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TRANSPORTATION INFRASTRUCTURE

Implementation of Funding Flexibility Under ISTEA and Use of Transportation Control Measures

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Mr. Chairman and Members of the Subcommittee:

We are pleased to have this opportunity to testify on the challenges states and metropolitan planning organizations (MPO) face in developing integrated transportation systems. The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) encourages these groups to use a total systems approach to transportation planning that considers all modes of transportation as well as the environmental, energy, social, and economic effects of transportation projects.

Transportation planners have two important tools to foster such an approach: ISTEA's provisions on using funds flexibly and the emphasis on transportation control measures (TCM) in the Clean Air Act Amendments of 1990. ISTEA's funding flexibility provisions give states and localities increased opportunities to determine how funds should be distributed among highway, mass transit, and nontraditional projects--that is, those transportation projects that have both highway and mass transit benefits (such as high occupancy vehicle lanes). Many of these nontraditional projects include TCMs, which are programs or activities that encourage the traveling public to rely less on the automobile or to use the automobile more efficiently. TCMs, in turn, are designed to reduce mobile-source emissions and thereby improve air quality.

Although it may be too early to predict how states and MPOs will use the funding flexibility and TCM provisions, several critical issues have emerged. Our testimony today summarizes findings from two recent GAO reports on those topics: (1) the way states and localities have used ISTEA's funding flexibility provisions, (2) the factors that have influenced the flexible use of ISTEA funds, (3) the effectiveness of TCMs in helping states and localities attain air quality goals, and (4) the adequacy of the analytical tools available for making comparisons between transportation alternatives and measuring the impacts of transportation projects, including TCMs, on air quality.[1] We also discuss the complex environment in which states and localities must make transportation investment decisions. In summary:

-- The initial use of ISTEA's flexibility provisions has been limited. In fiscal year 1992, states and localities invested less than 3 percent ($319 million) of the $11.2 billion in highway funds that could be used flexibly in mass transit or nontraditional projects. This trend continued in the first half of fiscal year 1993. Over the

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[1]Transportation Infrastructure: Better Tools Needed for Making Decisions on Using ISTEA Funds Flexibly (GAO/RCED-94-25), Oct. 13, 1993, and Urban Transportation: Reducing Vehicle Emissions With Transportation Control Measures (GAO/RCED-93-169), Aug. 3, 1993.

same period, no mass transit capital funds were used to finance highway projects, but about 3 percent of mass transit capital funds that could be used flexibly were used to finance nontraditional projects, such as busways and bicycle and pedestrian facilities.

-- A variety of factors have influenced the flexible use of ISTEA funds. Concerns about congestion and air quality have encouraged the use of ISTEA's provisions to use funds flexibly in the congestion mitigation and air quality improvement program (CMAQ)--a Federal Highway Administration (FHWA) program designed to address air quality problems. On the other hand, factors such as state restrictions on the use of state fuels tax revenues for projects other than highways and bridges have hindered the flexible use of funds.

-- As a result of the mandates and programs of ISTEA and the Clean Air Act, MPOs will place a stronger emphasis on using TCMs to improve air quality. However, they currently do not have adequate information to make reliable projections of impacts of TCMs on air quality. Such information is needed to enable MPOs to confidently select among traditional TCMs and, if needed, to promote the use of market-based measures, such as higher gasoline taxes or congestion pricing.[2] Although widely considered more effective than traditional TCMs in reducing emissions, such market-based measures would visibly add to the cost of driving. Therefore, their implementation would probably face strong public resistance.

-- In addition to better information on TCMs' impacts on air quality, states and localities also need improved data and analytical tools to make overall transportation investment decisions. Although ISTEA encouraged a total systems approach to transportation decision-making, comparing transportation alternatives is difficult. For example, highway measures focus on the movement of vehicles, while mass transit measures focus on the movement of people. Furthermore, travel demand models need to be improved. These models provide critical information for, among other things, evaluating the impact of transportation projects on air quality. Developed some 20 to 30 years ago to analyze the need for new or modified highway facilities, these models currently do not provide the information needed for predicting travel behavior.

