

GAO

Report to the Ranking Member,
Committee on Environment and Public
Works, U.S. Senate

September 2009

METROPOLITAN PLANNING ORGANIZATIONS

Options Exist to Enhance Transportation Planning Capacity and Federal Oversight



GAO

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Highlights of [GAO-09-868](#), a report to the Ranking Member, Committee on Environment and Public Works, U.S. Senate

Why GAO Did This Study

Metropolitan planning organizations (MPO) are responsible for transportation planning in metropolitan areas; however, little is known about what has been achieved by the planning efforts. This congressionally requested report describes (1) the characteristics and responsibilities of MPOs, (2) the challenges that MPOs face in carrying out their responsibilities, (3) how the U.S. Department of Transportation (DOT) provides oversight for MPOs and the extent to which this improves transportation planning, and (4) the options that have been proposed to enhance transportation planning. To address these objectives, GAO surveyed all 381 MPOs (with an 86 percent response rate) and conducted case studies of eight metropolitan areas and conducted a survey of program managers.

What GAO Recommends

GAO suggests that Congress consider making MPO transportation planning more performance based by, for example, identifying specific transportation outcomes for transportation planning and charging DOT with assessing MPOs' progress in achieving these outcomes in the certification review process. GAO also recommends, among other things, that DOT develop a strategy to improve data gathering and modeling at the MPO level. DOT agreed to consider the report's recommendations.

View [GAO-09-868](#) or [key components](#). For more information, contact Phillip R. Herr at (202) 512-2834 or herrp@gao.gov. To view the e-supplement online, click on [GAO-09-867SP](#).

METROPOLITAN PLANNING ORGANIZATIONS

Options Exist to Enhance Transportation Planning Capacity and Federal Oversight

What GAO Found

MPOs vary greatly in terms of capacity and responsibilities. Some MPOs are supported by one or two staff, while others have over 100 staff. While half of MPOs represent populations of less than 200,000, some represent millions. MPOs are typically housed within a regional planning council or a city or county government agency, but also may operate as independent agencies. Most MPOs receive the majority of their planning funds from federal sources, but also receive funds from other sources such as states or localities. The technical capacity of MPOs also varies significantly, both in terms of the type of model used to develop travel demand forecasts and the number of staff available to perform such forecasts. Some MPOs have acquired additional responsibilities, such as project implementation, beyond federal requirements.

MPOs cited many challenges in our survey and interviews, primarily related to funding and staffing, authority, and technical capacity. About 85 percent of all MPOs responding to our survey cited the lack of transportation planning funding as a challenge to transportation planning. About half of our survey respondents stated that the lack of flexibility for using federal planning funds inhibits them from conducting comprehensive transportation planning. Staffing constraints, such as limited number of staff and lack of trained staff, also impact MPOs' ability to conduct transportation planning. Finally, according to our survey and interviews, some MPOs lack the technical capacity and data necessary to conduct the type of complex transportation modeling required to meet their planning needs.

DOT's Federal Transit Administration (FTA) and Federal Highway Administration (FHWA) work together to oversee MPOs, but given the process-oriented approach of the oversight, it is difficult to determine whether their oversight is improving transportation planning. MPOs representing more than 200,000 in population are subject to federal certification reviews. The certification reviews focus on procedural compliance with planning requirements, not transportation outcomes. MPOs generally view this federal process as pro forma in nature and place a greater value on informal assistance provided by both federal and state governments.

Several proposals have been developed by government and industry associations that could address some of the resource, authority, and technical challenges facing MPOs. For example,

- allowing the use of transportation planning funds for more activities could better meet the needs of some metropolitan areas;
- varying MPOs' planning requirements and authority or changing the legal definition of MPOs could address varying capacity and planning needs;
- increasing federal investment in modeling and data gathering could improve the technical capability of MPOs and bring a greater degree of reliability and consistency across MPOs to travel demand forecasting; and
- making the planning process more performance-based could allow FTA and FHWA to better assess MPOs' progress in achieving specific results.

Contents

Letter		1
	Background	3
	MPOs Vary Considerably in Terms of Capacity, Responsibilities, and Range of Activities	11
	MPOs Face Resource, Authority, and Technical Challenges That Impact Their Ability to Conduct Transportation Planning	16
	The Extent to Which MPO Oversight Mechanisms Improve Transportation Planning Is Unclear	22
	MPO, Government, and Industry Officials Have Developed Options to Enhance Transportation Planning	24
	Conclusions	29
	Matter for Congressional Consideration	30
	Recommendations	30
	Agency Comments	31
Appendix I	Scope and Methodology	32
Appendix II	GAO Contact and Staff Acknowledgments	35
Tables		
	Table 1: Mean and Median Number of Staff at MPOs	12
	Table 2: Metropolitan Regions Selected for Case Study	34
Figures		
	Figure 1: Number of MPOs by Population Represented	5
	Figure 2: Transportation Planning Processes	7
	Figure 3: Apportionments of FHWA and FTA Metropolitan Planning Funds, Fiscal Year 1996 through Fiscal Year 2009	10

Abbreviations

3-C	continuing, cooperative, and comprehensive
AASHTO	American Association of State Highway and Transportation Officials
AMPO	Association of Metropolitan Planning Organizations
APTA	American Public Transportation Association
CMAQ	Congestion Mitigation and Air Quality Improvement Program
CMP	Congestion Management Process
DOT	Department of Transportation
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
MPO	Metropolitan Planning Organization
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
STIP	Statewide Transportation Improvement Program
TIP	Transportation Improvement Program
TMA	Transportation Management Area
TRB	Transportation Research Board

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United States Government Accountability Office
Washington, DC 20548

September 9, 2009

The Honorable James Inhofe
Ranking Member
Committee on Environment and Public Works
United States Senate

Dear Senator Inhofe:

Metropolitan areas are the centers of much social and economic activity in the United States. The largest 100 of these areas house more than 65 percent of our population and produce 75 percent of our national economic output. They are also where most seaport tonnage arrives and departs, transit miles are ridden, and rail and air passengers board. However, the productivity of these economic centers, and as a result the economic vitality of the United States, is being threatened by a number of transportation challenges, such as increasing levels of congestion. These challenges are significantly affected by decisions on how federal transportation funds are invested and these decisions are shaped by the transportation planning efforts undertaken by the 381 metropolitan planning organizations (MPO).

To encourage the development of efficient and effective transportation systems, the Federal-Aid Highway Act of 1962 required urban transportation planning as a condition for receiving federal-aid transportation funds in urban areas. The act also provided funding for regional transportation planning. To reflect the growing sense that local elected officials and citizens should be given a larger role in this regional transportation decision-making process, the Federal-Aid Highway Act of 1973 required the designation of MPOs in urban areas with populations of more than 50,000 people to carry out a continuing, cooperative, and comprehensive (3-C) planning process. Recognizing the importance of metropolitan areas and the need to fully integrate these areas into transportation investment decisions, the Intermodal Surface Transportation Efficiency Act of 1991¹ devolved greater responsibility for planning and implementation of transportation projects to MPOs. Subsequently, in 2005, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), the current

¹Pub. L. No. 102-240.

surface transportation program authorization act, added additional transportation planning requirements to MPOs' responsibilities, while also providing additional time for MPOs to make updates to their plans and programs and increasing federal funding to MPOs to respond to such responsibilities.² Little is known, though, about what has been achieved by the federal government's investment in metropolitan transportation planning. As the September 2009 expiration of SAFETEA-LU approaches, more complete information on the effectiveness of MPOs' transportation planning activities is needed, especially in light of government and industry associations' proposals for increasing or modifying MPOs' authority, responsibilities, and funding. Accordingly, you asked us to examine (1) the characteristics and responsibilities of MPOs; (2) the challenges that MPOs face in carrying out their responsibilities; (3) how the U.S. Department of Transportation (DOT) provides oversight for MPOs and the extent to which this improves transportation planning; and (4) the options that have been proposed to enhance transportation planning.

To address these objectives, we reviewed existing legislation, regulations, and program guidance concerning MPOs' transportation planning responsibilities and the federal certification process; reviewed proposals to change or reform current MPO planning responsibilities; interviewed Federal Transit Administration (FTA) and Federal Highway Administration (FHWA) officials and representatives from industry associations such as the Association of Metropolitan Planning Organizations and the Transportation Research Board (TRB), as well as state departments of transportation, to obtain their perspectives on MPOs' planning activities, variations among MPOs, the federal certification process, and proposals to improve the current planning process. We also conducted case studies of eight MPOs in four states that we selected based on population and structure, among other things, which included reviewing the MPOs' transportation plans and interviewing MPO officials, the state departments of transportation, the relevant FHWA division office and FTA regional office, transit agencies, and other regional associations. In addition, we observed an FHWA-FTA MPO certification review; and surveyed all 381 legally designated MPOs to gain information on their varying roles, responsibilities, capacity, the challenges they face in meeting their planning responsibilities, and options to improve the

²Pub. L. No. 109-59.

transportation planning process.³ The results of our survey can be found at [GAO-09-867SP](#). To determine the various options to address MPOs' challenges, we reviewed proposals from the Association of Metropolitan Planning Organizations (AMPO), the American Association of State Highway and Transportation officials (AASHTO), the American Public Transportation Association (APTA), the Brookings Institution, the previous and current DOT administrations, and the June 2009 House Transportation and Infrastructure Committee blueprint for the surface transportation reauthorization. We also discussed suggestions for improving the planning process with federal and state officials, as well as the eight MPOs we interviewed.

