

Implementing the Transportation Conformity Regulations

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Among the more controversial requirements of the 1990 Clean Air Act Amendments is the "transportation conformity" provision, intended to ensure that a state does not undertake federally funded or approved transportation projects, programs, or plans that are inconsistent with the state's obligation to meet national air quality standards. Buttressed by the Intermodal Surface Transportation Efficiency Act of 1991, the conformity requirement was specified in detailed federal regulations in November 1993 (subsequently amended in 1995 and 1997 and altered by a Federal Court of Appeals decision in March 1999).

The conformity regulations stipulate that to gain approval for their transportation plans, metropolitan planning organizations in regions not in compliance with Clean Air Act pollution requirements must develop forecasts of transportation demand and emissions for a 20-year time horizon. These forecasts must show that mobile-source emissions will be within specified caps in milestone years. This analysis is subject to comment and critique by state and regional air agencies and the state department of transportation, as well as interested stakeholder groups and the general public. The analysis is also subject to review by the U.S. Environmental Protection Agency, the Federal Highway Administration, and the Federal Transit Administration. The latter two agencies, acting jointly on behalf of U.S. DOT, must ultimately approve or disapprove the MPO's conformity determination. Figure 1 depicts the conformity process.

The authors recently completed a 2-year study of the implementation of conformity from 1991 to early 1998 (1). This study was undertaken to determine how conformity has worked in practice, how it has affected the organizational capacity and relationships of the key agencies and stakeholder groups involved, whether it has changed transportation planning and programming in significant ways, and

whether it has affected air quality planning and regulation. The study focused on 15 major nonattainment areas—geographic regions designated by EPA as not meeting national air quality standards: Atlanta, Baltimore, Boston, Charlotte, Chicago, Denver, Houston, Milwaukee, New York, northern New Jersey, Philadelphia, Phoenix, Portland, Salt Lake City, and San Francisco.

Conformity Process

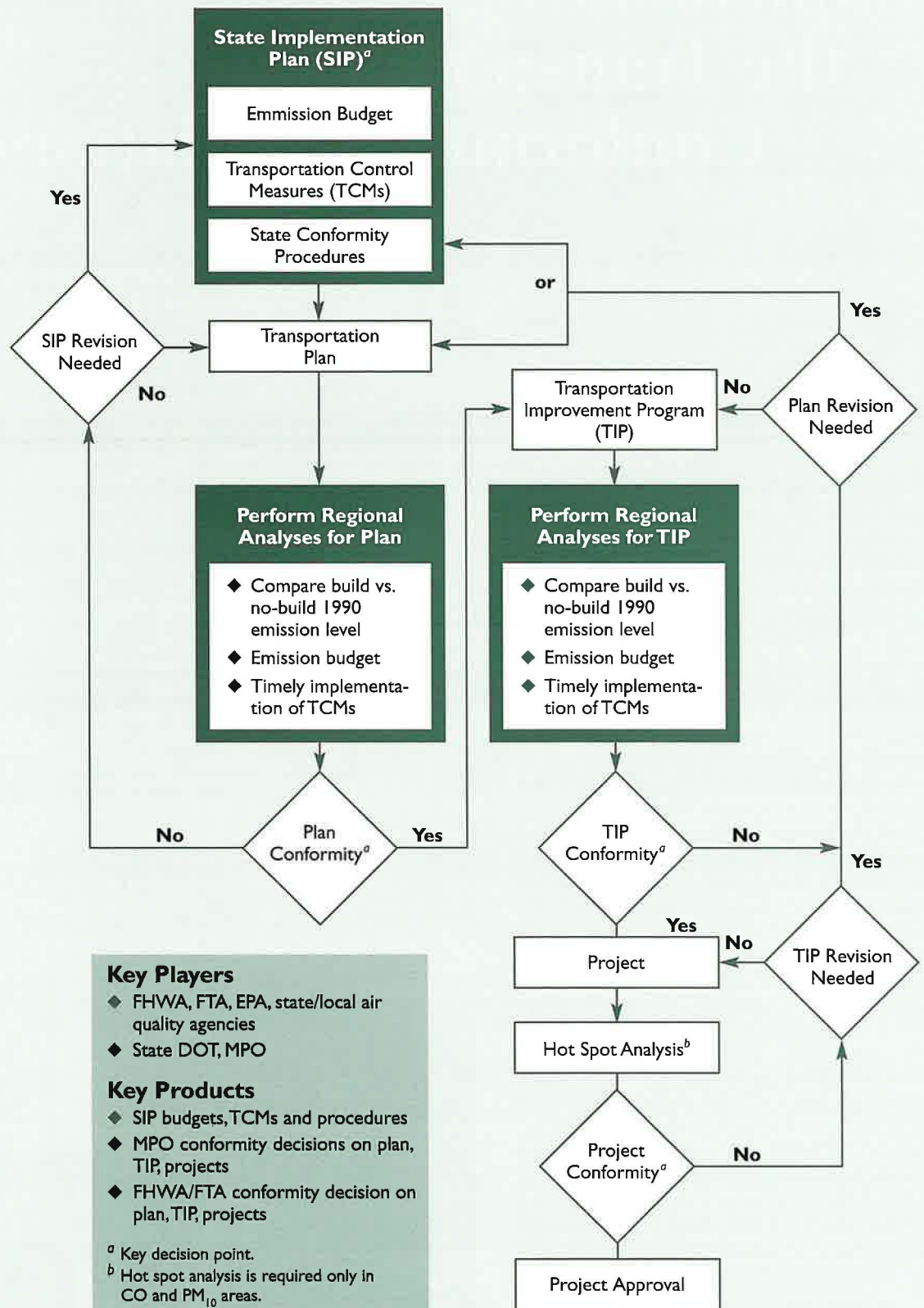
The conformity process was designed to ensure that a nonattainment (or "maintenance") area will keep transportation-related emissions within the bounds necessary to bring the state into compliance with (or maintain) national air quality standards, and thus to advance the public health goals of the Clean Air Act. Yet the statute and conformity regulations imply other purposes as well, including (a) establishment of a procedural framework and incentives for analyzing transportation-related pollution, (b) improvements in both transportation and air planning processes and establishment of tighter connections between the two, and (c) improvements in public deliberations and decisions on transportation and air quality issues. Moreover, many advocacy groups expected con-

