A GUIDE TO SUCCESS FOR SMALL TEXAS METROPOLITAN PLANNING ORGANIZATIONS

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PREFACE

Metropolitan Planning Organizations (MPOs) are the federally mandated cooperative transportation decision-making bodies for metropolitan areas with an urbanized population of at least 50,000 residents. When the U.S. Congress passed the Intermodal Surface Transportation Efficiency Act in 1990 (ISTEA), it expanded the roles and authority of Metropolitan Planning Organizations MPOs in regional planning and provided funding for MPO programs, particularly for MPOs in urbanized communities with a population of 200,000 or more. The federal mandate of these organizations is to develop unified short-term and long-term transportation plans for entire metropolitan areas. All MPOs must produce the same types of plans regardless of community size. Furthermore, all MPOs must employ a planning process that is continuing, cooperative, and comprehensive. These mandates represent a particular challenge for small MPOs, those in areas with an urbanized population of under 200,000.

The legislation allocated funds for planning to states primarily based on their share of the population while allowing state departments of transportation to redistribute their apportionments to the various metropolitan areas within the state. Extra money is allocated to large metropolitan areas (those with greater than 200,000 people) and regions with poor air quality because of the added complexity of their transportation problems.

By the time that large pile of federal money is distributed among all the urbanized areas in the nation, the amount available to small MPOs (those with fewer than 200,000 residents in the urbanized area) is limited. In addition, many small MPOs, including those in Texas, receive little or no funding from their local governments. As a result, the budgets of many small MPOs only allow them to hire a couple of staff members. Therefore, small MPOs must be particularly creative in the planning process. They must employ techniques that are inexpensive and quick without short-changing the public whom they are serving.

The objectives of this study were to identify the challenges that small Texas MPOs face and to pinpoint examples of strategies that small MPOs can use to make the most of their scarce resources. Surveys of small Texas MPOs (defined as non-TMA MPOs for this study) conducted by the research team reveal that these MPOs face many challenges in completing the required plans and associated documents, particularly with regard to long-range land use and travel demand forecasting. Public involvement and financial planning are also important challenges. Many survey respondents at the MPOs cited limited funding and staff expertise as the reasons for the difficulty of these tasks.

In order to achieve the second objective, identifying creative strategies for small MPOs, the research team consulted with the directors of highly regarded small and medium-sized MPOs outside of Texas. When asked to reflect upon how they have been able to achieve success, the directors of these MPOs repeatedly stated the importance of building trusting relationships with the public and local officials and producing quality work to reward

that trust. At the same time, the directors were honest about the need to focus funds on priority projects rather than trying to pursue many different projects at the same time.

The underlying message offered by the directors of outstanding MPOs is to be patient, creative, and flexible. These qualities will improve any planning team's chances of success.

CHAPTER ONE

INTRODUCTION TO METROPOLITAN PLANNING ORGANIZATIONS

1.1 Why MPOs Were Created

Metropolitan Planning Organizations (MPOs) are the federally-mandated cooperative transportation decision-making bodies for metropolitan areas with an urbanized population of at least 50,000 residents.[1,2] They are charged with a variety of duties related to regional transportation planning, such as involving the public in transportation decision-making, developing long range plans for surface transportation, and prioritizing projects to receive federal aid. The requirement to establish such regional transportation decision-making bodies is based on the understanding that transportation needs do not stop at city or county boundaries. More locally-minded than the state, but more regionally-minded than the cities, MPOs provide a forum for all the jurisdictions in a metropolitan area, including the suburbs and urbanizing areas outside central cities, to work together to plan regional transportation systems that will be integrated across jurisdictional lines and serve local needs.

The Federal Aid Highway Act of 1962 established an active role for local governments in transportation planning by mandating a "continuous, comprehensive and cooperative" planning process to be carried out by the states and local officials.[3] The first reference to MPOs in federal legislation is in the Federal-Aid Highway Act of 1973.[4] However, many of today's requirements for MPOs were created by the Intermodal Surface Transportation Efficiency Act (ISTEA), passed by Congress in 1991. ISTEA expanded the roles and authority of MPOs in regional planning and provided funding for MPO programs, particularly for MPOs in urbanized communities with a population of 200,000 or more. The legislation was intended to give metropolitan areas more control over their transportation system, foster a more integrated planning process, and bring about greater coordination among metropolitan area representatives, the state, and the private sector. ISTEA's metropolitan planning provisions were motivated by the hope that better planning will result in better transportation systems.[5] Many states have also passed laws further developing the responsibilities of their MPOs.

In 1998, the Transportation Equity Act for the 21st Century (TEA-21) became law.[6] TEA-21 replaced ISTEA as the primary federal authorizing legislation for surface transportation. TEA-21 builds on the foundation established by ISTEA and further expands the roles of MPOs. Because the Department of Transportation has not issued official rules for TEA-21, the Code of Federal Regulations still reflects the content of ISTEA. However, the full text of TEA-21 can be found in the U.S. Code, Titles 23 (Highways) and 49 (Transportation). This guidebook describes the world of metropolitan transportation planning as defined by TEA-21.

1.2 How MPOs are Designated

The service area for an MPO is defined by the Metropolitan Area Boundary (MAB). The MAB consists of the urbanized area (UZA), which includes not only the existing urbanized area but also the contiguous area that is expected to be urbanized within twenty years, as defined by the U.S. Census Bureau. The governor and a team of local government officials (representing at least 75% of the metropolitan population and including representatives of the central city or cities) must work together to estimate growth and determine the MAB. A Designation Agreement is then drafted and signed to formalize the geographic boundaries of the MPO and list its duties and jurisdiction. At any time, the executive director of the MPO, the governor, and a team of local government officials (representing at least 75% of the metropolitan population and including representatives of the central city or cities) may choose to designate a new MPO to replace an existing MPO by formalizing a new Designation Agreement and revoking the existing MPO's designation.[7,8]

An urbanized area must be included in an MPO if its population exceeds 50,000.[9] An MPO with a population of more than 200,000 residents in the urbanized area (as determined by the latest decennial census) will be designated a Transportation Management Area, or TMA.[10] The TMA designation applies to the entire metropolitan planning area served by the MPO(s) within which the TMA is located. A non-Transportation Management Area (non-TMA) is defined as any urbanized area with a population of less than 200,000. An MPO with greater than 200,000 residents will be considered non–TMA if its population is divided among multiple urbanized areas, each with a population of fewer than 200,000 residents (e.g., Southeast Texas Regional Planning Commission). In Texas, TMAs receive additional funding and are jointly reviewed by the U.S. Department of Transportation and the Texas Department of Transportation (TxDOT). In addition, TMAs must develop a Congestion Management System in cooperation with TxDOT .

1.3 What MPOs Do

Texas MPOs are responsible for developing six products under ISTEA/TEA-21 and the accompanying state and federal rules. These products include two plans--a long-term metropolitan transportation plan (MTP) and a short-term transportation improvement program (TIP)—and four administrative documents--a unified planning work program (UPWP), a public involvement plan, an annual performance/expenditure report, and an annual listing of projects. Table 1 describes the purpose, time horizon, and update cycle of these documents. Best practices for producing these plans and reports will be discussed in Chapter Three.