For the purposes of this report, we refer to MPOs representing populations of less than 200,000 as "small MPOs," MPOs representing populations between 200,000 and 1 million as "medium MPOs," and MPOs representing populations above 1 million as "large MPOs." Appendix I contains additional information about our scope and methodology. We conducted this performance audit from September 2008 to September 2009 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

We provided a copy of this report to DOT for their review and comment. DOT agreed to consider our recommendations and provided technical comments which we incorporated into the report, as appropriate.

Background

MPOs, representing local governments and working in coordination with state departments of transportation and major providers of transportation services, have responsibility for the regional transportation planning

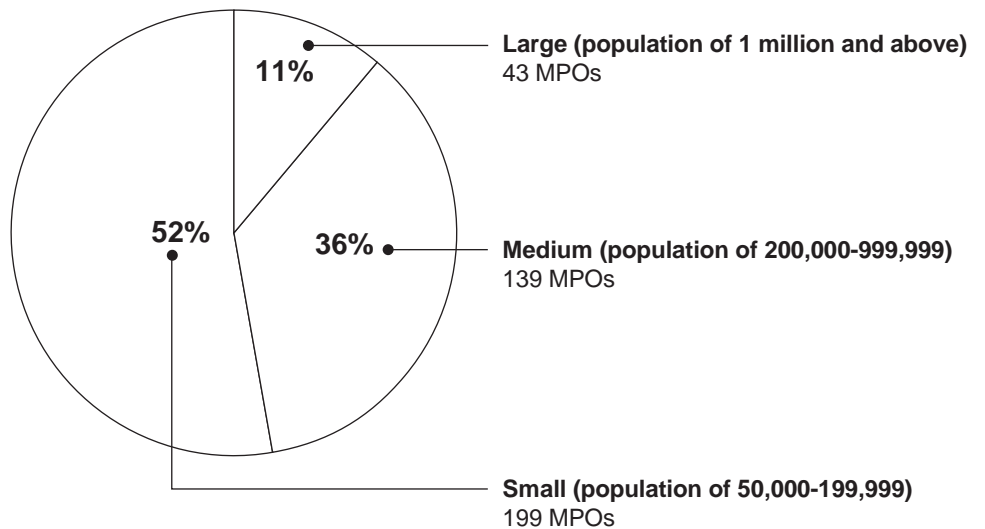
³To establish this list of MPOs, we obtained contact information from the U.S. Department of Transportation and the Association of Metropolitan Planning Organizations. Any inconsistencies between the two lists were reconciled with phone calls to the relevant MPO in January 2009. We received completed questionnaires from 328 (86 percent) of the MPOs. Nonresponding MPOs were distributed among different states and sizes of MPOs in a way that did not show evidence of bias.

processes in urbanized areas.⁴ (See figure 2 for a summary of these processes.) A core function of MPOs is to establish and manage a fair and impartial setting for effective transportation decision making in an urbanized area. To receive federal transportation funding, any project in an urbanized area must emerge from the relevant MPO and state department of transportation planning process. MPOs, which generally have a governing policy board consisting of local elected officials and appropriate state and public transportation officials, facilitate decision making on regional transportation issues including major capital investment projects and priorities. MPOs also generally have a technical advisory committee (including engineers, planners, and other local staff); citizen's advisory committee; and additional committees, such as a bicycle and pedestrian committee or a freight advisory committee. MPO staff assist the MPO board by preparing documents, fostering interagency coordination, facilitating public input and feedback, and managing the planning process. Staff may also provide committees with technical assessments and evaluations of proposed transportation initiatives. Created to carry out a federally mandated transportation planning process, MPOs' core membership is spelled out in law, but the organizational structure and staff arrangements were designed to be determined by agreement between local officials and the state.

The size of the populations represented by individual MPOs varies. For instance, about 52 percent of the 381 MPOs represent populations of fewer than 200,000 people; 36 percent of MPOs represent populations of 200,000 to 999,999 people; and 11 percent of MPOs represent populations of 1 million or more people. However, the largest MPOs—those representing more than 1 million people—represent about 49 percent of the country. (See figure 1 for a summary of MPO sizes.)

⁴Planning organizations are not required for rural areas. As part of the statewide planning process, the state department of transportation consults with local officials in nonurban areas and determines the projects in those areas to which the state will direct resources. However, some states have Rural Planning Organizations to plan for the expenditure of federal and state transportation funds in their area.

Figure 1: Number of MPOs by Population Represented



Source: GAO analysis of Census data.
Note: Percentages do not add to 100 due to rounding.

All MPOs have the same basic planning requirements. Specifically, all MPOs are required to produce the following:

- long-range (20-year) transportation plans;⁵
- short-range (4-year) Transportation Improvement Programs;
- annual statements of planning priorities and activities (generally called a Unified Planning Work Program or UPWP); and
- public participation plans.⁶

Transportation improvement programs (TIP), based on the long-range plan, should be designed to achieve the area's transportation goals using spending, operating, management, and financial tools. The area's transportation goals are determined by the MPO's policy board, including

⁵These long-range plans are generally called metropolitan transportation plans.

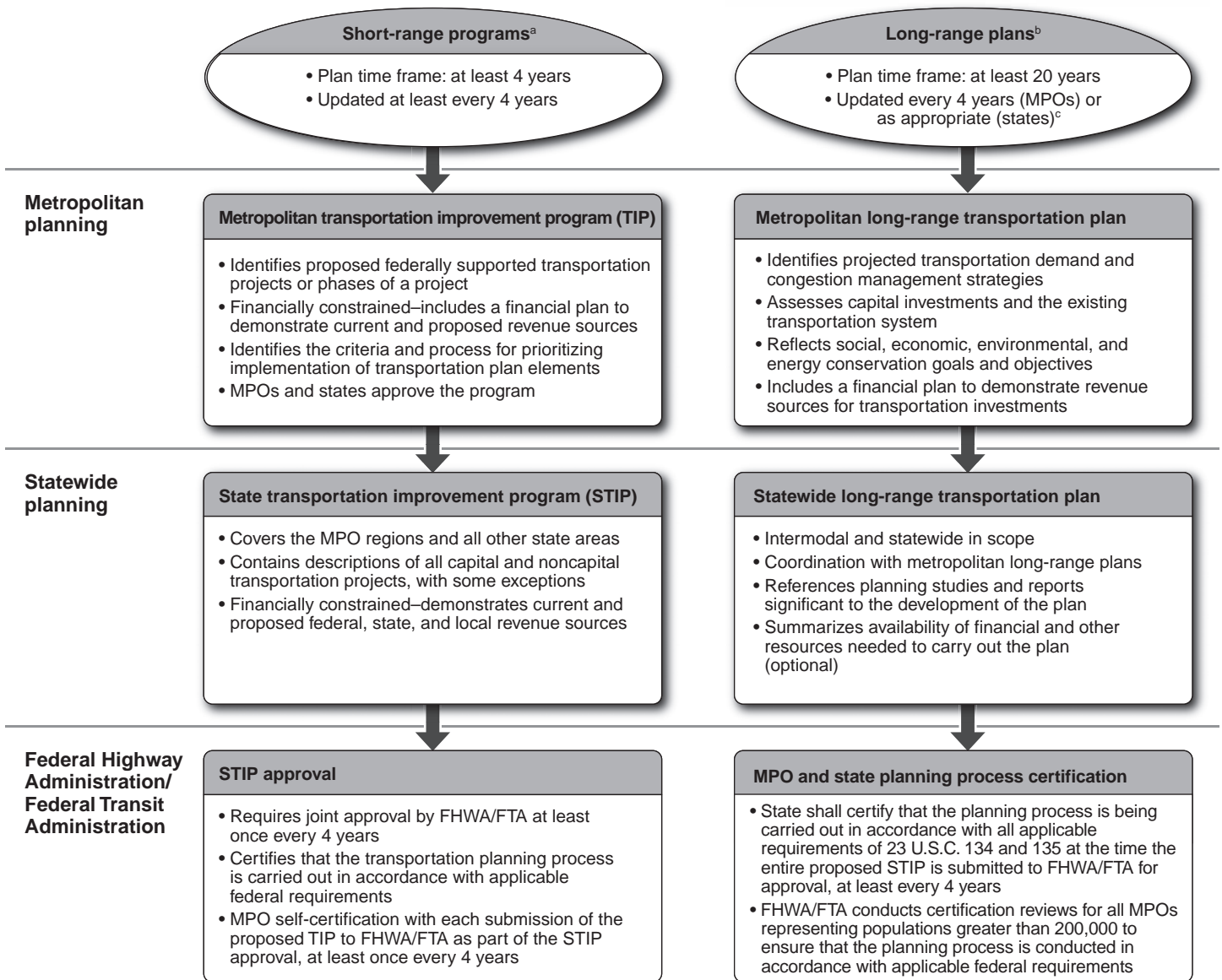
⁶In providing interested parties "a reasonable opportunity to comment on the transportation plan," 23 U.S.C. § 134(i)(5)(C) and 49 U.S.C. § 5303 (i)(5)(C) require an MPO "to the maximum extent practicable...hold any public meetings at convenient and accessible locations and times."

representatives from relevant jurisdictions and transportation operators, through interactions between stakeholders and the public for the purpose of identifying visions for the community's future. This process allows the region as a whole to determine how it should allocate its limited transportation resources among the various capital and operating needs of the area, based on local and regional priorities. Both the TIP and the long-range plan must be fiscally constrained—that is, the total estimated cost of the planned transportation improvements cannot exceed anticipated levels of funding.⁷ MPOs must develop these plans and programs in cooperation with their state department of transportation as well as local transit operators, land-use entities, and environmental resource agencies.⁸ Where they exist in their region, MPOs also consult with tribal governments, airports, Amtrak, or freight rail interests during the planning process. (See figure 2 for a summary of the role of the MPO, state, and federal government in developing the long-range plan and TIP.)