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The 1990 Clean Air Act Amendments contain a "transportation conformity" provision designed to ensure that states meet their obligation to comply with national air quality standards.



FIGURE 1
Conformity
process.



formity to promote transit enhancements, other transportation control measures (TCMs), and increased land use regulation.

Although conformity is characterized by many procedural complexities, the core analytic process involves making a 20-year computer-simulated forecast of emissions from the transportation system, taking account of changing demographics, land uses, economic development, and new transportation infrastructure and services. The predicted levels of pollutants are compared with the maximum emissions permissible in certain milestone years under the state's federally mandated pollution-reduction plans, known as state implementation plans (SIPs). If modeled transportation pollutants exceed SIP emission budgets, the MPO must alter its transportation plan and programs to meet the budget constraints. Alternatively, the state air agency must reduce transportation pollution through additional mobile-source control measures adopted in an amended SIP, or reduce emissions from other pollution sources, such as manufacturing, utilities, or smaller "area" sources.

In addition, MPOs must demonstrate timely implementation of TCMs in their SIPs. Each MPO must also fulfill the ISTEA "fiscal constraint" requirement for transportation plans and programs by showing that the financial resources needed to carry out the state's plan and programs are likely to be available.

If an MPO cannot satisfy the conformity requirements within specified time periods, it is subject to penalties referred to as a conformity "lapse" or "freeze." While these penalties are in effect, the MPO may not begin most new transportation projects, and use of federal transportation funds is restricted. Transportation conformity lapses or freezes can also be triggered by certain shortcomings in a SIP, which may or may not involve transportation-related issues.

Problems Encountered

Each of the 15 study sites had experienced at least some difficulty with the technical and procedural requirements of the conformity regulations. Some MPOs had particularly acute problems during the start-up period from 1991 through the first year of implementing the 1993 regulations; others encountered severe difficulties more recently, as allowable emission levels were reduced. The problems experienced fall into six categories:

- ◆ *Emission tests*—failure to pass the several emission tests required at various times under conformity
- ◆ *Modeling procedures*—problems in fulfilling the requirements for modeling of transportation demand



◆ *TCM implementation*—difficulty with demonstrating timely implementation of those TCMs committed to in SIPs

◆ *Fiscal constraint*—inability to show that the transportation plan meets the ISTEA fiscal constraint requirement

◆ *SIP failure*—difficulties with SIP requirements

◆ *Human error*—procedural confusion or data analysis mistakes

The greatest number of problems was associated with the emission tests. Five of the study areas encountered significant difficulties in applying the emission budget test of the 1993 regulations. Denver had a conformity lapse for nearly a year during 1994–1995 while debating whether and how to increase its emission budget for particulate matter (PM₁₀). Salt Lake City lapsed in the same period because of problems with particulate precursors. Charlotte (from January 1997 to April 1999) and Atlanta (since January 1998) experienced conformity lapses connected with excess levels of ozone's chemical precursors.