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[2]Congestion pricing is charging a fee to use a highway facility that varies depending on the level of congestion.

-- The environment within which states and MPOs make transportation investment decisions is complex. Through the course of our work, we have observed that (1) Americans have continued to increasingly rely on automobiles to meet their transportation needs; (2) transportation planners and decisionmakers have had to balance a number of divergent interests, such as suburban and rural highway needs and urban transit needs, in deciding how their transportation dollars will be invested; and (3) acceptability to the public will play a key role in determining the types of projects implemented to meet mobility, environmental, and other transportation goals and objectives.

We will now address these points in greater detail.

STATES AND LOCALITIES HAVE MADE LIMITED INITIAL USE OF ISTEA's PROVISIONS ON FLEXIBLE FUNDING

About $80 billion of ISTEA's total $155 billion authorization may be used flexibly. We found, however, that states and local governments have made limited use of ISTEA's funding flexibility provisions to date. In fiscal year 1992, states and localities invested about 97 percent of their flexible highway funds in traditional highway projects such as roadway construction. In fiscal year 1992, less than 3 percent ($319 million) of the $11.2 billion in flexible federal highway funds obligated was invested in mass transit and nontraditional projects. This trend continued in the first half of fiscal year 1993. As of March 31, 1993, about 3 percent ($185 million) of the $6.1 billion in flexible highway funds obligated was invested in mass transit and nontraditional projects.[3]

The use of ISTEA's flexible funding provisions has largely been focused on addressing congestion and air quality problems. This is evidenced by the concentration of the flexible use of highway funds in the CMAQ program. In fiscal year 1992, approximately 50 percent of CMAQ's $340 million in total obligations was used by states and localities to finance mass transit and nontraditional projects. This use increased to about 76 percent of CMAQ obligations in the first half of fiscal year 1993. These results are not surprising since, in general, ISTEA requires that CMAQ funds be used to finance projects that improve air quality. The states and MPOs we visited largely viewed CMAQ as

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[3]The fiscal year 1992 and 1993 figures do not include $84.3 million and $662.6 million, respectively, in obligations for the surface transportation program. These were funds invested by states that elected, under the provisions of ISTEA, to report their obligations on a quarterly basis. These states were not required to, and did not, identify to FHWA the types of projects funded.

offering the most flexibility of ISTEA's highway programs. This was because CMAQ, which was created by ISTEA, did not have ties to previous highway or mass transit programs, and program funds could be used to finance a variety of traditional and nontraditional projects.

Some funds from the Interstate substitution program were also used to fund mass transit projects. Under this program, which was in place before ISTEA was enacted, state and local officials could withdraw from planned construction nonessential segments of Interstate highways in urban areas and fund substitute highway or mass transit projects. In fiscal year 1992, almost 30 percent ($100 million) of total obligations under this program were invested in mass transit projects. However, two states--New York and Minnesota--accounted for the entire $100 million. In contrast, in the first 6 months of fiscal year 1993, virtually all funds obligated in this program ($46.7 million) were used to finance substitute highway projects. Only two states--Iowa and Minnesota--invested $67,000 in mass transit projects.

The investment of mass transit funds in highway and nontraditional projects has been limited. According to the Federal Transit Administration, there were no transfers of section 9 capital funds for highway use either in fiscal year 1992 or in the first 6 months of fiscal year 1993.[3] However, during the same period, about 3 percent ($34 million) of the $1.1 billion in section 9 mass transit capital funds obligated in fiscal year 1992, and 2.5 percent ($13 million) of the $546 million in such funds obligated in fiscal year 1993, were invested in such nontraditional projects as busways and park-and-ride facilities.

In contrast to its provisions allowing the flexible use of highway funds for mass transit, ISTEA restricts the ability of states and localities to use mass transit funds for highway projects. In general, only section 9 capital funds allocated to transportation management areas can be used for highway projects, and then only if certain conditions are met.[4] First, such projects must be approved by the MPO that has jurisdiction over the project. Second, the Secretary of Transportation must determine that the funds are not needed to meet the investment requirements of the Americans with Disabilities Act. Finally, the matching funds that states and/or localities provide must be eligible for use in financing either highway or mass transit projects.