⁷The long-range plan and TIP must include information on how the MPO reasonably expects to fund the projects included in the plan, including anticipated revenues from FHWA and FTA, state government, regional or local sources, the private sector, and user charges. The long-range plan must also demonstrate that there is a balance between the expected revenue sources for transportation investments and the estimated costs of the projects and programs described in the plan.

⁸With respect to environmental resource agencies, SAFETEA-LU requires that long-range transportation plans be developed in consultation with state and local agencies responsible for land-use management, natural resources, environmental protection, conservation, and historic preservation, and that state conservation plans or maps and inventories of natural or historic resources be consulted, if available.

Figure 2: Transportation Planning Processes



Source: GAO analysis of federal regulations governing metropolitan and statewide transportation planning.

^aShort-range programs, called Transportation Improvement Programs, are based on the long-range plan and are required to achieve the area’s transportation goals using spending, operating, management, and financial tools.

^bLong-range plans, generally called Metropolitan Transportation Plans, are intended to foster mobility and access for people and goods, efficient transportation system performance and preservation, and good quality of life.

⁶MPOs are required to review and update the transportation plan at least every 4 years in air quality nonattainment and maintenance areas and at least every 5 years in attainment areas. An air quality nonattainment area is a region that the Environmental Protection Agency has designated as not meeting federal air quality standards. An air quality maintenance area is a region previously designated nonattainment.

Beyond the requirements common to all MPOs, some MPOs have additional planning requirements. For example, MPOs serving urbanized areas with populations of over 200,000 people, which are referred to as transportation management areas (TMA), are required to develop a Congestion Management Process (CMP) that identifies actions and strategies to reduce congestion.⁹ In addition, MPOs containing areas that do not conform to federal air quality standards (i.e., nonattainment areas) or areas that have recently come into conformance with the standards (i.e., maintenance areas) are required to ensure that planned transportation improvements will not cause new air quality violations, worsen existing violations, or delay timely attainment of the standards. To ensure that such plans will not negatively affect regional air quality, MPOs must conduct what is termed “conformity analysis” for proposed transportation improvements.¹⁰

To create these transportation plans and programs, MPOs consider a variety of factors, including local travel forecasts and federal considerations. For example, MPOs forecast future travel with the assistance of computerized travel-demand models. These models provide information on how urban growth and proposed facility and operational investments will affect the operation of the transportation system. Such models are complex and require as inputs extensive current information on roadway and transit system characteristics and operations, as well as current and forecast demographic information. Creating and operating the

⁹The CMP is a process for monitoring transportation system performance that involves data collection, performance measurement and monitoring, and the identification of strategies and projects to manage congestion.

¹⁰This transportation conformity analysis requires MPOs to use forecasts for their long-range plan to estimate traffic volumes and speeds, which become inputs to the Environmental Protection Agency’s (EPA) MOBILE model. That model, in turn, provides estimates of future motor vehicle source emissions. These emissions estimates are used to determine whether the proposed transportation plan and programs will result in motor vehicle emission levels that conform to those established in state air quality plans and approved by EPA. Under federal conformity requirements, if the estimated emissions that result from future vehicle travel exceed budgets established in the state implementation plan, which is required by EPA, and transportation conformity cannot be determined, projects and programs must be delayed, except for projects determined to be exempt from air quality conformity.

models requires a high degree of technical training and expertise. Additionally, when developing these plans and programs, MPOs must consider specific statutorily defined planning factors. These factors require that the metropolitan planning process provide for consideration of projects and strategies that will

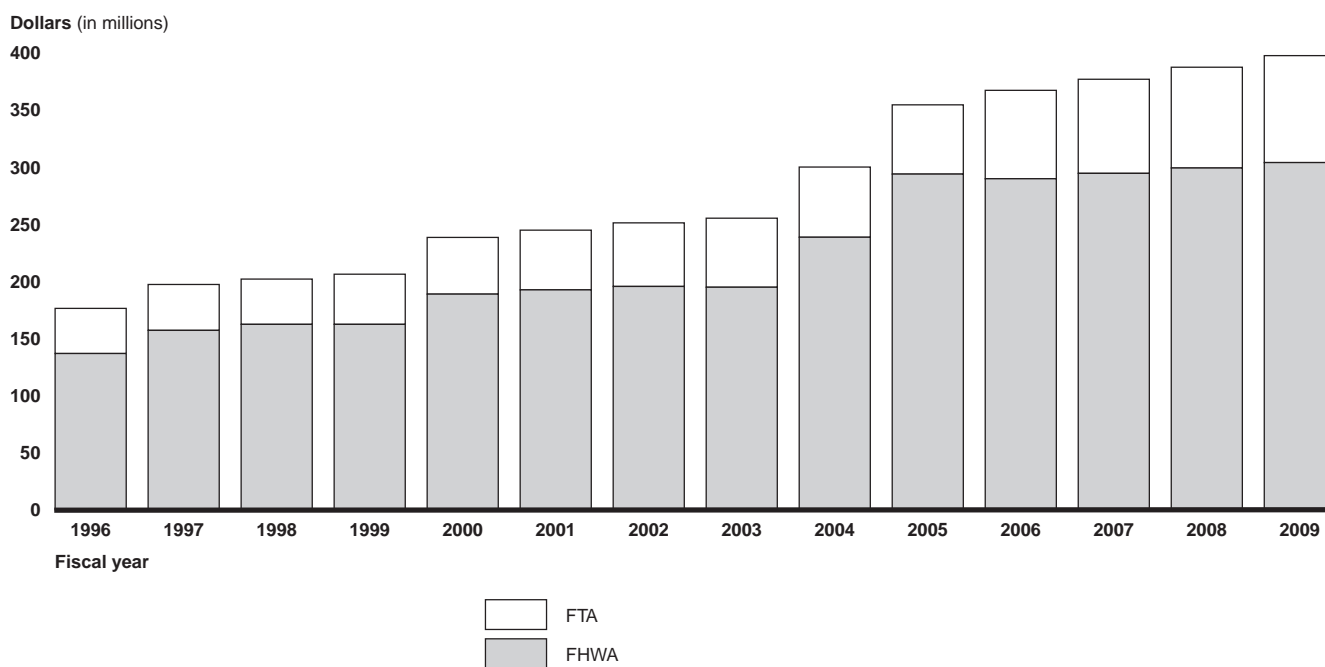
- support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
- increase the safety of the transportation system for motorized and nonmotorized users;
- increase the security of the transportation system for motorized and nonmotorized users;
- increase the accessibility and mobility of people and freight;
- protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns;
- enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
- promote efficient system management and operation; and
- emphasize the preservation of the existing transportation system.

To carry out this regional planning process, 1.25 percent of federal-aid highway funding from the Interstate Maintenance, National Highway System, Bridge, Surface Transportation Program, and Congestion Mitigation and Air Quality (CMAQ) programs is apportioned to the states as metropolitan planning funds.

Federal legislation has maintained, and periodically increased, the funding for MPO activities over time. (See figure 3.) These federal funds are distributed to states based on population. Generally states then provide each of their MPOs with baseline funding and distribute any remaining balance according to a formula. While the states can use a range of factors in their formulas, such as congestion levels, they are required to take population into account. Federal planning dollars must also be matched by state and local governments. Specifically, state and local governments must provide at least 20 percent of metropolitan planning funds, although

some state and local governments have to provide more than 20 percent in funding to perform all of their necessary planning activities.

Figure 3: Apportionments of FHWA and FTA Metropolitan Planning Funds, Fiscal Year 1996 through Fiscal Year 2009



Source: U.S. Department of Transportation.