During the early years of conformity, most areas were subject to two other emission tests. The so-called "build/no-build test" (which compared pollution levels with and without the projects in the MPO's transportation plan or programs) caused considerable controversy because many transportation planners were skeptical of the validity of the modeling results. Nevertheless, the difficulties encountered were less severe than those noted above. Portland experienced a 1-year lapse in 1994 as a result of an error in modeling the build/no-build

To gain approval for their transportation plans, states not in compliance with Clean Air Act pollution requirements must develop 20-year forecasts of mobile-source emissions.

A Conformity Glossary

Congestion Mitigation and Air Quality program	Authorized under the Intermodal Surface Transportation Efficiency Act of 1991 to finance projects that alleviate congestion and reduce pollution.
build/no-build test	An analytic requirement that must be used, among others, to demonstrate conformity until the Environmental Protection Agency approves an area's emission budget; requires showing that the aggregate emissions forecast as a result of undertaking the set of projects in a regional transportation plan do not exceed those forecast if the plan were not implemented; one of three conformity test options for rural areas.
CO	Carbon monoxide.
conformity freeze	A period during which no new transportation plans or programs can be approved, and no projects can be added to existing plans or programs. Projects from the first 3 years of a previously conforming plan or program can, however, still be advanced. No new conformity determination can be made until the SIP deficiency that triggered the freeze is revised by the state.
conformity lapse	A period during which no new project-level conformity determinations can be made. This halts the flow of federal funds to new projects unless they are exempt or fit the narrow conditions of a March 1999 court decision.
emission budget	The maximum amount of pollution of a particular type—e.g., from mobile sources—allowable under a state implementation plan (SIP). Emission budgets for various sources are set by a state within the overall constraints of the National Ambient Air Quality Standards (NAAQS).
exempt projects	Specific types of transportation projects, identified in the conformity regulations, that are presumed neutral in their effects on emissions or air-quality beneficial.
fiscal constraint requirement	A provision of ISTEA that requires states and metropolitan planning organizations to demonstrate that funds needed to implement planned transportation projects will be available.
grandfathered project	A project from a conforming plan and program that has completed the National Environmental Policy Act process as applicable to transportation and has not changed significantly in design and scope since the conformity determination. (This provision was struck down by the March 1999 court decision.)
maintenance area	A geographic area, previously classified by the EPA as a nonattainment area, that has met the NAAQS but is subject to a 20-year period of continued regulation, including conformity, to prevent regression to nonattainment status.
metropolitan planning organization	Designated institution that carries out federal transportation planning requirements within a metropolitan area.
National Ambient Air Quality Standards (NAAQS)	Maximum allowable levels of specific "criteria" pollutants set by EPA under the Clean Air Act.
nonattainment area	A geographic area, defined by EPA according to the Clean Air Act, that does not meet the NAAQS for one or more regulated pollutants.
ozone precursors	Volatile organic compounds and oxides of nitrogen that react in the atmosphere to produce ozone.
particulate precursors	Compounds, including oxides of nitrogen, that form airborne particulate matter.
PM₁₀ or PM_{2.5}	Particulate matter smaller than 10 or 2.5 micrometers; both sizes are regulated as criteria pollutants.
state implementation plan (SIP)	Developed by a state, subject to EPA approval, to show how Clean Air Act requirements will be met.
transportation control measures (TCMs)	Policies incorporated in SIPs, designed to reduce automobile use directly or indirectly; subject to a "timely implementation" test in conformity.
transportation improvement program (TIP)	Metropolitan planning organization 3- to 5-year capital financing agenda of transportation projects, drawn from a long-range transportation plan.
transportation conformity regulations	Federal regulations under the Clean Air Act Amendments of 1990 requiring metropolitan planning organizations to demonstrate that the mobile-source pollution generated by the metropolitan transportation system in a 20-year time frame will stay within the emission limits permitted by the state's SIP.

requirement, but this lapse was, in effect, voluntary. The MPO chose not to redo the modeling, since there were no plans to move new projects forward during that year. The build/no-build requirement was substantially altered by the 1997 conformity amendments in response to state and MPO criticism. However, the build/no-build test will come back into use as a result of the March 1999 court decision referred to above, which invalidated important elements of the 1997 amendments. No study area reported difficulty in passing a second emission test showing that emissions were below 1990 levels, since national automobile technology improvements, among other measures, were reducing mobile-source emissions.