Table 1
Products of the Metropolitan Planning Process

Document	Purpose	Time Horizon	Updates
Metropolitan Transportation Plan	To establish short- and long-term transportation goals	20-25 years	Every 5 years for non-TMA; every 3 years for TMA
Transportation Improvement Plan	To outine projects that will be implemented the next 3 years	3 years	Every 2 years
Unified Planning Work Program	To demonstrate proper use of federal funds	1 year	Every year
Public Involvement Plan	To show how an MPO will engage the public in planning processes	Indefinite	Periodically
Annual Performance and Expenditure Report	To document the past year's performance and the actual expenditures for planning	1 year	Every year
Annual Listing of Projects	To communicate to the public the past year's highway and transit projects	1 year	Every year

ISTEA and TEA-21 also require MPOs to establish a planning process that will produce "investment decisions that result in safe and efficient mobility and accessibility and protection of the human and natural environments."[11] MPOs should use this planning process to develop and update their transportation plans and TIPs. The plans and TIPs should reflect information and insights gained from each of these processes. In general, the planning process for nonattainment, non-TMA MPOs includes the following elements:

1. An inclusive and proactive public involvement process[12] (See Section 3.5) that

    - Provides for "early and continuing" involvement of the public
    - Offers stakeholders the opportunity to comment, including users of public transit and freight shippers

2. Consideration of the seven planning factors:

    - support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
    - increase the safety and security of the transportation system for motorized and nonmotorized users;
    - increase the accessibility and mobility options available to people and for freight;
    - protect and enhance the environment, promote energy conservation, and improve quality of life;
    - 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.[13],[14]

3. Integrated analysis of each project that addresses requirements under:

    - ISTEA and TEA-21
    - National Environmental Policy Act (NEPA)
    - Clean Air Act (CAA)
    - Americans with Disabilities Act of 1990
    - Title VI of the Civil Rights Act of 1964
    - Executive Order 12898, relating to Environmental Justice

4. Development of a financial plan, in cooperation with the state and transit agencies, to implement the transportation plan and TIP that identifies current revenue sources as well as reasonably expected future revenue sources and is fiscally constrained.[15] (The financial plan may also include a list of unfunded projects that the MPO would pursue if new sources of revenue were to become available.)

The Texas Department of Transportation (TxDOT) has directed that all MPOs in Texas should conduct the full planning process. However, in other states, non-TMA MPOs that are in attainment have the opportunity, according to the federal rules,[16] to conduct a simplified planning process, which might include producing a less detailed work plan or conducting less extensive data gathering and analysis.[17] All procedures are reviewed by FHWA and FTA on a case-by-case basis. According to a representative of FHWA's Metropolitan Planning and Programs Division in Washington, D.C., few MPOs have requested simplified procedures. The representative suspects it is because so many MPOs are in nonattainment, and therefore are not eligible for simplified procedures, and because the MPOs may not want additional interference from the federal government. In any event, all Texas MPOs must conduct the full planning process.

Resources

- FHWA and FTA. "A Guide to Metropolitan Transportation Planning Under ISTEA - How the Pieces Fit Together." Available: http://ntl.bts.gov/DOCS/424MTP.html.

- U.S. DOT. "Fact Sheet on Metropolitan Planning" Available: http://www.fhwa.dot.gov/tea21/factsheets/metropln.htm.

1.4 How MPOs Are Funded

Planning funds are distinct from funds allocated to capital projects. Various federal sources can provide up to 80% of the cost for transportation planning activities undertaken by MPOs while the remaining 20% match must be provided by local governments or the state, either through cash payments or in-kind services.[18]

The primary federal funding sources for MPOs are the comingled grants from the FTA and FHWA that are allocated to each state in a lump sum. Because the grants are commingled, MPOs in Texas are directed to treat them as a single funding source in their budgets: there is no need for Texas MPOs to budget specific amounts of funding from each source to each specific task.[19]

The sources of these funds, known as TPF, or Transportation Planning Funds, are a 1% set-aside from FHWA's Surface Transportation, Bridge, National Highway System, Congestion Mitigation and Air Quality, and Interstate Maintenance Programs (known as PL-112 funds) and varying amounts from the FTA's Mass Transit Account of the Highway Trust Fund and the General Fund (known as FTA 5303 funds). FHWA's annual contribution for the 6 years of TEA-21 averages $187.7 million while FTA's average annual contribution is $73.6 million.[20]

PL-112 funds from FHWA are allocated to the states based on the ratio of each state's urbanized population to the total nationwide urbanized population (pro rata share). The minimum portion of the PL-112 funds issued to each state is ½% of the total nationwide allocation.[21] The majority of FTA 5303 funds (80%) is distributed according to each state's pro rata share of the total nationwide urbanized population. However, 20% of the FTA 5303 funds is allocated to the states based on an FTA formula that accounts for complex planning problems in TMAs. There is no guaranteed minimum allocation of FTA 5303 funds for each state.[22]

TxDOT then distributes the federal planning funds to the MPOs based on a formula mutually agreed upon by TxDOT, FHWA, and FTA.[23] In developing the formula for distributing PL-112 funds, the state is to consider population, status of planning, attainment of air quality standards, metropolitan area transportation needs, and other factors necessary to ensure an appropriate distribution of funds to carry out federal requirements.[24] TxDOT's Division of Transportation Planning and Programming reviews the formulas for distribution of PL-112 funds at each decennial census.

The Transportation Planning and Programming Division calculates and distributes money to the MPOs according to the current formula, which was approved by the Texas Transportation Commission on August 29, 1996. In distributing PL-112 funds, TxDOT sets aside $1,000,000 for nonattainment areas and $1,000,000 for TMAs due to their additional responsibilities. Out of the $1,000,000 allotment for nonattainment areas, each nonattainment area receives at least $50,000, with the remainder distributed to each nonattainment MPO based on its share of the state's nonattainment population. The same formula is used to

distribute the $1,000,000 allotment to TMAs. The remaining funds are allocated to all of the MPOs according to each MPO's pro rata share of the population. The minimum apportionment per MPO in Texas is $50,000.[25]

TxDOT distributes FTA 5303 funds to MPOs based on each MPO's pro rata of the state population. Any MPO that does not receive $20,000 according to this distribution formula (e.g., Texarkana) is automatically increased to that amount. Then, the population and funding of MPOs whose allocations were adjusted are subtracted from the statewide totals, and the remaining funds are distributed to the other MPOs based on the new statewide totals.[26] Table 2 in Chapter Two shows the total allocation of TPF funds to each non-TMA MPO in Texas for Fiscal Year 2002.

TxDOT provides the 20% match in the form of in-kind services. The Transportation Planning and Programming Division provides the 20% match for FTA 5303 funds but applies the match on a statewide basis. TxDOT District Study offices provide the 20% match for PL-112 funds individually to each MPO. The match may consist of staff time and expenditures for monitoring and assisting MPOs.[27]

When an MPO's unobligated balance and new allocation of PL-112 funds exceed the maximum allocation for a two-year period, the excess amount is transferred to a sub-category of federal funds, the General Transportation Planning Fund (GTPF). Periodically, TxDOT will issue a call for projects to utilize this fund. The money may be used by MPOs or the state for special planning studies that are unique and will make a special contribution to all of the MPOs.[28] For example, in the 2002 fiscal year, the Waco and Lubbock MPOs received a total of $17,500 to cover the costs of administrating the Texas Metropolitan Planning Organization, a statewide association that helps Texas MPOs coordinate with one another.[29,30]

TPF and local and state matching dollars are the primary sources of funding for MPO planning activities. However, there are many other sources of which MPOs should be aware. For example, many small MPOs use funding from FTA under 49 U.S.C. §5307 to plan, equip, operate, and evaluate their mass transit systems. The San Luis Obispo (California) Council of Governments received a grant of $50,000 from FHWA for its Scenic Byway program, and the Johnson City (Tennessee) MPO received a Livable Communities Program Public Access Grant from ESRI, a manufacturer of software for geographic information systems (GIS). In addition, other state departments and local governments may offer grants that may be applied to transportation planning purposes.

1.5 The Roles of MPO Committees

The governing body of the MPO is the policy committee. This committee makes policy and approves plans for the MPO, including the MTP, MTP updates, the TIP, and TIP updates, and the UPWP.[31] The policy committee also hires the MPO staff, beginning with the Transportation Planning Director, and establishes fiscal and personnel management

agreements with the fiscal agent. Finally, the policy committee must regularly review the boundary of the planning area and make minor changes if necessary.

Local elected officials, representatives of major transit authorities, airports, rail operators, and port authorities, and appropriate state officials must serve on the policy committees of TMAs. The federal legislation encourages the MPOs to add more representatives at a later time, if appropriate, in order to expand representation.[32] The rules do not specify the composition of the committees in non-TMAs; however, the Texas Department of Transportation recommends that all MPO policy committees have elected officials. For example, the Laredo MPO Policy Board has 11 total members, including 9 elected officials, 7 of whom have voting powers.