Federal and state governments oversee this regional planning process. At the federal level, FTA and FHWA work together to perform federal certification reviews—certifying that each TMA has carried out its planning according to the applicable federal statutes. More specifically, the certification review requires that the federal government assess TMAs every 4 years to determine how well they are working with the transportation-related organizations, local governments, public transportation operators, and citizens in their area, as well as with the state departments of transportation, to meet the many statutory and regulatory requirements applicable to the planning process. Additionally, the certification review assesses the quality of the required planning documents. The certification review includes a desk review of the MPO’s plans and a site visit, among other things. Additionally, all MPOs, including both TMAs and non-TMAs, must also self-certify that their planning process meets the federal requirements. States also participate in the regional planning process by, for example, reviewing and approving the MPO’s TIP. If the state approves the TIP, the state must incorporate the

TIP, without change, into the statewide transportation improvement program (STIP).¹¹ If the state does not approve the TIP, the MPO and the projects included in the TIP are not eligible for federal funding. This requirement compels states to coordinate with MPOs and vice versa.

MPOs Vary Considerably in Terms of Capacity, Responsibilities, and Range of Activities

The Staffing, Financial, and Technical Capacity of MPOs Varies Significantly

The staff size and structure of MPOs vary significantly. Some MPOs are supported by one or two staff, while a few have over 100 full or part-time staff. Most MPOs have a relatively small staff, with a median of four full-time staff per MPO, based on our survey. (See table 1 for a summary of the number of staff by size of MPO.) The type and structure of the organizations housing MPOs also vary across the country. The structure of an MPO is determined by agreement between relevant local governments and the state, and therefore the extent to which these local governments or other regional organizations support MPO activities varies. These organizations can support MPOs by housing staff within their organization, which can include providing the personnel and facilities necessary for MPO activities. Some MPOs are housed and staffed by a local jurisdiction (such as a city or county government) within its boundaries, others by a regional planning council, and still others operate independently. According to our survey respondents, 71 percent of MPOs are a part of agencies such as regional councils and city, county, or state governments. Eighteen percent of MPOs report that they operate independently.¹²

¹¹The STIP is similar to the TIP in that it identifies 4 years of transportation project priorities and must be fiscally constrained. STIPs must be approved by both FHWA and FTA.

¹²Eleven percent of survey respondents specified “other” as the MPO structure.

Table 1: Mean and Median Number of Staff at MPOs

MPO size	Mean number of full-time staff	Mean number of part-time staff	Median number of full-time staff	Median number of part-time staff
Small (population of less than 200,000)	3.19	1.43	2.00	1.00
Medium (population of 200,000-999,999)	8.19	1.50	7.00	1.00
Large (population of 1 million and above)	49.27	3.90	31.00	1.00
All MPOs	10.96	1.77	4.00	1.00

Source: GAO analysis of MPO survey responses.

Beyond their staff and structure, MPOs also vary in terms of their funding sources and amounts. Federal planning funds—FHWA PL funds and FTA Section 5303 funds—generally make up a large portion of the MPO budget for conducting necessary studies and developing transportation plans, programs, and other documents. According to our survey respondents, about 80 percent of MPOs receive a majority of their planning funds from these federal sources. The amount of matching funds provided by state and local sources also varies considerably by MPO. For example, officials from one state department of transportation we spoke to said that the small MPOs receive considerably more than the required 20 percent of state and local matching funds for transportation planning. Officials from another state told us that although they only receive the required 20 percent match, they also provide technical support to some MPOs. In addition to federal planning funds and the required state and local match, some MPOs receive and use other funds, such as dedicated local taxes and transit fare box revenue. Finally, according to FTA, while most federal transit funds designated for urban areas are apportioned directly from FTA to the transit operator, some funds are apportioned to MPOs, which then allocate those funds themselves.¹³

The technical capacity of MPOs to develop travel demand forecasts—a crucial component of the long-range plans—also varies. Some MPOs—about 45 percent of all our survey respondents—use their own models to

¹³Transit funds for rural areas are administered by the state department of transportation.

develop most, if not all, of their forecasts, while 51 percent rely on consultants or their state department of transportation to conduct their modeling. Small MPOs are less likely to conduct their own travel demand forecasts, with only 30 percent reporting that they have their own modeling, according to our survey. Further, the federal government gives local transportation planning agencies, including MPOs, the flexibility to choose their own transportation models without being subject to minimum standards or guidelines. As a result, the type of model used by MPOs also varies. Of the MPOs that reported in our survey that they use a model to conduct their travel demand forecasts, a large majority said that they use a four-step model, which uses survey and other data to estimate future trips and assign those trips to different modes. Seven survey respondents indicated that they use activity-based models, which are tied more closely to household and traveler characteristics and behavior and therefore should, in concept, permit MPOs to address policy questions that cannot be treated with the conventional four-step models. For example, four-step models are not suited to estimating the emissions effects of small transportation projects or linking these effects to air quality; more advanced modeling techniques, such as activity-based models, are needed to estimate such effects. The Transportation Research Board (TRB) also noted that although the four-step process is common, there are considerable variations in the completeness and complexity of the models and data employed.¹⁴ Further, they reported that MPOs vary significantly in the number of staff devoted to travel forecasting.

The Responsibilities and Activities of Some MPOs Have Expanded beyond Transportation Planning

Through our survey and interviews, we also found that many MPOs have additional responsibilities that are not federally required, many of which extend beyond transportation planning. For some MPOs, these additional responsibilities and activities are required by their state, while other MPOs have taken on these responsibilities over time, based on regional needs.

- **Land-use planning.** According to our survey respondents, many MPOs conduct all or a portion of their region's land-use planning, and for some

¹⁴TRB, *Metropolitan Travel Forecasting: Current Practice and Future Direction*, Special Report 288 (2007). TRB is one of six major divisions of the National Research Council— a private, nonprofit institution that is the principal operating agency of the National Academies in providing services to the government, the public, and the scientific and engineering communities. TRB provides leadership in transportation innovation and progress through research and information exchange, conducted within a setting that is objective, interdisciplinary, and multimodal.

this is a state requirement. Specifically, 70 percent of MPOs have some land-use planning responsibilities, with the larger MPOs generally reporting that they have more of these planning responsibilities than small MPOs. Eleven percent of survey respondents specifically said that their land-use responsibilities are required by their state. In practice, some MPOs integrate land-use planning into their transportation planning process by considering potential land-use scenarios along with proposed projects. Some MPOs have also led public processes to develop an integrated transportation and land-use “vision” for a region and to evaluate future transportation and land-use scenarios. Similarly, for a number of MPOs, various forms of land-use models are now part of the process for analyzing the growth of the region and studying the land-use impacts of alternative transportation investment programs. Generally, though, MPOs do not have authority to make land-use decisions. Rather, local jurisdictions typically have the authority to make such zoning and other decisions.

- **Project selection.** By determining which projects are to be included in TIPs, all MPOs have a role in determining which projects will ultimately be funded. However, only certain MPOs have the authority to select—from a list of projects in an approved TIP—which projects are to be implemented in the most immediate time frame, using federal funds available to a metropolitan planning area. In areas designated as TMAs, the MPO, in consultation with the state and public transportation operators, selects from an approved TIP all projects that are to be implemented using funding under Title 23 or under Chapter 53 of Title 49 of the U.S. Code (excluding projects on the National Highway System and projects funded under the Bridge, Interstate Maintenance, and Federal Lands Highway programs). Furthermore, MPOs in air quality nonattainment areas also have the ability to use CMAQ funds.¹⁵ Additionally, in California, regional organizations have project selection authority for 75 percent of their region’s portion of the state’s TIP funds (which includes both federal and state highway money).

¹⁵The CMAQ program, jointly administered by the FHWA and FTA, provides funds to state departments of transportation, MPOs, and transit agencies to invest in projects that reduce criteria air pollutants regulated from transportation-related sources over a period of 5 years. Funding is available for areas that do not meet federal air quality standards (nonattainment areas), as well as former nonattainment areas that are now in compliance (maintenance areas). The formula for distribution of funds—which considers an area’s population by county and the severity of its ozone and carbon monoxide problems within the nonattainment or maintenance area, with greater weight given to areas that are both carbon monoxide and ozone nonattainment and maintenance areas—is continued.

-
- **Project implementation.** Some MPOs also have the responsibility for implementing transportation projects. Generally, MPOs do not take the lead in implementing transportation projects; rather, they play a coordinating role in planning and programming funds for projects and operations. Usually, local jurisdictions, transit operators, or state governments take the lead in implementing projects. However, 37 percent of survey respondents—representing MPOs of all sizes—said that they implement projects. For example, one large MPO we spoke with utilizes its local, state, and federal funds to implement projects by leveraging this money with regional partners to construct large-scale transportation projects. Toward this end, the MPO established a program aimed at quickly reducing congestion in particular areas. This initiative uses small-scale projects, such as traffic signal optimization, for congested corridors—which can be implemented within 2 years and are largely funded and carried out by the MPO.
 - **Transit operations.** Sixteen percent of MPOs responded in our survey that they have some responsibility for operating all or a portion of their regional transit system. For example, one western MPO is both the transit authority—providing mass transit that connects throughout the region—and the transportation-planning agency for the greater metropolitan area. Another MPO noted in our survey that rather than operating the transit system, it serves as the planning staff for both the region’s MPO and the transit agency.
 - **Environmental planning.** Twenty-one percent of MPOs responding to our survey said that they conduct air quality or emissions analysis, beyond the federally required conformity process. Further, 32 percent of MPOs responding to our survey said that they conduct additional environmental or water quality planning. For example, one state we visited requires its MPOs to consider how their long-range transportation plan increases water and energy conservation and efficiency.