Other conformity requirements generally proved less problematic than the emission tests. Although a number of the study sites faced highly stressful periods while gearing up for the network modeling requirements of the 1993 regulations, only New York City and Chicago ultimately experienced serious conformity delays as a result. The fiscal constraint requirement posed no serious problems for any area, although it was responsible for a brief conformity delay in Boston.

Initially, the 1993 provisions regarding SIP failures caused difficulties for a few areas, but the 1995 conformity amendments alleviated these problems. Only Salt Lake City and, more recently, northern New Jersey suffered a conformity freeze or lapse because of SIP failure.

Institutional Impacts of Conformity

Implementation of the conformity regulations during the mid-1990s created significant challenges for the core regional and state agencies involved in conformity—particularly MPOs, state and regional air agencies, and state DOTs. These challenges were related not only to the requirements of conformity itself, but also to the broader context of changes stemming from the Clean Air Act Amendments and ISTEA. Even without the conformity requirements, air quality and transportation agencies faced substantial increases in workload, as well as the need to develop new skills and build relationships with other agencies.

Development of Technical Capacity

Conformity made significant and stressful start-up demands on the technical capacity and resources of MPOs. Most of the MPOs in the study areas were subject to the network modeling requirements of the 1993 conformity regulations, and all needed to upgrade their modeling capabilities accordingly. Typically, MPOs had to hire additional in-house technical staff and/or consultants for this purpose.

Conformity Case Studies

Under the transportation conformity regulations, metropolitan planning organizations face interruptions of federal transportation funding and loss of authority to initiate new projects if they are unable to adopt 20-year transportation plans and shorter-term transportation improvement programs (TIPs) that fulfill their state's commitments to reduce pollution. Similar transportation penalties can be imposed under the conformity regulations if the state fails to submit or implement state implementation plans (SIPs) for air quality. Following are three brief case studies of MPOs that have recently experienced a conformity lapse or freeze.

Charlotte, North Carolina

For more than 3 years, conformity difficulties prevented the Mecklenburg/Union MPO, which serves the Charlotte metropolitan area, from adopting a new TIP or updating its long-range plan. Difficulties began in late 1995 when the MPO, confronting significant regional increases in vehicle-miles traveled, could not demonstrate that its proposed TIP would pass the conformity tests for ozone. Collaborating with the North Carolina Department of Transportation and the state air agency throughout 1996, the MPO unsuccessfully sought to rework the transportation demand and emissions modeling in its 2015 transportation plan. Conformity lapsed in January 1997 when the 3-year life of the previous conformity determination expired.

During the following year, the MPO tried to persuade the air agency to amend the SIP to increase the amount of allowable transportation emissions. Doing so, however, would have required imposing additional pollution reductions on industry or other sources, and the air agency therefore refused.

The conformity lapse continued into 1998. In March the MPO was finally able to demonstrate conformity with an updated 2015 transportation plan by taking "credit" for two national developments: the auto industry's decision to produce a national low-emitting vehicle and new Environmental Protection Agency regulations on heavy-duty diesel engines. To the surprise of the MPO and the state agencies, however, U.S. DOT refused to approve this plan because the plan did not now cover the 20-year time horizon required by the Intermodal Surface Transportation Efficiency Act.

After seeking unsuccessfully for some months to reverse this ruling, the MPO developed a 20-year plan and TIP that included new transit corridors (financed by a Charlotte transit tax adopted by referendum in late 1998)

and projected higher-density development in these corridors. The plan and TIP were approved by U.S. DOT, and the area's conformity lapse ended in early April 1999.

The Charlotte conformity lapse, although in effect for more than 2 years, did not interfere with major transportation projects, such as the Outer Loop, because these projects had been grandfathered before the lapse. (Under the March 1999 Federal Court of Appeals

continued on page 21



Metropolitan planning organizations risk losing federal transportation funding if their states fail to adopt plans and programs aimed at reducing air pollution.

While conformity was often the decisive factor in making these upgrades, MPOs were also motivated by ISTEA's planning requirements and the provision of federal funds to strengthen planning capabilities. Of the 15 study sites, New York City and Chicago had the most difficulty in fulfilling the technical demands of conformity. Both EPA and U.S. DOT contributed significantly to the development of organizational capacity for conformity by providing technical assistance.