Many MPO policy committees choose to appoint a technical advisory committee to evaluate technical issues and make recommendations for the MTP and TIP. The technical advisory committee may also be asked to develop and present alternative scenarios in its recommendations. The technical committee should include individuals with expertise or an interest in transportation issues. However, the technical committee does not have the authority to make policy or approve plans.

MPO policy committees are free to appoint whatever subcommittees they deem useful in the planning process. For example, the MPOs in Bryan-College Station, Longview, and San Angelo have citizens' advisory committees. Subcommittees may be ad hoc or permanent, depending on the need.

1.6 The Roles of State and Federal Agencies in Metropolitan Planning

Several entities other than the MPO have responsibilities in the metropolitan planning process, including the state DOT, state governor, the Federal Highway Administration (FHWA), and the Federal Transit Authority (FTA). For the most part, these responsibilities are advisory rather than regulatory. However, there are a few areas in which MPOs must meet specific requirements.

Every three years, the MPOs and the state must certify to FHWA and FTA that each MPO has an adequate public involvement component, is considering all the relevant information in its planning process, and is complying with all procedural requirements set forth in TEA-21 and in other relevant legislation, such as NEPA.[33] TMAs go through a certification process with appropriate reviewing agencies going over the planning process. Non-TMAs have a self-certification process that is reviewed by TxDOT's Transportation Planning and Programming and Public Transportation Divisions, FHWA, and FTA with the submittal of their Unified Planning Work Programs.

The state DOT's responsibilities are divided between its two roles as administrator and manager of the metropolitan planning program and as planning partner. As the program administrator, the state DOT distributes money from FHWA and FTA to the MPOs. Because

it is the distributor, the state DOT has a duty to ensure that funds are being spent properly. For this reason, the state DOT reviews and approves all revisions to the UPWP and all annual performance and expenditure reports submitted by the MPOs.[34]

As planning partner, the state DOT cooperates with MPOs in developing MTPs, TIPs, and UPWPs.[35] If it chooses to, the state DOT may review the planning process of non-TMA MPOs.[36] Non-TMAs do not undergo a full certification review by FHWA and FTA but most show compliance when they submit their UPWPs to TxDOT.

The state governor is authorized to approve MPO boundary designation and redesignation and approve the TIP.[37] However, in Texas, the authority to approve the TIP has been delegated to TxDOT.

Two federal agencies, FHWA and FTA, must approve the initial UPWP for each MPO.[38] However, FHWA and FTA do not have the authority to require modifications to the plans or the planning process if they fail to meet requirements.

Resources

- FHWA and FTA. "A Guide to Metropolitan Transportation Planning Under ISTEA - How the Pieces Fit Together." Available: http://ntl.bts.gov/DOCS/424MTP.html.

- U.S. DOT. "Fact Sheet on Metropolitan Planning" Available: http://www.fhwa.dot.gov/tea21/factsheets/metropln.htm.

CHAPTER TWO

HOW THE SMALL TEXAS MPOS ARE DOING

The state of Texas has 17 small (non-TMA) MPOs that face the challenge of meeting federal requirements with limited personnel and funds. Table 2 provides a summary of the basic characteristics of these MPOs.

Table 2
Selected Attributes of Non-TMA MPOs in Texas

MPO	2000 Population[1]	Staff Size	Federal TPF Funds (PL & 5303)	Local Planning Funds[2]	FY02 Planning Budget[2]
Abilene Urban Transportation Study (UTS)	107,041	2	$264,400	$25,775	$423,275
Amarillo MPO	179,312	2	$267,600	$22,990	$2,610,990[3]
Brownsville MPO	165,775	3	$191,103	$18,243	$347,317
Bryan-College Station MPO	132,500	3	$234,990	$55,076	$634,674[4]
Harlingen-San Benito MPO	110,770	3	$159,189	$0	$224,189
Killeen-Temple UTS	239,733	5	$384,730	$0	$472,251
Laredo UTS	175,586	2	$272,214	$27,221	$329,435
Longview MPO	78,070	3.5	$206,425	$46,015	$306,940
Permian Basin Regional Planning Commission (Midland-Odessa)	210,616	2	$438,459	$682,700	$1,581,159[5]
San Angelo MPO	87,969	3	$220,228	$0	$283,448
Sherman-Denison MPO	56,168	2	$119,000	$16,000	$229,000
Southeast Texas RPC	253,960	4.5	$600,000	$0	$740,000
Texarkana MPO (TX and AR)	72,288	3	$204,250	$10,750	$322,100[6]
Tyler UTS	101,494	2	$170,122	$8,969	$221,591
Victoria MPO	61,529	2	$134,680	$0	$159,680
Waco MPO	153,198	4	$223,500	$10,000	$363,500[7]
Wichita Falls MPO	99,396	2	$278,014	$3,000	$410,014

1 Source: National Archives and Records Administration. Office of the Federal Register. Federal Register. May 1, 2002 (Vol. 67, No. 84). Pp. 21,961-21,967. Accessed Aug. 6, 2002 via the World Wide Web: http://www.access.gpo.gov/su_docs/aces/aces140.html
2 Includes only those funds designated for transportation planning activities. May include FTA 5307 funds, state in-kind match, or State Planning and Research funds.
3 On behalf of Amarillo, TxDOT contributed $2,290,400 for the Loop 335 Feasibility/IH27 Expansion Study.
4 Bryan-College Station carried over $220,306 from Fiscal Year 2001 for TEA-21 Federal High Priority Project Number 1820.
5 PBRPC received $390,000 from the City of Odessa for the implementation of the Traffic Master Plan and $410,000 from the TxDOT District Office for three special studies.
6 Texarkana received $17,000 in funds from the State Planning and Research (SPR) Program and the Arkansas Highway and Transportation Department and an in-kind match of $90,000 from the Texas Department of Transportation.
7 Waco received $50,000 from the TxDOT District Office for the Brazos River Crossing Corridor Study.

A 2002 survey shows that, despite their differences in geography, funding, political climate, and transportation issues, these MPOs experience many of the same challenges. They struggle with activities such as land use forecasting and travel demand modeling that require a significant investment of time and an experienced staff that is competent in the technical skills of planning. The MPOs feel confident about their ability to perform more basic tasks, such as the production of the UPWP and the Annual Report, which require record-keeping and accounting skills. A few of the MPOs are particularly proud of their accomplishments in long-range planning and public involvement, but many other MPOs list these activities among their most challenging.

When asked to rate a list of required activities on a scale from one (not challenging) to five (very challenging), the small MPOs rated land use forecasting and travel demand modeling as the most challenging, both with average scores of 4.2 (See Table 3). Public involvement and project prioritization received scores of 3.7,

How the Survey Was Conducted

In order to create a guidebook that would be useful to these organizations, the research team conducted a survey of all seventeen non-TMA MPOs in Texas. A printed questionnaire was distributed to the directors of these MPOs at a meeting of the Texas Metropolitan Planning Organization in March, 2002, in Austin and subsequently through email and the Postal Service between March and May. The questionnaire includes nine questions about the challenges these MPOs face, their strengths and weaknesses, and the topics about which they would like to learn more or receive further training. Fifteen of the MPOs completed the questionnaire. For a copy of the questionnaire, see Appendix 2.

The results of the survey were used to determine, in part, the topics that this guidebook would cover. Based on the survey results, the research team decided to focus on complex tasks, such as land use forecasting methods and public involvement, rather than on administrative reporting requirements.

Table 3
How challenging are the MPOs' required activities?

Activity	Average Rating*
Land Use Forecasting	4.2
Travel Demand Modeling	4.2
Public Involvement	3.7
Project Prioritization	3.7
Long Range Planning	3.6
Financial Planning	3.4
Environmental Justice	3.3
Congestion	3.1
Air Quality Conformity	2.9

***On this scale of 1 to 5, 1 signifies "no challenge" and 5 signifies "very challenging."*

indicating that they were considered the next most challenging activities. Long range planning received a score of 3.6.