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[3]Section 9 is a formula grant program for urbanized areas that provides capital, operating, and planning assistance for mass transportation. With certain restrictions, section 9 funds may be used flexibly to finance highway projects.

[4]Transportation management areas are generally areas with populations of more than 200,000.

A VARIETY OF FACTORS INFLUENCE DECISIONS TO USE ISTEA FUNDS FLEXIBLY

Since ISTEA was enacted less than 2 years ago, it is difficult to determine how its flexible funding provisions will be used over the long term. Initially, however, a variety of factors have influenced or will influence the flexible use of ISTEA funds. As illustrated above, state and local concerns about traffic congestion and air quality have encouraged the flexible use of funds. On the other hand, a variety of other factors, such as existing state restrictions on the use of state fuels tax revenues to highway or bridge use only have hindered the cross-modal investment of ISTEA funds.

Congestion and Air Quality Concerns Encourage Flexible Use of Funds

Concerns about congestion and air quality problems have encouraged states and localities to use ISTEA's flexibility provisions. As discussed above, funds from the FHWA's CMAQ program have been used flexibly to finance mass transit and nontraditional projects. In particular, urban areas experiencing severe congestion and air quality problems, such as the northeastern states, have used CMAQ funds flexibly. We have found that in many cases nonattainment areas--those areas that do not meet national air quality standards--have used ISTEA funds flexibly to finance mass transit and TCMs as they develop strategies for complying with the requirements of the Clean Air Act Amendments.

Concerns about congestion and air quality will likely continue to encourage the flexible use of ISTEA funds. In 1991, 70 percent of peak-hour urban travel on Interstate highways was under congested conditions--up from 49 percent just 10 years earlier. In addition, nonattainment areas have been designated in 39 states, and the Clean Air Act Amendments impose strict deadlines to improve air quality in these areas.

Various Factors Hinder the Flexible Use of Funds

A variety of factors have hindered decisions to use ISTEA funds flexibly. These factors include existing state restrictions on the use of state fuels tax revenues to highway or bridge use only. Not all state funds can be used to match the nonfederal portion of mass transit projects. According to information from The Road Information Project, in 1991, 35 states restricted the use of state fuels tax revenues to highway or bridge use only.[5] As a result, about $13.5 billion out of $19.3 billion in total state

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[5]The Road Information Project is a nonprofit organization that researches, evaluates, and distributes economic and technical data on highway transportation issues.

fuels tax collections was not available for mass transit projects. Officials from two MPOs we talked to said restrictions on how state fuels taxes can be used in their state, as well as the difficulty in raising matching funds locally, would limit their ability to use ISTEA funds flexibly.

Highway and mass transit infrastructure needs that outstrip available resources also hinder the flexible use of ISTEA funds. In January 1993, FHWA reported that simply maintaining 1991 conditions of the nation's highways, bridges, and mass transit systems through the year 2011 will cost about $55 billion annually. An additional $18.2 billion will be required to improve conditions. Officials from all five states we visited as part of our work on funding flexibility expressed concern over their ability to meet infrastructure investment needs. In several of these states, officials indicated that, although ISTEA funds could be used flexibly, it was not likely that highway funds would be used to finance mass transit projects, given the tremendous backlog of highway needs.

Finally, it will take time for states and localities to adapt to the program changes made by ISTEA. Officials from four of the five states we visited expected little initial use of funding flexibility.[6] One reason is that states and localities lack experience in making trade-offs between different transportation modes. Officials from four of the five states we visited said that historically they have had little involvement with mass transit programs.[7] In two of these four states, officials said that state restrictions on using state fuels tax revenues for mass transit may make it difficult for them to increase their involvement in mass transit projects. Furthermore, one state we visited asked localities to specifically identify which highway projects they were willing to forgo in order to use the funding available to finance mass transit projects. Officials from another state said the flexible use of funds for mass transit was basically precluded because federal and state transportation funds are allocated according to state formulas that are oriented towards highways.