State air agencies also found development of the necessary technical resources quite challenging. To meet the many new responsibilities mandated by the Clean Air Act, including conformity, most air agencies hired additional staff members who had or could develop transportation expertise. But this took time, and new staff had to be assimilated to the agencies' institutional practices and cultures. In contrast to MPOs and state air agencies, state DOTs faced fewer conformity-related demands for technical capacity.

Establishment of Interagency Consultation Procedures

Fulfilling the purposes of conformity depends crucially on creating stronger institutional links between two sets of agencies—transportation and air quality—that operated quite independently of each other before the 1990 Clean Air Act Amendments were enacted. The conformity regulations emphasized the need for effective interagency consultation at each stage of the conformity process. Consultation practices emerged gradually as first the 1991 interim conformity guidelines and then the 1993 regulations were implemented.

As a result of start-up challenges, many areas missed the window of opportunity for consultation that could have informed the first set of SIPs under the Clean Air Act Amendments and ISTEA. In a few areas, including Boston, Houston, and Milwaukee, broad-based task forces were established for SIP planning. However, transportation planners in some other areas were not sufficiently aware of the importance of their involvement in such planning. Thus emission budgets were derived implicitly from SIP inventories without adequate consideration of the implications for future conformity determinations. Likewise, during the start-up phase, air planners were just beginning to establish their role in transportation planning and frequently felt that they had too little influence on the first post-ISTEA round of transportation plans and transportation improvement programs.

Typically led by the air agency, concerned agencies in most states began working on required conformity SIPs in 1994. Many states finished that work essentially within the allotted year, building on the experience gained in their initial conformity

experiences. Most developed interagency consultation procedures with little disagreement, and a number regarded the exercise of specifying responsibilities and defining processes as quite useful in clarifying expectations about how conformity would be carried out. To accommodate forthcoming amendments to the conformity regulations, however, EPA extended the deadline for completed conformity SIPs to 1998. Conformity SIPs were therefore not complete in many areas at the conclusion of the study period in January 1998.

Consultation in Practice

Many of the state and regional officials interviewed for the study stressed that the formal and informal relationships spurred by conformity have resulted in a much greater understanding of the challenges and constraints faced by their counterparts in other agencies. Where this has happened, it is far easier to acknowledge problems and work together to solve them. Once initiated, therefore, consultative relationships tend to become reinforcing. In some areas, on the other hand, consultation is relatively limited and focused to a great extent on formal interactions, such as committee meetings, review of proposed conformity determinations by air quality planners, and comments by transportation planners on proposed SIP budgets or mobile-source control measures.

Even in areas where strong consultative relationships have developed, important limitations remain. While state air agencies provide important technical inputs to the conformity analysis in a number of the study areas, they have generally been reactive rather than proactive participants. Resource limitations and the opportunity costs of using scarce staff capacity for conformity are a major barrier. Because a number of air agencies have little in-house technical expertise in transportation demand modeling, moreover, they are uncomfortable with probing that dimension of conformity even when they have serious reservations about the MPO's approach. Sometimes they are also politically wary of challenging transportation agencies.

Role of Federal Agencies

In a regulatory role, FHWA and FTA, in consultation with EPA, decide jointly whether to recommend approval of MPO conformity determinations. FHWA staff, generally taking the lead, solicit comments on the conformity determination from their federal partners, EPA and FTA, and consider comments from interested stakeholders (most often environmental advocacy groups; see the discussion below). Serious objections typically trigger intensive review of the MPO's conformity analysis. In this process, FHWA division staff play a facilitating role, as well as an evaluative one. FHWA headquarters staff provide

technical backup, interpret agency policy, promote consistency among areas, and manage liaison with EPA headquarters staff.

EPA regional office staff have played active roles in implementing conformity by providing technical assistance, troubleshooting on major issues, advising and consulting with headquarters staff, working with states and MPOs to develop conformity SIPs, and dealing with the conformity consequences of SIP revisions or disapprovals associated with emission control strategies. Nonetheless, EPA's involvement in conformity at the level of the MPO or nonattainment area has been significantly more variable, and weaker overall, than that of FHWA, largely because EPA lacks the state-level presence of FHWA's divisions. EPA's mobile-source headquarters staff, based in Ann Arbor, Michigan, played the lead role in drafting the transportation conformity regulations and, after much interaction with stakeholder groups, the subsequent amendments. (U.S. DOT, whose concurrence was required by the statute, also played a key role in developing the regulations.) In addition, EPA has played a continuing role in interpreting the regulations, coordinating mobile-source specialists in the regional offices to ensure national consistency, and communicating regularly with state and regional transportation and environmental agencies and other stakeholder groups.