When asked which of the required products was the most difficult to generate, seven of the MPOs chose the travel demand forecast inputs. The respondents explained that producing these inputs requires a great deal of technical expertise, time, and funding. Some of the MPOs mentioned that they are struggling with staff turnover, meaning that they have difficulty recruiting and retaining qualified staff. One respondent described the forecast inputs as "a moving target." Another seven MPO respondents stated that the Metropolitan Transportation Plan was the most challenging item to produce. The MTP requires a lot of time, public involvement, and coordination with partners, the respondents wrote. In addition, the required data collection, 25-year demographic forecasts, and financial plan are difficult to complete. One respondent mentioned that the requirements for the plan often change, making it even more challenging to produce a plan that will comply with all the rules (See Table 4).

Table 4
What is the most challenging required task for MPOs?

Task	# Responses	Reasons for Difficulty
Travel Demand Forecast Inputs	7	A moving target Technical expertise required Time-consuming Turnover of experienced staff Never done it before Lack of staff expertise Requires detailed review
Metropolitan Transportation Plan	7	Data collection Financial forecasts Public involvement Demographic forecasts 25-year Projections Frequent changes to requirements Time-consuming
Travel Demand Forecast Inputs AND Annual Listing of Projects	1	Lack of funding for data collection Hard to get project data from the state

When asked which required document was the least challenging to produce, the MPOs had slightly differing opinions. Eight MPOs chose either the Annual Report or the UPWP. These MPOs are confident in their accounting skills and constantly monitor their funding and work tasks; therefore the Annual Report and UPWP are simple documents to produce. Three of the MPOs said that the Metropolitan Transportation Plan represents their best work. These MPOs say they take the MTP process seriously; they have established good procedures for producing the plan with substantial public involvement and they work hard.

Two MPO respondents thought they were best at prioritizing projects in the TIP or updating the TIP, and one respondent thought that public involvement was his or her MPO's greatest strength. One MPO respondent wrote that his or her organization is not "best" at anything because the staff doesn't have enough time to become proficient at any one task (See Table 5).

Table 5
What are small Texas MPOs best at?

Task	# Responses	Reasons for Success
Unified Planning Work Program	6	Staff manages budget well Sheer repetition Constant monitoring of funding & projects Set format
Metropolitan Transportation Plan	3	Public provides input on the big picture Staff has developed process Staff takes plan development seriously Hard work
Transportation Improvement Program	2	No response
Annual Performance and Expenditure Report	1	Simply a reflection of the past year
Providing a forum for public discussion	1	No response
Unified Planning Work Program AND Annual Performance and Expenditure Report	1	We have the expertise
Nothing	1	Not enough time to be proficient at any one task

Despite the fact that merely complying with the federal requirements is a challenge for many of these MPOs, all but one respondent indicated that his or her MPO participates in activities that go beyond basic plan development. Six MPOs are working on various local or regional transportation projects while four MPOs are conducting studies related to railroad systems. Three respondents are developing or interpreting their cities' street or thoroughfare master plans, and two are developing or maintaining websites. Two MPOs are also participating in economic development activities. Other activities mentioned include data compilation and collection, hazardous materials planning, reviewing site plans and subdivision plats, and overseeing transit operations (See Table 6)

Table 6
What projects or activities are MPOs working on beyond the required tasks?

Activity	# of MPOs	Activity	# of MPOs
Special projects for local governments	6	Serve as team members for value engineering studies	1
Railroad planning	4	Traffic signalization studies	1
Master Street/Thoroughfare Plan	3	Hazardous materials planning	1
Website development	2	Intelligent Transportation Systems	1
GIS Creation and Maintenance	2	Presentations for the Texas Transportation Commission	1
Land use/Neighborhood planning	2		
Review of grant applications	2	Local administrative tasks	1
Economic development	2	Administration of the Texas Metropolitan Planning Organization	1
Corridor studies	2		
Transit studies or demonstration projects	2	MPO newsletters	1
Map production	2	Security issues	1
Compiling accident and traffic data	2	Census	1
Oversee transit operation	1	Promote projects funded by the federal Congestion Mitigation and Air Quality Program	1
Review plats and site plans	1		
Regional access management guidelines	1	Highway project tracking	1
Identification of key transportation users	1	Public involvement beyond the requirements	1
Historic preservation	1	National Transit Database Reports	1
TELUS[1] beta test site planning	1	Coordinating with the council of governments to discuss regional planning	1
Oversee nonattainment activities	1		
Surveys	1		
Disadvantaged business program	1	Bike and pedestrian planning (enhancements)	1
Expansion of MPO study area	1		

1 Transportation, Environment, and Land Use Software

Still, there are many activities that the MPOs would like to engage in but currently cannot because of their limited resources. The most popular activities listed under this question include more extensive monitoring or analysis of the transportation network (4 votes), freight planning (3 votes), more or better public involvement activities (3 votes), and research on alternative transportation modes (2 votes). Some respondents also mentioned

producing higher quality work, creating an ITS plan, conducting user surveys, performing a Cost-Benefit Analysis of projects, and improving cost estimates (1 vote each).

The MPO respondents are interested in receiving more information or training on the most challenging tasks that they face. Six respondents indicated that they would like to learn more about travel demand modeling, including TransCad and Tranplan modeling software and long-range forecasts. Three respondents would like to learn more about land use forecasting, and two respondents mentioned freight studies and forecasting as potential topics for further exploration. Two respondents would like to see general courses for new staff covering topics such as government accounting and spending. Other topics of interest include enhancement grant applications and management, alternative financing and procurement methods, environmental justice, alternatives analysis, strategies for streamlining project selection and tracking, and identifying available funding estimates for the MTP (1 vote each; See Table 7).

Table 7
On what topics would MPOs like more information or training?*

Topic	# MPOs	Topic	# MPOs
Travel demand models and forecasts (including Transcad & Transplan)	6	Streamlining of project selection and tracking processes	1
Land use forecasting	3	Alternative financing	1
Freight forecasting & studies	2	Estimating funding for MTP	1
General courses for new staff (e.g., government accounting)	2	Enhancement grant applications and management	1
Land use-transportation linkages	1	Alternatives analysis	1
Smart growth methods	1	Procurement	1
Data collection, development, and maintenance	1	Analysis of project databases from other MPOs	1
Environmental justice	1	Transit planning	1
Best practices from small MPOs	1	Air quality	1
Substance Abuse Part 40	1	Long range planning	1
Public involvement	1	Everything	1

**MPOs were permitted to list as many topics as desired.*

From the survey responses, one learns that the long-range, multifaceted tasks are the most challenging tasks for the MPOs, as one would expect, and that they are also the tasks for which the MPOs are most interested in receiving further training. It is clear that the MPOs want to improve their staffs' competence in these areas and that they are currently limited by the difficulty of attracting and retaining qualified personnel and recruiting recent graduates to live in small cities. Furthermore, the survey responses demonstrate that existing MPO staff members are stretched thin when considering the multitude of tasks in which MPOs are engaged.

In addition to exploring best practices for travel demand modeling, land use forecasting, and the other tasks that the MPOs rated as challenging, it would be fruitful to explore strategies for recruiting qualified planners to work in these small cities and keeping them there over the long term. MPOs would benefit from a study of the reasons why current staff members at small MPOs remain in their positions and why other staff members have resigned and moved on to other positions. Based on conversations with several MPO directors, the primary motives for the low level of interest in jobs at small MPOs seem to be inadequate salaries and the reluctance on the part of prospective applicants to move to small cities. However, this question demands further exploration.

In order to expand recruiting efforts, MPOs may wish to advertise available positions with career advisors at Texas colleges that offer engineering or planning degrees. Appendix 3 provides the contact information for career advisors or department heads at these colleges.

CHAPTER THREE

ACCOMPLISHING THE BASIC TASKS

For some MPOs, just accomplishing the basic, required tasks can be daunting. These tasks include generating a long-term metropolitan transportation plan, producing a short-term transportation improvement program, forecasting travel demand, figuring out how to finance the projects in the plan and program, and involving the public every step of the way. These tasks are challenging when faced with limited time, funds, and expertise. Furthermore, many of the approaches used by MPOs with multi-million dollar budgets and large staffs cannot be adapted to the circumstances of MPOs with much smaller budgets and staffs. The purpose of this chapter is to outline each of the requirements, describe the basic processes, give examples, and provide helpful resources for small MPOs.