MPOs Face Resource, Authority, and Technical Challenges That Impact Their Ability to Conduct Transportation Planning

MPOs Report Funding and Staffing Limitations

MPOs we surveyed and interviewed cited several funding challenges that impact their ability to conduct transportation planning. About 85 percent of all MPOs responding to our survey cited the lack of transportation planning funding as a challenge to transportation planning.¹⁶ MPOs we surveyed and interviewed also cited challenges related to the lack of flexibility of transportation planning funds. Specifically, about half of all MPOs responding to our survey cited the lack of flexibility of funding as a challenge. While FTA allows planning funds to be used for a broad range of planning activities, FHWA is more prescriptive in how planning funds can be spent. For example, FHWA guidance precludes using planning funds for projects' environmental analyses that definitively go beyond transportation planning.¹⁷ Furthermore, officials at a few MPOs we spoke with stated that it is unclear which activities can be undertaken with planning funds, particularly in terms of the FHWA planning funds, and that such definitions inhibit them from conducting comprehensive planning by not allowing them to use transportation planning dollars for other uses where necessary. DOT officials we spoke with agreed that the eligibility for FHWA planning funds is fairly narrow, but noted that Surface

¹⁶For questions where we asked about the challenges that MPOs face, we used a five-point scale to measure the extent of the challenge: very great challenge, great challenge, moderate challenge, some or little challenge, and no challenge. For the purposes of this report, we combined the responses for moderate challenge, great challenge, and very great challenge to describe the challenges MPOs identified.

¹⁷Specifically, under 23 CFR Part 420 FHWA funding programs, once a general travel corridor or specific project has progressed to a point in the preliminary/engineering National Environmental Policy Act phase that clearly extends beyond transportation planning, additional in-depth environmental studies must be funded through the program category for which the ultimate project qualifies (e.g., National Highway System, Interstate Maintenance, or Bridge Programs), rather than metropolitan planning or statewide planning and research funds.

Transportation Program funds can be used for metropolitan planning and are more flexible.

MPOs also cited a few other funding-related challenges. First, many MPOs reported having difficulty securing local matching funds for federal transportation planning dollars. About 66 percent of survey respondents overall cited this as a challenge. For example, one MPO we spoke with has been unable to utilize all of the federal planning funds it has been allocated because the MPO cannot meet its local matching requirements. As a result, the MPO has not been able to hire needed staff. Second, MPOs also had mixed opinions regarding the fiscal constraint requirement—that MPOs develop plans that correspond to reliable revenue projections. About 84 percent of survey respondents cited the fiscal constraint requirement as a challenge. One MPO official told us that this is a challenge because the MPO has to submit its TIP without full knowledge of the state’s available funding; this makes creating a realistic fiscally constrained TIP difficult. A previous GAO report found similar concerns. In particular, for MPOs in some urban areas, financially constraining the transportation improvement program meant abandoning proposed projects because of a lack of projected revenue.¹⁸ Although developing a fiscally constrained plan can be difficult, we have also previously reported that the fiscal constraint requirement has been largely beneficial to the planning process because it has led MPOs to obtain more reliable revenue projections from state departments of transportation and transit agencies and to exclude those projects that could not be financed within budget constraints. Third, beyond funding challenges related to planning, officials at a few small MPOs we spoke with often stated that their region had insufficient funding to keep pace with the transportation projects needed. In fact, at one small MPO, an official estimated that the region received about 10 percent of the funding needed to construct necessary projects. This lack of funding could potentially limit the effectiveness of MPO planning because fewer projects from the TIP can be implemented.

MPOs also cited staffing constraints, to a lesser extent, as a challenge that impacts their ability to conduct transportation planning. Some MPOs stated that staffing affects their ability to fulfill its planning requirements. For example, one small MPO told us that with only one or two staff members, it is very difficult to satisfy all the federal requirements for

¹⁸GAO, *Urban Transportation: Metropolitan Planning Organizations’ Efforts to Meet Federal Planning Requirements*, [GAO/RCED-96-200](#) (Washington, D.C.: Sept. 17, 1996).

MPOs such as creating and updating the TIP and long-range plan and holding public meetings. MPOs also mentioned a lack of trained staff as a challenge to transportation planning. About half of the survey respondents cited lack of trained staff as a challenge in carrying out the federal requirements for transportation planning. Lack of trained staff is also a challenge for small MPOs, according to our survey. For example, officials from several MPOs stated that retaining staff trained to conduct the travel forecasting is difficult because there are few people with the expertise to conduct such technical analyses and consulting firms can often pay modelers a higher salary than an MPO. In addition, officials from one MPO told us that the challenges of having limited staff resources is compounded by requirements to ensure public participation, noting that much of their time is spent carrying out the public participation requirements for the planning process relative to other activities. Concerns about meeting the public participation requirements were consistent across most of the MPOs we surveyed. In particular, 79 percent of survey respondents stated that they have difficulty obtaining the public participation needed to meet their transportation planning requirements. A few MPOs we interviewed stated that it was difficult to generate public participation in the planning process, in part because few people actually understand what an MPO is or what it does.

Most MPOs function as part of another planning or governing body, such as a council of governments. According to a few MPOs we interviewed, this arrangement can address staffing and funding limitations by allowing an MPO the ability to cut costs by sharing resources such as a space in which to operate and, in some cases, facilitates coordination between the MPO and other planners or transportation stakeholders. However, this arrangement can also create some challenges. In particular, a few MPOs housed within city governments or other entities connected with a specific jurisdiction said that this arrangement causes them to be viewed as less impartial than MPOs that are stand-alone entities, and that these perceptions can affect their consensus-building efforts. Additionally, 71 percent of small MPO survey respondents cited competing priorities between transportation planning and other tasks related to the council of governments as a challenge.

Most MPOs Report That Limitations to Their Authority Presents Challenges

MPOs we surveyed and interviewed also cited the lack of authority as a challenge to effective transportation planning. About 80 percent of all MPOs responding to our survey indicated that the lack of authority to implement the plans they develop is a challenge. The majority of MPOs that responded to our survey do not implement any of the projects

contained in the plans that they create. Rather, they rely on other agents such as cities, counties, and state departments of transportation to carry out their plans. Similarly, although many survey respondents reported that they conduct land-use planning for their region, MPOs generally lack the authority to make land-use decisions. Instead, this authority generally rests with state and local jurisdictions. As a result, MPOs indicated that they have difficulty anticipating and integrating land-use decisions into their transportation planning.¹⁹ For example, in one region we visited, local jurisdictions are often reluctant to make land-use planning decisions in-line with the MPO's regional transportation plan. In part, the official stated that this occurs because local jurisdictions have a difficult time making land-use decisions that benefit the region as a whole as opposed to their individual community. If land-use decisions do not correspond with an MPO's plans, the MPO's proposed transportation improvements may not be as effective. Our past work has documented that integrating land-use and transportation investments—including accurately modeling future land-use changes—is important but challenging.²⁰

MPOs we interviewed also cited their lack of authority in determining which projects will be implemented as a challenge. Although MPOs help determine which projects are eligible for funding and which ones have priority through the development of the TIP, whether a project will be funded and the amount of funds made available for the project are determined by federal, state, and local policymakers. Moreover, according to our survey, the availability of funding and public support are more important drivers of transportation investment decisions than the analysis conducted by MPOs. This is consistent with our previous work regarding transportation decision making, which indicated that even when economic analyses are performed, the results are not necessarily the most important factor considered in terms of which projects to fund; rather, a number of factors, such as public support or the availability of funding, drive transportation investment decisions.²¹

¹⁹Current transportation demand models are also unable to predict the effect of a transportation investment on land-use patterns and development.

²⁰GAO, *Highway and Transit Investments: Options for Improving Information on Projects' Benefits and Costs and Increasing Accountability for Results*, [GAO-05-172](#) (Washington, D.C.: Jan. 24, 2005).

²¹[GAO-05-172](#).

Although MPOs in the survey cited lack of authority as a challenge, the MPOs we interviewed had mixed opinions regarding the extent to which they felt being granted additional authority would improve transportation planning. Some of the MPOs we spoke with emphasized that having project implementation and land-use decision-making authority would improve transportation planning. For example, one large MPO told us that although they have developed a close working relationship over the years with transit operators and other transportation stakeholders to make their planning processes successful, they need land-use authority to more comprehensively address critical transportation issues. Another MPO we interviewed, however, suggested that giving MPOs project implementation or land-use authority may not improve transportation planning. Specifically, one MPO official stated that such additional authorities may actually hamper MPOs' ability to conduct transportation planning, since some of their current ability to generate consensus results from the fact that they do not have a stake in building or operating the transportation plans.