Acting together on behalf of U.S. DOT, FHWA and FTA have the final authority to decide whether an area's conformity determination should be approved. In most situations, the two agencies have worked closely with EPA to reach consensus on a federal position, sometimes managing discussions at multiple agency levels. In only one of the study sites—Atlanta—has there been severe disagreement between U.S. DOT and EPA.

Involvement of Stakeholder Groups

The conformity regulations require both that the public have an opportunity to comment on conformity analyses before the determination is made and that MPOs fulfill the requirements of the U.S. DOT metropolitan planning regulations, which more generally mandate public participation in transportation planning. Through these mechanisms, environmental advocacy groups have been the most active non-governmental stakeholders in conformity, playing a key role in about one-third of the 15 study areas and a more limited role in most of the others. Business associations are the only other stakeholder group that has been active in conformity, and then only in a few nonattainment areas.

Tracking conformity well, however, is time-intensive and requires significant technical skills. To participate effectively, therefore, environmental advocates have had to make efforts that in many respects parallel those of the core public agencies.

Conformity Case Studies

continued from page 19

decision invalidating major elements of the 1997 conformity amendments, however, these projects would have been delayed pending the end of the lapse. The lapse did, however, prevent revision of the interchange configuration of the Outer Loop. Two smaller projects that would otherwise have proceeded were delayed—one because of North Carolina state rules that, until changed in 1999, were more stringent than the federal conformity requirements.

Atlanta, Georgia

Atlanta began to encounter conformity difficulties in 1996 when the Atlanta Regional Commission (ARC), the region's MPO, could not show that a proposed TIP revision was within the emission cap set by the state's SIP. The area was experiencing higher-than-expected travel growth, and the state was slow to implement inspection and maintenance and reformulated gasoline programs. ARC and Georgia DOT struggled unsuccessfully to develop strategies that would close the large gap between allowable and projected emissions and permit adoption of a new TIP. Consequently, the northern arc of the region's Outer Loop project could not be moved from the long-range plan to the TIP, the road to the massive new Mall of Georgia was scaled back, and only exempt and grandfathered projects from the previously conforming 1995 TIP were allowed to move forward.

Atlanta's conformity problems intensified in 1997. ARC could not develop a revised long-range plan that passed the conformity tests. With ARC's existing authority to proceed on new projects soon to expire, the Federal Highway Administration granted the MPO a 6-month TIP extension. During this period, ARC began drafting a new interim TIP that would contain only transportation control measures previously approved by EPA in Georgia SIPs, plus projects from the 1995 regional transportation plan update that ARC classified as either grandfathered or exempt. Georgia DOT, the sponsor of many of these projects, aggressively accelerated planning and environmental reviews to qualify as many projects as possible for grandfathering before conformity lapsed.

Environmental advocacy groups vigorously challenged ARC's classification of a number of these projects, asserting that they did not merit grandfathered status. FHWA disapproved several dozen interim TIP projects because they could not meet the applicable National Environmental Policy Act or conformity requirements. FHWA was then prepared to approve the remainder of the interim TIP. EPA's regional office, however, continued to dispute several of the remaining grandfathered projects. Staff from the White House Council on Environmental Quality ultimately brokered a regional-level agreement among EPA, FHWA, and FTA that allowed five of six disputed projects in the interim TIP to move forward, with two of these being limited to planning and design.

Conformity subsequently lapsed in January 1998, blocking further new projects until a revised long-range plan and TIP could be shown to meet the conformity requirements. ARC initially sought to persuade the state air agency to adopt measures, such as use of low-sulfur "California fuel," that could reduce transportation emissions without necessitating limits on travel or highway investments, but the air agency regarded this approach as infeasible.

During 1998, in part because of the conformity lapse, the regional political climate changed dramatically. In the spring, a critical U.S. DOT review of the region's transportation planning processes resulted in a limited 18-month recertification. By summer, the Greater Atlanta Chamber of Commerce had launched a Metropolitan Atlanta Transportation Initiative, with substantial

continued on page 23

Thus in several of the study areas, strong environmental groups that have focused on transportation issues more generally have chosen not to become actively involved in the conformity process. Moreover, not every study site has advocacy groups capable of effective participation.