3.1 The MTP: Planning for Twenty Years of Transportation Needs

A Metropolitan Transportation Plan (MTP) is a community's vision of its transportation system in twenty to twenty-five years. This living document is the central part of the cooperative, continuous, and comprehensive framework for transportation decision-making in metropolitan regions and in the state, which must coordinate its statewide plan with individual MTPs.[39] According to TEA-21, the goal of the MTP is to "provide for the development and integrated management and operation of the transportation systems and facilities."[40] The MTP must cover a twenty-year planning horizon, include both short- and long-term projects, cover the breadth of facilities needed for a regionally-coordinated intermodal transportation system, and be financially constrained.[41] Some MPOs choose to use a twenty-five-year time horizon, in part to allow extra time to incorporate new information or technology into the planning update process.

Not all of the recommended transportation improvements will necessarily be implemented. The MTP is an evolving guide rather than a prescription. It includes a list from which improvement projects may be chosen as capital funds become available. The projects in the list may change over time as conditions and priorities change. However, a project must be in the MTP before it can be built with federal funds.

In developing the MTP, MPOs should consider social, economic, and environmental goals at the local, state, and national levels as well as local land use and comprehensive plans. To that end, TEA-21 directs MPOs to consider the following seven planning issues in the planning process:[42]

- Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;

- Increase the safety and security of the transportation system for motorized and nonmotorized users;
- Increase the accessibility and mobility options available to people and for freight;
- Protect and enhance the environment, promote energy conservation, and improve quality of life;
- 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.

At a minimum, the MTP must contain three components: a list of facilities that together will function as an integrated transportation system, a financial plan that demonstrates how the MTP can be implemented, and an assessment of capital investments and other measures needed to preserve and make use of the existing transportation system. Beyond these requirements, MTPs usually include a statement of goals, an assessment of current transportation conditions in the region, projections of population and traffic conditions, and discussions of proposed transportation investments and policies. However, MTPs vary widely in length, content, format, and style.

The process for developing the MTP is left to the MPO, within certain parameters. First, the process must consider all modes of transportation, including pedestrian walkways and bicycle facilities. Second, the MTP must be published or otherwise made available for public review. Third, the public, including transit users, and major transportation providers, such as transit authorities, airports, and freight shippers, must have an opportunity to comment on the MTP and regular revisions. Fourth, the MTP must be regularly updated. MPOs in nonattainment or maintenance areas (areas that were categorized as nonattainment at any time in the past) must review and update their MTPs every three years. All other MPOs must update their plans every five years. MPOs may choose to amend their plans between these regular updates, however, to more accurately reflect revenues, costs, and changing transportation needs.

There are many different ways to develop the MTP. The Oregon Visions Project's booklet "A Guide to Community Visioning" describes one technique for community planning called the Oregon Model.[43] The Oregon Model has four steps for completing a community plan:

1. Profiling the Community: Where are we now?
   In this step, planners gather and analyze information about the social, economic, and natural conditions of the community and, through surveys or community meetings, develop a statement of community values.

2. Analyzing the Trends: Where are we going?
   In Step 2, planners analyze trend data, determine the impacts of trends, and develop probable future scenarios through task forces, community meetings, or other means.

3. Creating the Vision: Where do we want to be?
   At this point, planners and the community work together to develop a preferred future scenario that matches the community's values and is realistic and achievable.

4. Developing an Action Plan: How do we get there?
   In the final step, community members and planners define specific action steps to take to bring about the preferred scenario.

These four steps make up a loose framework that can be used for nearly any planning activity. All MPOs are engaging in Step 1 to a certain degree by gathering and interpreting demographic, land use, and traffic data. The community values statement could be accomplished through an MPO's public involvement procedures. Step 2 involves trend analysis, modeling, and public participation; for small MPOs, these duties may be shared with the state DOT. The important thing to remember in Step 2 is to involve the public as early as possible in the visualization of possible future scenarios. The completion of the MTP comes in Step 3, where the public decides what transportation projects it would like to implement in the next 20 years based on anticipated funding. The TIP is an Action Plan, so it is created in Step 4. The TIP should implement the vision in the MTP and describe the projects that will be carried out in the next three years to work toward the desired transportation system.

An important part of developing the MTP is deciding which projects to include in the plan. Local jurisdictions in the MPO will all have ideas about what transportation improvements are needed and when they should be constructed or developed. However, because the plan must be financially constrained, often not all of the projects that a community desires can be listed in the plan. Therefore, the MPO's policy committee must determine which projects deserve the highest priority.

Many MPOs develop a simple method for selecting projects to include in their MTP. The first step is to develop a list of criteria for selection. These criteria might include cost-effectiveness, safety improvements, or benefits for persons without access to automobiles, for example. The criteria should have some connection to the goals and objectives outlined in the MTP and may reflect the seven planning factors established in TEA-21. The second step is to determine the relative importance of each of these criteria, or their weights. A simple approach for determining the weight of each criterion is to have each policy committee member individually allocate a total of 100 points to the various criteria. The weights are then calculated by averaging the scores that each criterion receives from the committee members. The third step is to develop some way to evaluate each project on each of the criteria. Some criteria lend themselves to numerical measures, others to simple ratings of high, medium, or low. The evaluation often includes an assessment of both the significance of the problem addressed by the project and the probable improvement due to the project. The final step is to multiply the score for each criterion by the criterion's weight and add up the weighted scores to calculate a total score.

For example, the Permian Basin Regional Planning Commission (PBRPC) steering committee members use the following ten criteria to rank projects in the Midland-Odessa area:[44]

- ✓ Promotes effective land use or development
- ✓ Provides accessibility, mobility, and congestion relief
- ✓ Builds connectivity and provides circulation within the existing network
- ✓ Is compatible with the environment
- ✓ Has strong public support
- ✓ Adequate right-of-way is currently available
- ✓ Preserves existing system
- ✓ Improves safety and/or reduces accidents
- ✓ Promotes intermodal usage
- ✓ Improves facility aesthetics by providing landscape

PBRPC steering committee members use a simple but quantitative method for evaluating projects: each member simply gives the project a score from 1 to 5 based on his or her perception of the project's strength or weakness under each criterion. All scores are then added up and all members' scores are averaged.[45] The project with the best average score will be considered the highest priority for construction.

The prioritization of projects is also important in advancing projects from the MTP, a long-term vision document, to the TIP, a short-term plan of action. A basic system of criteria and rankings can be used in both the MTP and the TIP. However, before an MPO committee can rank projects, it must estimate future demand on the transportation system and engage the public to identify the community's needs.

3.2 Travel Demand Forecasting Models: Understanding the Models and Generating Land Use Forecasts

Travel demand forecasting models are an important tool in the development of MTPs. These models provide projections of traffic levels for a proposed transportation system and expected land use patterns. They can be used to identify future problems and test the effectiveness of proposed solutions. Although originally designed to evaluate the need for additional capacity, these models can also be used to test the impact of demand management policies and land use policies on travel patterns.

MPOs vary widely in their in-house modeling capability. Many large MPOs have well-trained staff that develop, maintain, and apply the regional model, but even some large MPOs hire outside consulting firms to perform this task. Few small MPOs have such capabilities in-house and often rely on the state Department of Transportation to generate travel forecasts, as is the case in Texas. Forecasting models are not required for the development of the MTP, but they are an essential part of the conformity process in non-

attainment areas (See Section 4.3) and must also be used in forecasting transit ridership in applications for federal funding for light rail projects.

Travel demand forecasting models consist of four steps: trip generation, trip distribution, mode split, and assignment. In the trip generation step, the model uses the land use forecast to estimate the numbers of trips originating and ending in each zone, called "productions" and "attractions," respectively. Productions are usually estimated as a function of the number of households and levels of auto ownership, while attractions are estimated as a function of jobs. In the trip distribution step, the model estimates the number of trips originating in one zone and ending in another zone. The result of this step is a "trip table," a matrix showing the flow of trips between each pair of zones. To estimate these flows, the trip distribution step usually uses a "gravity model," which assumes that trip flows decline as the distance between zones increases. In the mode split step, the share of trips by each mode (e.g. auto, shared-ride, transit, bicycle, pedestrian) for each zone pair is estimated based on the relative travel times and other factors. In the assignment step, vehicle trips between each pair of zones are assigned to specific roads in the transportation network based on the travel times along different routes. The output of the model is a projection of traffic volumes, speeds, and level-of-service on the transportation network (See Figure 1).