Lack of Technical Capacity Makes It Difficult for MPOs to Meet Increasingly Complex Requirements

MPOs also face technical challenges, in part because the travel demand modeling required to forecast future growth and needs has become more complicated. MPOs today face a much broader and more complex set of requirements and needs in their travel modeling than they did in the 1960s and 1970s, when the primary concern was evaluating highway and transit system capacity expansions.²² New requirements—such as determining motor vehicle emissions and changes in land use—have created additional data needs to account for the increasing complexity of the transportation system. For example, about half of our survey respondents indicated that their MPOs include a nonattainment or maintenance area and, thus, are required to conduct air quality conformity analyses. An even larger percentage of medium- and large-sized MPOs—66 percent and 76 percent, respectively—indicated that they have such areas within their MPO boundaries. As planning organizations, much of the value of MPOs lies in their ability to forecast and analyze an increasingly complex and growing set of transportation needs. If MPOs' technical capabilities cannot account for the increasing complexities facing regional transportation systems, MPOs' contributions to transportation planning may be compromised, which could lead to planning failures and poor investment decisions.

²²TRB, *Metropolitan Travel Forecasting: Current Practice and Future Direction*, Special Report 288 (2007).

Although some MPOs are taking steps to meet the challenges presented by the increasing complexity of the transportation system, MPOs still face modeling challenges. About half of MPOs report that they face challenges related to their limited modeling capacity. Some MPOs have had success updating their travel forecasting techniques to accommodate new requirements. For example, officials at one MPO told us the transit agency in their region is developing a travel demand model specifically for transit, though it has not yet been incorporated into the MPO's travel models. Some MPOs we interviewed, however, told us that they lack the resources to improve their modeling capabilities. In fact, MPO officials expressed concern in interviews that current models, including the four-step models most MPOs use, do not necessarily produce forecasts that can adequately account for the increasing complexities of transportation planning, such as predicting future land-use patterns and transit's effect on travel behavior. TRB also found similar challenges—that is, they found inherent weaknesses in current models that are generally unable to address new policy concerns raised by the growing complexity of the transportation system. TRB notes that when the detail required to address a transportation issue increases, the complexity of the analytical techniques should increase as well. For example, a small metropolitan area experiencing minimal growth, with little transit and no air quality problems, will likely be able to use a simple model to determine the area's needs. Thus no single approach is appropriate for all MPOs.

Although modeling presents challenges, according to our survey, the most predominant technical challenge was related to acquiring quality data to use in planning models. Over 70 percent of survey respondents cited data limitations as a challenge. Data reflecting current travel patterns in a metropolitan area are important because models that are supplied with inaccurate or out-of-date data may produce inadequate forecasts that contribute to poor planning. In addition, having robust data to support proposed transportation plans helps to keep planning more objective and lends credibility to the plans developed by MPOs. However, conducting a household travel survey—a survey of random households in a metropolitan area that gathers trip-related data, such as mode of transportation, duration, distance and purpose of trip—to collect updated

data is both expensive and time-consuming.²³ For example, officials at one large MPO we interviewed stated that they need to update their household survey but are having difficulty finding the estimated \$1.5 million needed to do so. As we mentioned earlier, funding shortages and the lack of staff trained with such technical expertise make increasing technical capacity a challenge for many MPOs, particularly small ones. TRB's study also found that many MPOs had inadequate data to support their modeling processes.

The Extent to Which MPO Oversight Mechanisms Improve Transportation Planning Is Unclear

The federal certification review is an important mechanism that FTA and FHWA use to oversee the MPO planning process. Although all MPOs are required to self-certify that they have met the federal transportation planning requirements, SAFETEA-LU also requires DOT to certify the metropolitan planning process of the 155 TMAs every 4 years.²⁴ To conduct a certification review, FTA and FHWA assemble a team which typically consists of FTA and FHWA field staff, but may also include FHWA or FTA headquarters community planners, EPA officials, other subject matter experts, or experts from DOT's Volpe National Transportation Systems Center. FHWA division office personnel generally take the lead in these reviews, which typically take 6 to 9 months and include (1) an initial desk review, which includes verifying compliance with basic regulatory requirements, among other things; (2) an evaluation of the MPO's written response to a series of questions; (3) a 2 to 4 day site visit during which the team gathers additional information; and (4) a meeting to inform the public about planning requirements and provide an opportunity for the public to express concerns about how the process is meeting the needs of the area. After the site visit, the team prepares a final report including review findings and recommendations, which incorporates public comments on the planning process.

Consistent with federal law, the federal certification review is process-oriented and conducted without regard to transportation planning outcomes. Specifically, through certification reviews, DOT ensures that the metropolitan planning process of an MPO serving a TMA is carried out

²³The National Household Travel Survey is a DOT effort sponsored by the Bureau of Transportation Statistics and FHWA to collect data on both long-distance and local travel by the American public. The joint survey gathers trip-related data, such as mode of transportation, duration, distance, and purpose of trip. MPOs also conduct household travel surveys to collect data on local travel in their respective metropolitan areas.

²⁴According to DOT's MPO database, 155 MPOs have at least one part of their designated boundary within a TMA.

in accordance with applicable provisions of federal law—for example, by ascertaining whether or not the MPO has adhered to its public participation plan. Oversight also provides a mechanism through which the federal government can ensure that its funds are being used to achieve its intended goals. The current process-oriented approach toward certification generally focuses on procedural requirements as opposed to performance. FTA and FHWA can withhold apportioned federal highway and transit funds if they determine an MPO is in noncompliance with federal requirements. However, FTA and FHWA officials were unaware of any instance in which an MPO was not certified due to noncompliance during the last 10 years. Furthermore, FTA and FHWA officials noted that the process is meant to be collaborative in nature. Therefore, a finding of noncompliance is as much of a failure on the part of DOT as the MPO, according to a DOT official.

Because the federal certification is focused on compliance, not outcomes, it is difficult to determine whether federal oversight is improving transportation planning. GAO has previously recommended²⁵ to DOT, as well as to Congress, that adopting performance measures and goals for programs can aid in evaluating and measuring the success of the programs, which can lead to better decisions about transportation investments.²⁶ The procedural focus of the federal certification, and the fact that, according to DOT officials' knowledge, no MPO has failed to be certified as a result of a certification review also makes it difficult to use the certification results as a performance indicator for MPOs. According to FHWA and FTA officials, certification reviews examine the quality of the MPO planning process by, for example, identifying corrective actions where there is noncompliance with statute or regulations and recommendations for areas needing improvement. Corrective actions are set with milestone dates to rectify the noncompliance and require a status report and re-evaluation of the process. Commendations for the use of noteworthy practices are also identified. However, FTA and FHWA do not assess the progress of the MPO in achieving the goals outlined in the plans. According to FTA and FHWA officials, states may, but are not required to,

²⁵GAO, *Rail Transit: Additional Federal Leadership Would Enhance FTA's State Safety Oversight Program*, [GAO-06-821](#) (Washington, D.C.: July 26, 2006) and GAO, *Surface Transportation: Restructured Federal Approach Needed for More Focused, Performance-Based, and Sustainable Programs*, [GAO-08-400](#) (Washington, D.C.: Mar. 6, 2008).

²⁶DOT officials generally agreed with our recommendations and stated that, although they do have some performance measures in place for certain programs, additional performance measures could be beneficial.

monitor the progress of MPOs in meeting their goals. Furthermore, an FHWA official noted that the elements that are reviewed through certification serve as proxies for good planning—for example, the resulting plans will be better if the MPO is regularly soliciting and incorporating public input.

Most MPOs we interviewed generally view the federal certification reviews as pro forma in nature and place a greater value on informal assistance from the federal government. Officials in one state said that the most important oversight is the “give and take” between agencies on the various transportation plans they create. This informal interaction allows the oversight agencies to identify issues prior to the formal reviews. Likewise, many federal officials with whom we spoke view informal interactions—such as regular meetings, technical assistance, and review of air quality conformity analyses—as an important aspect of oversight. One FHWA division official we interviewed stated that the benefit of ongoing communication is that problems are identified as they arise and can be addressed well before the certification review or self certification is conducted.

MPOs also reported that the assistance provided by their states is more important than the federal certification reviews. Although the level of participation of states in the planning process varies, MPOs reported in our survey that state department of transportation officials generally play a greater oversight role than DOT for certain activities. For example, around 80 percent of survey respondents reported that state department of transportation officials are involved in MPO boards and committees, while over 55 percent and 70 percent reported similar participation from federal officials on MPO boards and committees, respectively. This may be due, in part, to the limited number of staff at FHWA and FTA.

MPO, Government, and Industry Officials Have Developed Options to Enhance Transportation Planning

With the pending expiration of the current surface transportation authorizing legislation, MPO, government, and industry officials have developed various formal and informal proposals to improve or change the current transportation planning process. We reviewed proposals from AMPO, AASHTO, APTA, the Brookings Institution, the previous and current DOT administrations, and the June 2009 House Transportation and Infrastructure Committee blueprint for the surface transportation reauthorization. We also discussed suggestions for improving transportation planning with MPO, federal, and state officials. In reviewing these proposals or suggestions, we identified several recurring changes, or options, that could address some of the resource, authority, and technical

challenges facing MPOs. Most of the options have both advantages and disadvantages, and implementing any of the options will require policy trade-offs.