BETTER DATA NEEDED TO ASSESS TCMs AND PROMOTE EFFECTIVE MEASURES

To further promote ISTEA's emphasis on a total systems approach to transportation planning, states and MPOs will need to assess whether transportation plans address clean air requirements.

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[6]The fifth state also expected little new use of flexibility, in part because its state transportation funds were already being used flexibly to meet needs, regardless of mode.

[7]The fifth state operated several large mass transit systems.

In our report on TCMs,[8] we found that states and MPOs do not have information on the effectiveness of TCMs that is adequate to predict their specific contribution to improving air quality. However, this information is needed, since states and MPOs must develop transportation plans that conform to state air quality goals. In addition, better information will help MPOs identify any gaps in their approach to meeting air quality goals and thereby provide them with the support for supplementing traditional TCMs with market-based measures that create a financial disincentive for using the automobile.

Information on Effectiveness of TCMs Is Limited

The combined mandates of ISTEA and the Clean Air Act Amendments will result in renewed emphasis on TCMs in the next several years. Our nationwide survey of MPOs found that two of ISTEA's funding provisions--CMAQ and funding flexibility--will encourage the planning and implementation of TCMs.[9] Partly as a result of these provisions, 56 percent of MPOs stated that they would strongly emphasize TCMs in their transportation plans in the next 5 years. Only 8 percent reported that TCMs had been strongly emphasized in the previous 5 years.

In addition, we found that more research on the effectiveness of TCMs may further encourage states and MPOs to implement TCM programs. Current evidence on the effectiveness of TCMs is outdated and relies on models that may not accurately measure the effects of these measures on commuters' behavior. Although considerable research on TCMs took place in the late 1970s and early 1980s, very little occurred during the balance of the 1980s. Little money was available during the 1980s for evaluating and assessing these measures at the federal, state, or local levels. In addition, the existing models used to predict emissions reductions resulting from TCM programs have yet to capture accurately the effects of these measures on travel behavior and therefore on emissions.

Our survey results corroborated the need for better information on the effectiveness of TCMs. Half of the surveyed MPOs stated that they did not have adequate information to calculate the impacts of TCMs on emissions. Only 8 percent strongly believed that the tools were adequate, while 30 percent

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[8]GAO/RCED-93-169, Aug. 3, 1993.

[9]In the fall of 1992, we surveyed all MPOs in areas designated as not meeting federal air quality standards for ozone and carbon monoxide. Of 119 MPOs to whom questionnaires were sent, 100 responded--an 84-percent response rate.

expressed some confidence. Among MPOs with the worst ozone problems, 59 percent did not believe that the information and tools were adequate, while 34 percent expressed confidence in their adequacy.

Better Information Will Help MPOs Balance Traditional and Market-Based Approaches to Meeting Air Quality Goals

Better information on the effectiveness of TCMs will also help states and MPOs determine if their transportation plans should include more stringent, market-based measures. Our nationwide MPO survey, Department of Transportation (DOT) analyses, and recent California clean air plans reveal that the traditional TCMs listed in the Clean Air Act Amendments are generally expected to reduce emissions by up to 5 percent. DOT and EPA officials asserted that if additional reductions in emissions are needed to meet air quality goals, market-based measures may be needed. Market-based measures include a variety of approaches, such as increased gasoline taxes, congestion pricing on highways, and fees on emissions. According to the advocates of market-based measures, such measures have the dual benefit of strongly discouraging motor vehicle use, reducing emissions, and ensuring that the full costs of driving, including the costs of air pollution and congestion, are borne by those responsible for generating them.