Impacts on Transportation Plans and Programs

Firm conclusions about the impacts of conformity on transportation plans and programs are premature because of the dynamics of transportation planning and project development. The regulations were not in effect during the formative years for many of the projects included in transportation plans and programs that were subject to conformity during the study. In effect, the conformity regulations were applied to the final stages of planning. It is not surprising, therefore, that the effects of conformity have been felt more clearly in the planning process than in the substance of the plans themselves.

During 1991–1993, when the interim conformity guidance was in effect, there was considerable uncertainty about what this procedure entailed and how it had to be documented. Most MPOs in the study, although quite concerned about possible funding interruptions, had relatively little difficulty in demonstrating conformity against this standard once they had become familiar with the required modeling procedures.

Under the 1993 regulations, as amended, the impacts of conformity on highway projects have been felt primarily in the high-growth study areas—Atlanta, Charlotte, Denver, Houston, and Salt Lake City (but not Portland). It is these areas that have found passing the emission budget tests of the conformity regulations most problematic. As a result, MPOs in these areas have experienced delays in proceeding with certain planned projects, had to scale back the scope of others, and even had to eliminate certain projects from proposed transportation programs. Charlotte and Atlanta have experienced long conformity lapses.

The high-growth areas in the study (except for Portland) tend to have substantial dispersed land development and a significantly rising level of vehicle-miles traveled (VMT). As a consequence, they typically have major highway capacity expansion plans. These areas generally have transit systems with much smaller mode shares than those of the typical low-growth areas in the study, and their growth is occurring primarily at the peripheries of the metropolitan area, where the provision of high-quality transit service is problematic. On the air quality side, these areas, with the exception of Houston, have less severe ozone problems than the low-growth areas in the study, which means they have earlier deadlines for attaining federal air quality

standards. Therefore, they must show required pollution reductions, net of VMT growth, more rapidly than the low-growth areas. (Portland is an exception: it has less severe pollution than other high-growth areas and has adopted land use policies intended to limit VMT growth.)

In contrast, implementation of conformity has far less impact on transportation plans and programs in the older, relatively low-growth metropolitan areas included in the study—Chicago, New York, Baltimore, Boston, Philadelphia, Milwaukee, northern New Jersey, and San Francisco. Although these areas typically have more serious pollution problems, they generally have mature highway infrastructure networks, well-established transit systems, and relatively slow VMT growth. Many projects in the transportation plans and programs of these areas, including reconstruction and maintenance of the roadway system and most investments in transit, have neutral or positive air quality benefits. Conformity has not required major adaptations of transportation plans in these areas. Yet these areas have not yet met their stiffest conformity challenges, which will result when they must demonstrate emission reductions against SIPs that show how the area will ultimately attain the national air quality standards.

The Charlotte and Atlanta experiences (see box pages 19 and 21), as well as other less dramatic cases in the study, suggest how difficult it is both institutionally and politically for MPOs and state DOTs to make changes in their transportation plans and programs. Given the difficulty of extricating projects from plans and the length of time that will elapse before projects in the pre-ISTEA pipeline are exhausted, it is not surprising that there have been few major changes in the contents of regional transportation plans.

Finally, as a result of conformity, it appears that proposals for major highway capacity enhancement deemed likely to be “emission budget busters” are less likely to move into the preliminary planning stage than they might previously have been. Moreover, because major highway projects may threaten financial as well as emission budgets, this effect is strongly reinforced by the fiscal constraint requirement of ISTEA.

Impacts on Transit, Other TCMs, and Land Use Planning

A number of conformity stakeholders, particularly environmental advocacy groups, expected that conformity would promote specific elements of their transportation policy agendas. The study therefore investigated whether conformity has had an impact on transit, other TCMs, and land use planning.

In 2 of the 15 study areas (Denver and Portland), conformity considerations appear to have reinforced—but not determined—transit policies; in other areas, transit planning has been much less

affected by conformity. Contrary to expectations, most of the rapidly growing metropolitan areas in the study, including those that have experienced difficulties with conformity, have not deemed the emission benefits of transit sufficient grounds for major transit investments. However, the areas that already have extensive transit networks have found the emission benefits of continued investment helpful in demonstrating conformity.

Only two areas (Boston and Baltimore) reported adopting a TCM specifically for conformity purposes. In others areas, the availability of funding from the federal Congestion Mitigation and Air Quality program has probably increased the attractiveness of some TCMs relative to other possible expenditures. Because most TCMs show only modest air quality benefits, however, they have not been placed in plans specifically to reduce pollution.