Increasing Flexibility in Use of Federal Funds

Creating an expanded or clarified definition of eligibility for the use of transportation planning funds could allow MPOs to utilize planning funds in ways that best meet the needs of the area. Most of the MPOs we surveyed and many of the MPOs we interviewed suggested that having additional flexibility regarding the types of activities that are eligible to be completed using planning funds would improve the planning process. Currently, FHWA guidance precludes using planning funds for projects' environmental analyses that "clearly extends beyond transportation planning." As we mentioned previously, officials at a few MPOs we spoke with stated that they are unclear about what environmental activities are eligible under that definition, which makes it difficult to conduct comprehensive transportation planning. According to many of the MPOs we interviewed and 90 percent of the MPOs responding to our survey, creating more flexibility in how the planning funds can be spent would improve the effectiveness of the planning process and allow MPOs to be more efficient by prioritizing their limited resources to the most critical planning activities. However, providing such flexibility in federal transportation funds could result in less transparency and accountability. In particular, when funds can be flexed across different activities, there is less ability to assess the impact of particular funding streams—such as transportation planning funds—on the achievement of key goals.

Creating Greater Variation in Planning Requirements

A number of the proposals for improving the MPO planning process include creating further variation—in addition to the TMA and non-TMA distinction—in MPOs' planning requirements and authority to account for the wide variation in capacity of MPOs across the country. For example, creating additional variations in MPOs' planning requirements could include the development of abbreviated planning requirements for MPOs. SAFETEA-LU allows that the Secretary of Transportation may permit MPOs that are not designated as TMAs or are not in nonattainment for ozone or carbon monoxide to develop abbreviated metropolitan transportation plans or TIPS. In so doing, the Secretary must take into account the complexity of transportation problems in the area.²⁷ MPOs in

²⁷SAFETEA-LU 23 U.S.C. § 134(l); 49 U.S.C. § 5303(l).

small metropolitan areas—where transportation needs are often less complex—could benefit from abbreviated planning requirements. To date, no MPOs have applied for the abbreviated planning requirements, according to DOT officials.

Other proposals suggest that MPOs that have exhibited increased capacity—e.g., those that are conducting additional activities beyond the current planning requirements—could be allowed additional implementation authority to oversee the development of certain projects. Likewise, an MPO could be granted expanded authority to plan and fund a metropolitan area’s transportation projects—focusing available transportation funds on projects that will benefit a region the most, regardless of mode. A large majority of the survey respondents—79 percent—stated that additional project implementation authority would improve effectiveness of the MPO planning process.²⁸

However, granting additional authorities to MPOs or reducing the requirements could result in some additional challenges for MPOs and DOT. Additional federal and state oversight may be needed for (1) MPOs that take on new, traditionally non-MPO responsibilities, such as project implementation or (2) MPOs that reduce their planning requirements in order to ensure that the abbreviated process adequately accounts for the transportation needs of the area. Additionally, over half of the survey respondents reported that they do not have the capacity to undertake additional project implementation authorities, despite the fact that a large majority of MPOs stated increased implementation authority would improve the effectiveness of their planning process.

Other proposals include changing the legal definition of MPOs to realign the MPO planning process with current capacity and planning needs. In particular, one option calls for an increase in the population threshold for mandatory MPO creation. Requiring the formation of MPOs at a larger population threshold could ease the burden of the previously mentioned resource constraints affecting small MPOs, including funding and staffing shortages. Specifically, one of the state departments of transportation we

²⁸For questions where we asked about the options that would improve the effectiveness of the MPO planning process, we used a five-point scale to measure extent: very great extent, great extent, moderate extent, some or little extent, and no extent. For the purposes of this report, we combined the responses for moderate extent, great extent, and very great extent to report the percentage of responses that indicated an option would improve the effectiveness of the planning process.

interviewed—one that contains more rural areas—noted that the current population threshold of 50,000 can create a situation in which a relatively small, rural area with less complex transportation needs is given MPO responsibilities. In these situations, MPOs may have difficulty funding an adequate number of positions—or filling them with qualified individuals—to do the work needed to meet federal and state requirements. Raising the population threshold could raise the likelihood that MPO efforts are limited to urban areas with more advanced transportation needs. However, about 73 percent of survey respondents from small MPOs reported that raising the threshold would not be an appropriate way to improve the planning process. An official from a small MPO we interviewed noted that any reduction in responsibilities for small MPOs must be a contextual decision based on the complexity of the transportation needs in the area, such as proximity to a large metropolitan area that is expected to grow in the future.

Increasing Federal Investment in Modeling Efforts

With regard to technical constraints, improving technical capabilities across MPOs will likely require additional investment in modeling, data gathering, or both. As noted previously, current models are not well suited to representing travelers' responses to the complex range of policies such as freight movement and motor vehicle emissions. Of particular concern is that many MPOs have inadequate data to support their modeling processes, even for traditional travel demand forecasts. Eighty-seven percent of MPOs surveyed said that greater federal support for transportation research and data would improve their effectiveness. Moreover, many of the MPOs we interviewed agreed that federal government investment in modeling and data gathering is necessary to ensure greater reliability in travel demand forecasting across MPOs and to help account for the increasing complexity of transportation forecasting and data needs in urban areas. Furthermore, without such an investment, policymakers may lack the information needed to make informed decisions on investments related to the transportation system.

Toward this end, TRB's Special Report 288 recommended the development and implementation of new modeling approaches to travel demand forecasting that are better suited to providing reliable information. These new modeling approaches include such applications as multimodal investment analyses, environmental assessments, evaluations of a wide range of policy alternatives, and meeting federal and state regulatory requirements. TRB also made various recommendations for improvements, including increasing DOT support and funding for incremental improvements to models in settings appropriate for their use,

and the continued development, demonstration, and implementation of advanced modeling approaches.²⁹ Additionally, TRB encouraged DOT collaboration with MPOs and states to examine data collection needs, including data requirements for validating current travel forecasting models and meeting regulatory requirements. Most recently, in July 2009, when DOT announced its principles for an 18-month extension of federal highway, transit, and highway and trucking safety programs, it called for an investment of \$300 million to build state and MPO planning capacity for the collection and analysis of data on transportation goals. Additionally, DOT's 18-month extension proposal suggests an investment of \$10 million to build MPOs' informational and analytic capacity to refine assessment tools at the federal level, among other things.

Making the Planning Process More Performance-Based

Currently there are no requirements to attain explicit performance thresholds, such as reducing congestion or improving highway safety, built into the federal planning requirements for MPOs.³⁰ MPOs and industry representatives we interviewed recognized the value of making the planning process more performance-based, noting that focusing on outcomes could improve transportation investment decision making. In addition, DOT's recently released principles for an 18-month extension of certain federal surface transportation programs also calls for stronger requirements for tracking and reporting on the projected and actual outcomes of transportation investments that use federal dollars. Using performance measures could help hold MPOs accountable for carrying out a 3-C transportation planning process that encourages and promotes a safe and efficient surface transportation system. According to our survey, most MPOs already report using performance measures to some extent to assess results achieved. However, MPOs generally reported using output-based measures, such as compliance with state and federal transportation planning rules, rather than outcome-based measures, such as improved safety. Further, some DOT officials we spoke with maintained that the wide variety of needs and capacities among regions would make it difficult to establish national performance measures. To overcome the challenge of

²⁹Advanced travel models are based on a more comprehensive understanding of the activities of households; that is, they reflect the full range of trade-offs that affect whether to make a trip, what time a trip is made, the destinations visited, the modes used, and the paths selected.

³⁰The CMP requires that TMAs monitor congestion and consider potential congestion relief measures in formulating long-range plans.

creating such measures for all MPOs, some officials said that broader performance goals could be established at the national level, while more specific measures and targets could be left for states and regions to establish.

Establishing outcome-based measures for all MPOs would also require DOT to expand its oversight so that it can assess the progress of MPOs in achieving specific results, rather than focusing on compliance with existing statutes and rules. However, a few MPOs and the DOT officials we spoke to noted that it would not be appropriate to hold MPOs accountable for specific outcomes because they do not have the authority to implement their plans. Indeed, it is often up to local jurisdictions and the state to carry out MPO plans, and they do not always have the same priorities and goals as the MPOs. Some MPO stakeholders we spoke to noted that reconciling the needs of the region with the priorities of individual jurisdictions is a significant challenge. Nevertheless, other officials we spoke to noted that the purpose of MPOs is to establish a consensus on a region's long-term transportation goals and that it would be appropriate to link those goals with specific outcomes.

