtaining positive conformity determinations from FHWA and MPOs and project approval under NEPA. It is not practical to make conformity determinations outside of the NEPA process. This paper emphasized several points with respect to concurrent regulatory analysis: 1) time and budget savings may be achieved by coordinating environmental processes, 2) much of the same data and information are required for technical analyses under NEPA and conformity and 3) concurrent analysis would help to prevent delays that could result from independent and fragmented implementation of regulatory mandates.

Policy makers throughout the nation have acknowledged that pollution prevention is a much more efficient method of conservation than is environmental remediation. It is critical that impacts be addressed early in the planning process

whenever feasible. If conformity is implemented in concert with other environmental regulations (i.e., NEPA), it can provide communities with a comprehensive planning method that incorporates public participation, alternatives analysis and mitigation. Although coordination between NEPA and conformity is not specifically required, project sponsors can develop a more efficient strategy for preparing coordinated environmental analyses. In summary, if the Rule is implemented in conjunction with other applicable regulations, it offers the country the potential for a greatly improved transportation and air quality planning system.

Disclaimer

The conclusions, findings, and recommendations presented in this paper reflect the views of the authors who are responsible for the facts and the accuracy of the information presented herein. The contents do not necessarily reflect the official views or policies of the State of California, Caltrans, or the USEPA. This paper does not constitute a standard, specification, or regulation.

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Many states have adopted "mini-NEPA" legislation, such as the California Environmental Quality Act (CEQA) and the Georgia Environmental Protection Act.

Some of these mini-NEPA regulations contain requirements that extend above and beyond those of NEPA. A version of this paper that incorporates relevant policy discussions and citations to CEQA is available from ITS-Davis.

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Endnotes

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3. In developing the Final Rule, the USEPA received many comments expressing the opinion that the Rule should be applicable to attainment areas as well as nonattainment and maintenance areas. In their response to these comments in the preamble of the 1993 Conformity Rule, the USEPA argued against the implementation of conformity in attainment and maintenance areas "given the significant burden associated with making conformity determinations relative to the risk of [National Ambient Air Quality Standards] NAAQS violators in clean areas" (58 FR 62190). The USEPA believes the statute ambiguous, providing discretionary authority to issue conformity rules for attainment areas. However, a recent decision in the U.S. District Court found the language of §176(c) to include attainment and unclassifiable areas (*Environmental Defense Fund, Inc., et al., v. Carol Brauner*, C 92, 1636 TEH). The judge granted the plaintiffs' Motion for Enforcement of Prior Court Order and ordered the USEPA to promulgate, within 270 days, final transportation (and general) conformity regulations in every area subject to an implementation plan that is not covered by the transportation conformity regulations published on November 24, 1993. However, it still remains to be seen to what extent a new conformity rule for attainment areas will differ from the original Conformity Rule.
4. Conformity determinations are also required for non-FHWA or non-FTA projects, if they are regionally significant (40 CFR §51.394). It is important for project sponsors to note that the definition of "regionally significant" is pivotal. Regionally significant projects are defined in the transportation conformity regulations (40 CFR §51.392) and the final rules for statewide and metropolitan planning (23 CFR §450.104). These definitions describe a "regionally significant" project as a transportation project located in a facility that serves regional transportation needs and would normally be included in the modeling of a metropolitan area's transportation network.
5. If the interagency consultation process determines that the USEPA-approved tools and guidelines are inappropriate for particular circumstances, alternative procedures may be employed. See Guensler, et al., (1994a) for more detail on interagency consultation procedures.
6. Further discussion of technical modeling issues are presented in Guensler, et al. (1994b).
7. See Guensler, et al., 1994a for more detailed discussions on the roles of local, state and federal agencies.
8. The change in USEPA philosophy regarding emission budgets that resulted from a recent court decision is discussed in further detail in Guensler, et al., 1994a.
9. *Citizens for a Better Environment v. Deukmejian* (731 F.Supp. 1448) March 5, 1990; *Citizens for a Better Environment v. Deukmejian* (746 F.Supp. 976) August 28, 1990; *Citizens for a Better Environment v. Wilson* (775 F.Supp. 1291) August 19, 1991.

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