Some proponents of conformity hoped that modeling the links between transportation and land use would lead to consideration of alternative land use scenarios in the planning process and broader acceptance of land use regulation as a viable policy option for reducing mobile-source emissions. Portland has made some of its already strong land use regulatory policies enforceable through conformity by incorporating them as TCMs in its SIP. Otherwise the impact of conformity on land use decision making in the 15 study sites has been limited, primarily by the location of institutional responsibilities for land use in local governments and the resulting complex politics at the regional level.

Conformity and Air Quality Planning

As noted above, several factors at play during the early implementation of the Clean Air Act Amendments and ISTEA prevented conformity from having a large influence on the initial rounds of SIP planning in the study areas. As these areas have carried out subsequent rounds of air quality and transportation planning, however, conformity has had more impact on the setting of mobile-source budgets.

Overall, transportation planners have become more active as stakeholders in air quality regulation, and this represents a major change in the practice of transportation and air quality planning. Even where bureaucratic relations have been far from smooth, these previously separate planning and regulatory processes have become more closely linked than ever before. Conformity has spurred this linkage in two main ways: by stimulating greater scrutiny of and refinements to the current data and forecasting techniques for transportation demand; and by forcing planners and policy makers to identify, confront, and more directly assess their options for reducing mobile-source and other emissions. The complexity

continued on page 41

Conformity Case Studies

continued from page 21

backing from local elected officials and environmentalists, to address the related issues of regional congestion, urban sprawl, and air quality. During the fall gubernatorial campaign, Democratic candidate Roy Barnes made these issues a major campaign theme, which helped carry the election.

Upon taking office in January 1999, Governor Barnes proposed—and by March had guided to legislative approval—a bill that created a nationally unique new agency with sweeping powers. The Georgia Regional Transportation Authority (GRTA) can stop highway projects proposed by the state DOT, and can also, in effect, veto major development projects in the 13-county Atlanta metropolitan area, even if approved by local governments, by refusing to issue permits to connect those projects to the road system. Moreover, GRTA can plan and build rail and bus transit systems or undertake high-occupancy vehicle projects regardless of whether county governments approve them. If a county refuses to authorize taxes to finance these projects, GRTA can withhold other state funds until the county agrees. How this agency will actually function remains to be seen.

The March 1999 Federal Court of Appeals decision had the effect of revoking approval of most of the grandfathered road-building projects in Atlanta's interim TIP (as well as grandfathered projects in other nonattainment areas experiencing conformity lapses). These projects will be unable to proceed until the lapse has been resolved. Georgia and Atlanta policy makers have therefore begun discussing the possibility of shifting up to \$300 million of federal funding to transit and bikeway projects, the purchase of low-polluting buses, and improved traffic signalization, which could proceed because they would improve air quality.

As of mid-April 1999, the Atlanta conformity lapse was continuing. Efforts were under way to develop a new regional transportation plan and TIP that can fulfill the regulatory requirements.

New Jersey

Major parts of northern and southern New Jersey were affected by a conformity freeze that began in April 1998 and ended in February 1999. In contrast with the Charlotte and Atlanta cases, this penalty did not result directly from problems in transportation planning. Instead, the state's conformity freeze was triggered by a SIP failure, stemming from the state's long delay in carrying out the enhanced vehicle inspection and maintenance program required by the Clean Air Act Amendments of 1990 and promised in a 1993 New Jersey SIP.

A conformity freeze is a more limited restriction than a conformity lapse. During a freeze, an affected MPO cannot adopt a new long-range transportation plan or TIP. Hence it cannot begin new projects requiring federal funds or approval or significantly modify previously approved projects. In contrast with a conformity lapse, however, the MPO can continue to move forward on projects from the first 3 years of a previously conforming TIP, whether or not these projects have been grandfathered, as long as their scope and design have not materially changed.

Moreover, New Jersey received 120 days' notice from EPA that the freeze would be imposed. During this period, the state DOT and other project sponsors expedited design changes in a number of previously approved projects so these changes could proceed during the freeze. (Note that this would no longer be permissible under the March 1999 Federal Court of Appeals decision.) As a result, the impacts of the freeze were limited primarily to minor alterations in the timing and priority of state DOT projects.

New Jersey's air agency was able to rectify the SIP failure—and thereby end the conformity freeze in February 1999—through measures unrelated to inspection and maintenance. The agency is still proceeding with implementation of the required enhanced inspection and maintenance program.