Conclusions

Our survey shows a pattern of variations and challenges that could increasingly compromise the quality of regional transportation planning, potentially allowing transportation problems—such as increasing congestion—to inhibit economic activity in the United States. For example:

- MPOs' roles and responsibilities are not commensurate with their requirements. Under the current system, a small MPO with a simple transportation mission and limited technical capacity is generally accountable to the same planning and program requirements and oversight as a large MPO with a complex, multimodal transportation system, raising questions as to whether the federal government is appropriately targeting its oversight resources. SAFETEA-LU allows MPOs to seek permission to use a more abbreviated planning process. MPOs may not be universally aware of this option since, to date, no MPOs have utilized it.
- The quality of MPOs' computerized travel demand models and the data used to support the process is often insufficient or unreliable. As planning organizations, one of the important functions of MPOs is the ability to forecast and analyze an increasingly complex and growing set of environmental, transportation, and social trends. Thus if MPOs are not able to keep pace with the increasing complexity of this task, their

contribution to transportation planning may be compromised. However, on a cautionary note, effective forecasting requires both quality computer models and accurate data, such that investing in one without improving the other may waste resources. DOT's July 2009 18-month extension proposal calls for additional resources for the collection and analysis of data on transportation goals to help build transportation planning capacity. Adopting TRB's modeling and data gathering recommendations is an example of how the additional resources could be invested.

- Finally, because the oversight mechanisms for MPOs are focused on process, rather than outcomes, it is unclear what impact regional transportation planning is having on transportation outcomes. Despite over 30 years of a federally mandated and funded transportation planning process and billions spent on roads, bridges, and transit projects, there is not enough information for policymakers to determine whether the planning process is addressing critical transportation challenges facing the United States. However, shifting to a more performance-based oversight approach will require legislative changes.

Addressing these variations and challenges is particularly important given some proposed reforms that would increase the ability of metropolitan and local governments to access additional federal transportation funds. The upcoming reauthorization of federal surface transportation programs provides Congress and DOT an opportunity to address these challenges and enhance regional transportation planning. For example, Congress and DOT could examine what is being invested in the federal oversight process, what the return for this investment is, and how it may be improved.

Matter for Congressional Consideration

Congress should consider making MPO transportation planning more performance-based—for example, by identifying specific transportation outcomes for transportation planning and charging the U.S. Department of Transportation with assessing MPOs' progress in achieving these outcomes in the certification review process.

Recommendations

To improve the transportation planning process, we are recommending that the Secretary of Transportation take the following two actions:

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1. Direct the Administrators of the Federal Highway Administration and the Federal Transit Administration to establish guidelines for MPOs to apply for, and implement, the abbreviated planning clause for small MPOs, and share these guidelines with existing MPOs.
 2. Develop a strategy to improve data gathering and modeling efforts among MPOs, including establishing a timeline for implementing the modeling and data recommendations for the federal government in the Transportation Research Board's Special Report 288.

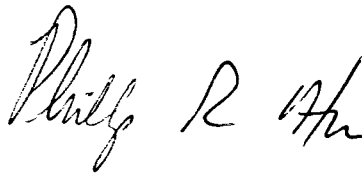
Agency Comments

We provided a draft of this report to DOT for review and comment. DOT agreed to consider the report's recommendations. DOT also provided technical comments, which we incorporated as appropriate.

We are sending copies of this report to interested congressional committees and the Secretary of Transportation. In addition, this report will be available at no charge on GAO's Web site at <http://www.gao.gov>.

If you or your staff have any questions about this report, please contact me at (202) 512-2834 or herrp@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made major contributions to this report are listed in appendix II.

Sincerely yours,



Phillip R. Herr
Director
Physical Infrastructure Issues

Appendix I: Scope and Methodology

To identify and assess the characteristics and responsibilities of metropolitan planning organizations (MPO) we reviewed current and previous federal statutes and regulations governing MPOs. We also reviewed relevant academic, industry association, GAO, and U.S. Department of Transportation (DOT) research and publications to understand MPOs' transportation planning responsibilities, the ways MPOs vary, and the challenges MPOs face in carrying out their responsibilities. Additionally, we interviewed representatives from industry associations, as well as MPO, Federal Transit Administration (FTA), Federal Highway Administration (FHWA), and DOT officials to clarify MPO planning responsibilities, identify transportation planning challenges, and assess how DOT provides oversight for MPOs and the extent to which this improves transportation planning. To further examine the role of state departments of transportation in metropolitan planning and assess the potential impact of various changes to MPOs, we contacted 11 additional state departments of transportation by e-mail and received responses from 6. We also attended and observed a DOT on-site certification review in Savannah, Georgia, to further understand the federal oversight of transportation management areas (TMA).

To determine the various options for improving regional transportation planning, we reviewed federal surface transportation program reauthorization proposals from the Association of Metropolitan Planning Organizations (AMPO), American Association of State Highway and Transportation officials, American Public Transportation Association, Brookings Institution, the previous and current DOT administrations, and the current House Transportation and Infrastructure Committee blueprint for reauthorization. We also discussed informal proposals or suggestions for improving the planning process with MPO, federal, and state officials.

To gather in-depth information on the roles and responsibilities of MPOs, the extent to which federal oversight improves transportation planning, and possible ways to improve regional transportation planning, we conducted a Web-based survey of all 381 MPOs. This survey was conducted from February 3 to April 1, 2009. To prepare the questionnaire, we pretested potential questions with MPOs of different sizes and from different FTA regions to ensure that (1) the questions and possible responses were clear and thorough, (2) terminology was used correctly, (3) questions did not place an undue burden on the respondents, (4) the information was feasible to obtain, and (5) the questionnaire was comprehensive and unbiased. On the basis of feedback from the seven pretests we conducted, we made changes to the content and format of

some survey questions. The results of our survey can be found at [GAO-09-867SP](#).

To identify MPOs to survey, we obtained MPO contact information from DOT and AMPO; any inconsistencies between the two lists were reconciled with phone calls to the relevant MPO. We also contacted all of the MPOs in advance, by e-mail, to ensure that we had identified the correct respondents and to request their completion of the questionnaire. After the survey had been available for 2 weeks, and again after 4 and 6 weeks, we used e-mail and telephone calls to contact MPOs who had not completed their questionnaires. Using these procedures, we obtained an 86 percent response rate. Because this was not a sample survey, there are no sampling errors. However, the practical difficulties of conducting any survey may introduce errors, commonly referred to as nonsampling errors. For example, difficulties in how a particular question is interpreted, in the sources of information that are available to respondents, or in how the data are entered into a database or were analyzed can introduce unwanted variability into the survey results. We took steps in the development of the questionnaire, the data collection, and the data analysis to minimize these nonsampling errors. For instance, a survey specialist designed the questionnaire in collaboration with GAO staff who have subject-matter expertise. Further, the draft questionnaire was pretested with a number of MPOs to ensure that the questions were relevant, clearly stated, and easy to comprehend. When the data were analyzed, a second, independent analyst checked all computer programs. Finally, nonresponding MPOs were distributed among different states and sizes of MPOs in a way that did not show evidence of bias.

To gather additional information on the roles and responsibilities of MPOs, the extent to which federal oversight improves transportation planning, and possible ways to improve regional transportation planning, we conducted case studies in eight metropolitan areas. Each case study involved interviews with the designated MPO for that metropolitan area, as well as the state department of transportation, transit operators, and other relevant regional organizations. We selected MPOs to visit and examine based on the following criteria:

- population (based on whether or not the MPO is in a designated TMA);
- location (based on the FTA region);

- air quality (based on whether the MPO is located in an air quality nonattainment area);
- structure of the MPO (based on whether the MPO is an independent agency or housed within another organization or jurisdiction); and
- recommendations from internal stakeholders, experts, associations, and federal DOT officials we consulted.

Although using these criteria allowed us, in our view, to obtain information from a diverse mix of MPOs, the findings from our case studies cannot be generalized to all MPOs because they were selected as part of a nonprobability sample.¹ Table 2 lists the region and relevant MPOs where we conducted case studies.

Table 2: Metropolitan Regions Selected for Case Study

Metropolitan area	Designated MPO
Albuquerque, New Mexico	Mid-Region Council of Governments
Dallas-Ft. Worth, Texas	North Central Texas Council of Governments
Gainesville, Florida	North Central Florida Regional Planning Council
Jacksonville, Florida	North Florida Transportation Planning Organization
Sacramento, California	Sacramento Area Council of Governments
San Francisco, California	Metropolitan Transportation Commission
Santa Fe, New Mexico	Santa Fe Metropolitan Planning Organization
Sherman, Texas	Sherman-Dennison Metropolitan Planning Organization

Source: GAO.

¹Results from nonprobability samples cannot be used to make inferences about a population because, in a nonprobability sample, some elements of the population being studied have no chance or an unknown chance of being selected as part of the sample.

Appendix II: GAO Contact and Staff Acknowledgments

GAO Contact

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Staff Acknowledgments

In addition to the contact named above, A. Nicole Clowers, Acting Director; Kyle Browning; F. Chase Cook; Kathleen Gilhooly; Cathy Hurley; Stu Kaufman; Sara Ann Moessbaeur; Josh Ormond; Stephanie Purcell; Amy Rosewarne; Jay Smale; and Susan Zimmerman made key contributions to this report.

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