Our survey of MPOs revealed a broad consensus that market-based measures could be more effective than other types of TCMs in reducing emissions. Sixty-four percent of respondents agreed that market-based measures could more effectively reduce automobile use than TCMs that do not directly increase the cost of driving. For example, the San Francisco MPO has proposed a series of user fees to reduce pollution and congestion in the Bay Area. These market-based measures include (1) fees based on a vehicle's emissions, (2) fees for using certain highways when they are congested, and (3) a $2-per-gallon increase in regional gasoline taxes. With market-based measures included, the Bay Area's 1991 Clean Air Plan projected an 8.4-percent decrease for hydrocarbon emissions and a 22.5-percent decrease for carbon monoxide emissions. In contrast, without market-based measures, reductions of 2.1 percent for hydrocarbon emissions and 5.4 percent for carbon monoxide emissions were projected.

Despite the projected success of market-based measures in reducing emissions, they may be difficult to implement. They have not yet been implemented in the Bay Area, and 80 percent of MPOs in our survey agreed that the public's resistance to market-based measures made their implementation highly unlikely. Our survey and the comments of many interviewees indicated that there was an inverse relationship between the potential effectiveness of market-based TCMs and the likelihood that they will be accepted by the public. Critics of these measures stated that they could have an adverse effect on lower-income individuals who have no alternative

to driving to the workplace. However, additional research that clearly demonstrates that such measures are needed to achieve federal air quality goals could help transportation planners justify market-based measures in the future.

IMPROVED ANALYTICAL TOOLS ARE NEEDED FOR MAKING TRANSPORTATION INVESTMENT DECISIONS

In addition to the need for information on TCMs, states and localities need better data and analytical tools for overall transportation investment decision-making. We found that some of the analytical tools used for making these decisions are not adequate. No common measures are available for comparing different transportation alternatives and complying with ISTEA's total systems approach. Furthermore, travel demand models, which were developed some 20 to 30 years ago to evaluate the need for new or modified highway facilities, do not provide the information needed for analyzing, among other things, the impacts of transportation projects on air quality.

Common Measures for Making Modal Comparisons Are Not Available

In April 1992, we reported on the need for common measures for comparing highway, mass transit, and other projects across modes.[10] We said that such common measures would better assist states and localities to quantify, on a common basis, the ability of highway and mass transit projects to meet mobility, environmental quality, safety, cost-effectiveness, and social and economic objectives. The measures being used by states and localities to evaluate major capital investments within each mode did not facilitate comparisons: Highway measures focused on the movement of vehicles, while mass transit measures focused on the movement of people. The ability to compare transportation alternatives will be critical as states and localities make the trade-offs necessary to identify the most efficient and effective projects, regardless of mode, to help mitigate congestion and air pollution problems.

We recommended that the Secretary of Transportation develop common measures for comparing different transportation alternatives and fully encourage their use by state and local officials. As of August 1993, common measures for comparing different transportation alternatives were not available. In responding to our April 1992 report and in subsequent discussions, DOT officials said they did not believe federally developed common measures were appropriate, since they could not be easily adapted to local conditions and would be seen as prescriptive. Rather, the Department was taking other actions, such as developing a multimodal evaluation training course, which it believed would enhance its ability to assist state

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[10]Transportation Infrastructure: Urban Transportation Planning Can Better Address Modal Trade-offs (GAO/RCED-92-112, Apr. 2, 1992).

and local officials in comparing transportation alternatives. We continue to believe that the development of common measures for making comparisons of different transportation alternatives is important. Rather than being prescriptive, such measures, tailored to local conditions, would provide the framework for making the trade-offs necessary to comply with ISTEA's total system's approach to transportation planning and to meet the requirements of the Clean Air Act Amendments.

Travel Demand Models Can Be Improved

Analyzing the impacts of transportation projects, including TCMs, on air quality is complex and, in general, a multistep process. A critical component of this process is information supplied by travel demand models. The models available for forecasting travel demand are not adequate for analyzing, among other things, the impacts of transportation projects on air quality. In general, these models were developed some 20 to 30 years ago to evaluate the need for new or modified highway facilities. Due to demographic and other changes over time, these models currently do not provide the detailed information needed to predict travel behavior. For example, these models do not provide details on such things as travel by time of day or the impact of highway congestion on travel behavior. Such information is a critical part of predicting emissions from mobile sources of pollution.