TxDOT, which does the travel demand modeling for all MPOs in the state except for Houston and Dallas-Forth Worth, requires MPOs to submit land use forecasts, an input to the travel demand forecasting model. Land use forecasts are a representation of expected patterns of development in the future. They are based on a system of zones, usually called "traffic analysis zones" or TAZs. These zones are often the size of census tracts but may be somewhat smaller or larger. For each zone, the MPO must estimate population, households, average income, vehicle ownership, and employment by type. Although many large MPOs use sophisticated land use forecasting models, the options available to small MPOs are more limited.

Land use forecasts usually start with a population projection for the entire region. The Texas State Data Center provides three population projection scenarios for counties, Councils of Government, and Metropolitan Statistical Areas in Texas based on the cohort-component method. The three scenarios differ in their assumptions about net migration rates for the county or region. The Zero Migration scenario reflects only natural population changes through births and deaths. The One-Half 1990-2000 Migration (0.5) Scenario assumes that net migration rates in the future will be equal to one-half the net migration rate from 1990 to 2000. If net migration was positive during that period, then this scenario will assume lower population growth due to in-migration. If the net migration rate was negative during that period, then this scenario will assume lower population losses due to out-migration. The 1990-2000 Migration (1.0) Scenario assumes that net migration rates in the future will be the same as net migration rates from 1990 to 2000. Each MPO must decide which of these scenarios, if any, represents the most likely future of the region. If none of the scenarios is deemed likely, the MPO has the option of developing its own population projection. The chosen population projection is often called the "control total" for the region.

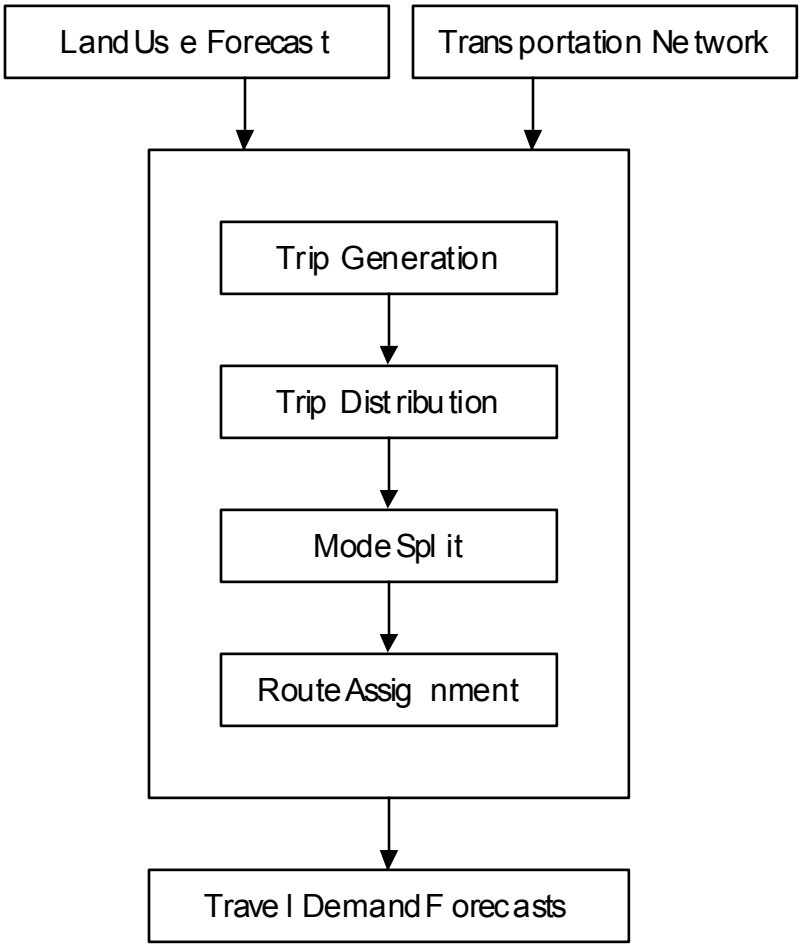

Figure 1 Travel Demand Model

Growth (or decline) in population by zone must then be estimated through a process of "allocation." The starting point is the last known distribution of population by zone, usually for the last year of the U.S. Census, generally called the "base year." The projected growth in population can be allocated to zones and added to base year population by zone in a number of ways. The simplest way is to simply increase base year population in each zone proportionately based on the ratio between projected population for the region and base year population for the region. A more sophisticated approach takes into account the growth potential of each zone, based on existing population, land available for development, land use regulations such as zoning, and the attractiveness of the zone for new development. Geographic Information Systems (GIS) can facilitate this process, but many small MPOs use an expert-judgment approach for the allocation process. In this approach, a panel of experts knowledgeable about development trends in the region provide input about the relative attractiveness of zones for development. Based on this input and other available data, MPO staff then allocates population growth to the zones where growth is most likely to occur.

The rest of the elements of the land use forecast are usually estimated from the

forecast of population by zone and based on the most recent census data. For example, the number of households in a zone can be estimated by dividing the projected population in the zone by the ratio of persons per household for that zone from the last census. Because household size is declining in many places, some MPOs project future ratios of persons per household based on the trend between census years. Likewise, auto ownership rates can be assumed to have remained constant from the last census, or the trend between census years can be estimated. Average income for each zone should, at a minimum, be adjusted for inflation but can also be adjusted based on trends between census years.

Projecting employment by type is more challenging. First, the base year distribution of employment by type by TAZ must be estimated. One source for employment data is the Current Employment Statistics Program of the Texas Workforce Commission, which estimates employment by industry for metropolitan areas in Texas based on a survey of a sample of employers. Another source of employment data is the U.S. County Business Patterns, often available through the state agency responsible for collecting these data. These data cover all firms that must file for unemployment insurance and include street addresses, couty/city codes, number of employees, payroll, and Standardized Industrial Classification (SIC) codes. These data can be supplemented with commercially available databases such as digitized yellow pages. The Census Transportation Planning Package, which provides data on the number of employed residents living or working in each zone, is also useful in building the base year database, although this source does not provide data on employment by type. It is important to validate the base year employment estimates through field work and phone calls to major businesses.

Projections of employment by type are often based on the population projection and the base year estimates of the distribution of employment by type. Total employment projections can be derived from the population projection and the ratio of employment to population for the base year. Adjustments to this ratio can be made depending on local conditions and evidence of changes in growth or decline in the workforce relative to population. Changes in employment must then be allocated to TAZs. The simplest approach is to change employment in each TAZ by the same rate that total employment is changing. A more sophisticated approach takes into account the zones where employment change is most likely to occur. Techinques similar to those used for allocating population changes can be used to allocate employment changes.