Recognizing the inadequacy of travel demand models for air quality analyses, in fiscal year 1992 DOT established a program to improve such models (called the Travel Model Improvement Program). Our recently completed review of this program found that it has not adhered to DOT's policy for the establishment of research and development programs.[11] We found, among other things, that no measurable goals and objectives have been established and that program research efforts have excluded elements that are important in assessing travel demand, such as the impacts of urban freight movements and the urban aspects of intercity passenger travel. To help ensure successful implementation of this program, we have recommended that the Secretary of Transportation, in consultation with the Administrator of the Environmental Protection Agency, take actions to bring the Travel Model Improvement Program into compliance with DOT's research and development policy.

[11]GAO/RCED-94-25, Oct. 13, 1993.

TRANSPORTATION INVESTMENT DECISION-MAKING ENVIRONMENT IS BECOMING INCREASINGLY COMPLEX

State and local decisionmakers must deal not only with the inadequacy of analytical tools, but also with the complex environment within which they make transportation investment decisions. During the course of our work, we found the following:

-- Transportation planners must face travel trends and patterns of land use that could be impediments to designing integrated transportation programs. For example, more commuters opt to drive to work alone than use all other transport modes. Census data show that, between 1980 and 1990, the percentage of the workforce that drove to work alone increased from 64 to 73 percent. Also, despite growth in the workforce, the use of mass transit and car pools declined. For example, car-pool use declined from 20 percent of the workforce in 1980 to 13 percent of the workforce in 1990.

-- These trends in automobile use are in part being driven by the growing dispersion of urban populations and businesses moving from the central city. Mass transit and even car-pool arrangements are less viable in the sprawling, low-density suburban developments whose growth has characterized many urban areas in recent years. In the Chicago region, for example, the population grew by 4.1 percent from 1970 to 1990, while residential land consumption increased by 46 percent. As a result, more people are commuting from suburb to suburb, rather than to the central business district.

-- MPOs see travel trends and land-use patterns as significant impediments to a total systems approach to transportation planning, particularly the use of TCMs to improve air quality and reduce congestion. Seventy-seven percent of the MPOs that responded to our survey stated that regional trends in automobile use would impede the implementation of air quality improvement programs. Seventy-three percent responded that the level of public willingness to change travel behavior would impede the implementation of TCMs, and 44 percent said this would be a significant impediment. Similarly, 76 percent of respondents said that residential development patterns would impede implementation, while 73 percent responded that commercial development would do so.

-- Transportation decision-making involves trying to satisfy the needs of different levels of government--state, MPO, and local--as well as divergent interests within each level. For example, within an MPO, the suburban highway needs of a number of different jurisdictions may be competing with urban transit needs. Planners must try to

balance these different needs and priorities as plans are developed for spending limited transportation dollars.

-- Transportation planners must obtain input from a number of interested parties, such as environmental groups, bicycle and pedestrian groups, transit providers, and the general public, in preparing plans and making investment decisions. This input adds to the breadth of interests that planners are trying to balance.

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In summary, Mr. Chairman, ISTEA and the Clean Air Act Amendments together have established a number of mechanisms, including a total systems approach to planning, funding flexibility, and TCMs, to improve how states and localities make decisions on investing the nation's transportation dollars. Although the use of funding flexibility and TCM provisions has been limited to date, the jury is still out on how extensively states and localities will use these mechanisms in the future. ISTEA was passed almost 2 years ago. However, many states and localities are still positioning themselves to implement the law as well as to adhere to the requirements of the Clean Air Act Amendments. Furthermore, inadequate information and analytical tools contribute to the difficulty planners have in changing to a more comprehensive planning process, especially in light of the difficult environment in which they make transportation investment decisions. To encourage and assist states in making the transition, our reports have recommended that DOT provide a framework for comparing alternative transportation projects, ensure adequate implementation of the Travel Model Improvement Program, and disseminate information on the effectiveness of TCMs as states collect data on their use.

Mr. Chairman, this concludes our prepared statement. We would be happy to respond to any questions you or other members of the Subcommittee might have.

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