Sophisticated – and expensive – computer models are available that generate land use forecasts or that integrate land use and travel demand forecasting. For small MPOs, the options are more limited. One example is Quick Response System II (QRS II), a widely-used transportation forecasting model that runs in a Microsoft Windows environment and includes a component for land use forecasting. The land-use forecasting component works well for cities as small as 40,000 to 60,000 population but not smaller, according to Alan Horowitz, developer and marketer of QRS II. The entire package is relatively inexpensive ($195 as of June 2002) and comes with extensive documentation, but some level of staff expertise in modeling is needed to effectively use this tool. A newer option is CorPlan, a geographic information system-based tool that relies on neighborhood-level distinctions (community elements) to estimate land development potential and how that potential

translates into the location of households and jobs. CorPlan, available for free through FHWA, was developed by the Thomas Jefferson Planning District Commission as a part of a project funded by a Transportation and Community and System Preservation Pilot Program (TCSP) grant from FHWA in 1999.[46]

Resources

- Travel Model Improvement Program (TMIP). Available: http://tmip.fhwa.dot.gov/
- Texas State Data Center. Available: http://txsdc.tamu.edu/tpepp/
- FHWA. Land Development Patterns: Forecasting Methods. Available: http://www.fhwa.dot.gov/planning/toolbox/land_develop_forecasting.htm
- FHWA. Case Study: Albany, NY. Available: http://www.fhwa.dot.gov/planning/toolbox/albany_overview.htm
- NCRHP Report 423A. Land Use Impacts of Transportation: A Guidebook. Transportation Research Board, 1999.
- Inside the Black Box: Making Transportation Models Work for Livable Communities. Citizens for a Better Environment. Available: http://www.cbemw.org/blackbox.html
- Land Use Impacts of Transportation: A Guidebook. National Cooperative Highway Research Program, Report 423A, 1999. Available through the Transportation Research Board: http://www.nationalacademies.org/trb/bookstore/
- Texas Workforce Commission. Employment Estimates. Available: http://www.twc.state.tx.us/lmi/lfs/type/currentestimates/currentestimateshome.html
- AJH Associates' QRS II Page. Available: http://www.execpc.com/~ajh/index.html
- FHWA. "Resources: Land Use and Transportation Modeling Tools - CorPlan, Charlottesville, VA."Available: http://www.fhwa.dot.gov///////tcsp/corplan.html.

3.3 The Public Involvement Program: Getting Stakeholder Input

TEA-21 requires that MPOs utilize proactive public involvement procedures that go beyond providing early notice of decisions to providing opportunities for early and continuing involvement throughout the transportation planning process.[47] The policy of the FHWA and FTA is to create "an active role for the public in the development of transportation plans, programs and projects from the early stages of the planning process through detailed project development."[48] In addition, MPOs must make a special effort to reach out to people who are traditionally underserved by transportation projects, such as low-income and minority households. Furthermore, MPOs need to obtain public input on the public involvement plan itself.

In order to satisfy these requirements, MPOs must go beyond traditional public hearings. In order to reach all transportation stakeholders, including nontraditional stakeholders, MPOs must use a combination of techniques. After determining what questions to ask, planners should think about who needs to be asked and how best to ask them. Planners with limited resources must be very creative and willing to try new techniques in order to do this effectively.

Scores of reports have been written on effective public involvement strategies. One particularly helpful report is "Public Involvement Techniques for Transportation Decision-Making" published by FHWA and FTA.[49] This document describes myriad strategies and discusses their strengths and weaknesses, how much staff time and money are required, and the appropriate contexts for employing the techniques. Key person interviews, speakers' bureaus, focus groups, and informal public opinion surveys are merely a few examples of the low-cost techniques discussed in the report. For instance, the report describes how the Savannah MPO (urbanized area population: 208,886[50]) in Georgia expands participation at meetings by allowing people to phone in comments during the meeting. The Ada Planning Association in Boise, Idaho (urbanized area population: 272,625[51]), hosts special meetings and events at nontraditional places. The Killeen-Temple Urban Transportation Study hosts meetings at schools, churches, a youth center, and a senior center.[52] Other potential sites include shopping centers, county fairs, block parties, and sporting events.

The best places to find examples of innovative public involvement techniques are other MPOs. Lon Wyrick, Executive Director of the Thurston Regional Planning Council (TRPC) in Olympia, Washington (urbanized area population: 143,826[53]), says TRPC goes beyond the traditional public meeting by hosting public forums, retreats, and fairs.[54] Wyrick says the staff also goes to schools and keeps neighborhood associations involved in the process. They also created a new interactive website recently. As a result of all this work, when the Thurston RPC presents a plan to policy makers, it can certify that the plan has been extensively reviewed by the public.

The Ithaca-Tompkins County Transportation Council (ITCTC), in New York, is an example of an MPO that utilizes the citizen task force approach. In response to ISTEA,

ITCTC (urbanized area population: 53,538[55]) implemented a "community-based, strategic, comprehensive planning process" to develop its first long-range plan. At the core of this process were seven citizen volunteer transportation task teams that worked to identify and articulate a community vision. Mailing lists and media notices were used to invite citizens to join the task teams, whose members included five to seven citizens each representing a cross-section of the community. The teams met twice a month for two hours at a time. During these meetings, they refined a list of major transportation issues, generated missions statements, prioritized issues, and developed goals, objectives, strategies, and action items that were recommended to ITCTC for inclusion in the long-range plan. Over a five-month period, the ITCTC staff facilitated over 70 task team meetings. In addition, three general public meetings and one transportation fair were held during the planning process. This successful effort demonstrates how a small MPO with limited resources can meet the requirements of a meaningful public involvement program.[56]

Similarly, the Roanoke Valley Area MPO (RVAMPO) in Roanoke, Virginia (urbanized area population: 197,442[57]) uses a single Citizens' Advisory Committee to help with long-range plan updates. Michael Gray, Director of Transportation for RVAMPO, says that it is a time-consuming process. However, he finds that it is easier to develop consensus at the beginning than to try to sell the plan late in the process. [58] MPOs in San Angelo, Bryan-College Station, and Longview, Texas, also have Citizens' Advisory Committees.

In contrast to hosting a series of small-group team meetings, an MPO can get large numbers of community members to attend a single event by hosting a charrette at a critical point in the planning process. The Charlottesville-Albemarle Metropolitan Planning Organization (CAMPO) in Charlottesville, Virginia (urbanized area population: 81,449[59]) does just that. Charrettes can be costly, so CAMPO saves money by getting community groups involved in publicizing and facilitating its charrettes. Community members help get the word out about the workshops and even facilitate the events themselves after receiving training from the MPO. They use the methods recommended by the Citizen Planning Institute of Florida. CAMPO has also developed various gaming exercises, such as the Traffic Diet Game, to help citizens of all ages grasp planning concepts and provide ideas in a structured but fun way.[60] Harrison Bright Rue, Executive Director of the Charlottesville-Albemarle Metropolitan Planning Organization, says the MPO creates efficiencies by generating ideas and setting priorities at the same workshops and by addressing rural planning and urban planning and transportation and land use all at the same time. [61] The Community Planning Association of Southwest Idaho (COMPASS), located in Boise, uses charrettes as well, according to Executive Director Clair Bowman. Bowman says they were the first to use the open house style of meeting as opposed to the testimonial model. COMPASS also uses focus groups and public opinion polls. [62]

In addition to considering how to bring stakeholders together and in what format, MPOs should give some thought to how they will communicate with the people who attend the meetings. Marlie Sanderson, Director of Transportation Planning for the North Central Florida Metropolitan Transportation Planning Organization in Gainesville (urbanized area population: 159,508[63]), has seen much success in using a large, 2-sided color poster to educate both citizens and board members about the long-range plan. The poster has

numerous photographs of the community and pictorial representations of proposed projects. He says the visuals really communicate with people even more than the 25-page executive summary the MPO prepared. [64] The Killeen-Temple Urban Transportation Study publishes simple one- or two-page facts sheets describing the planning process and documents and makes them available in Spanish.[65]

Many of the MPO representatives interviewed for this guidebook testify that good public involvement is essential to making good plans. Bob Dickinson, at the Southeast Texas Regional Planning Commission, feels it is important to do as much public involvement as possible early on in the planning process.[66] Harrison Bright Rue, Executive Director of the Charlottesville-Albemarle Metropolitan Planning Organization, believes that a solid public platform is necessary if you want to accomplish livability objectives or enhance alternative modes of transportation—or do anything beyond traditional road-building. Public involvement is the way to build that platform, he says. [67]

Resources

- U.S. DOT publishes a series of pamphlets designed for local agencies to distribute to their citizens. They are available on the web, and printed versions are free of charge. Examples:
  - A Citizen's Quick Reference Guide to Transportation Decisionmaking
  - Community Impact Assessment: A Quick Reference for Transportation
  - An Overview of Transportation and Environmental Justice

- Innovations in Public Involvement for Transportation Planning, FHWA, January 1994. Available: http://ntl.bts.gov/DOCS/trans.html

- Improving the Effectiveness of Public Meetings and Hearings, FHWA, January 1991. Available: http://ntl.bts.gov/DOCS/nhi.html

- Killeen-Temple Urban Transportation Study. *Public Involvement Policy*. Available: http://www.ctcogmpo.org/public_involvement.htm.

- Ithaca-Tompkins County Transportation Council (ITCTC), New York. Website: http://www.co.tompkins.ny.us/itctc/; Email: itctc@tompkins-co.org; Phone: (607) 274-5570

3.4 The TIP: Choosing Projects to Implement in the Short Term

Once an MPO has conducted initial public involvement procedures and developed travel demand forecasts (or obtained the results of the forecast models from TxDOT), it can begin to select projects to pursue in the short term. The TIP identifies funded transportation projects to be implemented in the next three years. The TIP should carry out the goals of the

MPO's metropolitan transportation plan; therefore, all projects in the TIP must be present in concept in the MTP. If the MPO area ever has been or currently is designated as nonattainment and is seeking federal funding for projects in the TIP, the TIP should also conform to the state's strategies for achieving attainment with the National Ambient Air Quality Standards (NAAQS) as outlined in the State Implementation Plan for air quality improvement (SIP).[68]

The MPO should work with its partners, including transit authorities and the state DOT, to develop a financial plan for implementing the projects in the TIP, as realistic funding sources must be identified for all projects listed in the TIP. The state DOT and transit providers can help the MPO identify funds that can be committed to that area's proposed projects.[69] The process for developing a financial plan is described in Section 3.5. The MPO may also include desirable projects in the MTP that would be implemented if additional funding became available; however, these projects would require additional action by the MPO and state DOT in order to advance them to the status of already funded projects.[70]

The governor and MPO must approve the TIP. In nonattainment areas, FHWA, FTA, and the Environmental Protection Agency (EPA) must ensure that the TIP conforms with the State Implementation Plan (SIP) (See Section 4.2) and will not make air quality worse. Once the TIP is approved, it immediately becomes part of the Statewide Transportation Improvement Program (STIP) without alteration. The TIP must be updated at least every two years with appropriate public involvement, and it may be amended between updates if desired. Minor amendments typically do not require the full execution of the public involvement process.[71]

Prioritizing projects is a key task in the development of the TIP. The Metropolitan Transportation Plan (MTP) includes a list of all projects needed over a 20 to 25-year time frame (see Section 3.1). From this list, the MPO must select the highest priority projects, those that will be funded over the next three years. Eligible projects are those projects in the MTP that have made it through project development and environmental review and will be ready for the letting of construction contracts within three years. For small MPOs, the list of eligible projects in some years may be so short that prioritization is not an issue.

In Texas, only projects in the state's Unified Transportation Program (UTP) are likely to be far enough along in the project development process to be eligible for inclusion in the TIP. The UTP fills the gap between the 20-year long-range plan and the 3-year TIP. The Texas Department of Transportation (TxDOT) adopts an updated UTP each year that authorizes project development work necessary for moving a project from the long-range plan into the TIP. Plan-level authorizations initiate environmental studies and route/right-of-way determination for projects that may by built 10 or more years in the future. Design-level authorizations cover complete PS&E (plans, specifications, and estimates) preparation, right-of-way acquisition, utility adjustments and construction letting for projects that may be built four to ten years in the future. Schedule-level authorizations cover complete PS&E preparation, right-of-way acquisition, utility adjustments and construction letting for projects that may be built within the next four years. Projects authorized at the schedule level are

eligible for the TIP. Although TxDOT has responsibility for selecting projects for the UTP, projects that involve federal funding must have the concurrence of the MPO if it is located in their area of jurisdiction. In addition, projects that are located within an air quality non-attainment area may need to be included in the TIP of the MPO for that area.[72]

MPOs often use a process for prioritizing projects for the TIP similar to the process described in Section 4.1. For example, the Wichita Falls (Texas) MPO uses the following criteria to prioritize projects for the TIP:[73]

- existing and forecasted traffic volumes
- congestion levels
- level of service
- estimated construction time and right-of-way costs
- impact on multi-modalism
- impact on economic development
- whether the project is fiscally constrained,
- compatibility with the Texas Transportation Plan and the Wichita Falls' community comprehensive plans

The Capital District Transportation Committee in Albany, New York, focuses on making the connection to their long-range plan, New Visions, when they develop their TIP. Three key aspects of the long-range planning process help facilitate this connection: intensive stakeholder involvement, significant technical analysis at the system level, and serious treatment of the fiscal-constraint requirement. The CDTC's first step in developing the TIP is to send a letter to all possible implementing agencies to solicit project requests. The project evaluation process was developed with the help of a Planning Committee, consisting of local officials, and stakeholder meetings. Projects are evaluated in a three-step process: screen, evaluate merit, and build a program. Only projects that are consistent with the New Visions plan and local land use plans, have reasonable cost estimates and a funding plan, can be constructed within the specified timeframe, and are eligible for federal aid make it through the first step. Every project that makes it through the first step is evaluated using a variety of measures relating to its contribution to community and economic development, impact on air quality, and other factors. The project evaluations are then used as a basis for discussions about project merit and overall program balance. Lastly, available funding is allocated in three rounds to projects with high evaluations, projects important to achieving a balanced program, and projects with strong support from the public and elected officials. [74]

Resources

- "Multimodal Evaluation of Passenger Transportation," Synthesis of Highway Practice 201, National Cooperative Highway Research Program, 1994. Available through the Transportation Research Board: http://www.nationalacademies.org/trb/bookstore/

- Capital District Transportation Committee, Albany, NY: Phone: (518) 458-2161; Email: CDTC@Crisny.org; Website: http://www.cdtcmpo.org/index.html

3.5 The Financial Plan: Estimating Future Funding

ISTEA first established a requirement that the cost of projects listed in the MTP and TIP does not exceed the expected revenues available to the MPO. In other words, MTPs and TIPs must be "financially constrained." The MTP must contain a financial plan that specifies funding from public and private sources "reasonably expected to be made available" for implementing the plan. In addition, the financial plan should recommend additional financing strategies needed to carry out important projects. The financial plan may also include a list of projects for "illustrative purposes" that could be implemented should actual revenues exceed expected revenues in the future.[75]

The challenge for MPOs is to estimate revenue streams for the next 20 or more years. TEA-21 stipulates that the MPO, the DOT, and transit agencies should develop these forecasts cooperatively. The process of projecting future revenues involves making assumptions about federal appropriations, the state's share of federal appropriations, the MPO's allocation of federal appropriations, the MPO's share of other state transportation funding, and regional sources of funding. A simple approach is to assume that federal funding will continue at existing levels and that the state share of federal funding will continue at the current level. Because the MPO's amount of state transportation funding can vary somewhat, a common practice is so use an average level of funding over a period of several years. Projections of regional sources of revenues, such as a portion of the sales tax devoted to transit, will depend on the nature of the revenue source and local conditions.

MPOs can decide how aggressive they want to be in adopting additional financial strategies. ISTEA first encouraged the development of innovative sources of financing, and TEA-21 established new programs to help states increase available funding for transportation projects in the near term. The State of Texas has adopted two policies on innovative financing that can help MPOs find the necessary funds to implement their plans and programs: the State Infrastructure Bank and Regional Mobility Authorities.

The mission of the Texas State Infrastructure Bank (SIB), first established in 1997 with state and federal funds but now run with state funds only, is to provide loans for transportation infrastructure at lower-than-market interest rates and other assistance. Projects that are eligible for federal funding are also eligible for loans from the SIB. A loan from the

SIB may enable a local community to complete an important project much sooner than if it had to wait for sufficient allocations of state funds and to benefit from possible increases in tax revenues when the project significantly benefits the local economy.

For example, when faced with the desire to fund a project that would cost more than its annual obligation, a small MPO in Ohio (with a population of 68,621) applied for and received a loan from the Ohio SIB. The MPO pledged to use its future Surface Transportation Program (STP) allocations to pay back the loan. Although the loan increased the total cost of the project, the community valued the project enough to justify the extra expense.[76] Alternatively, local sources of revenue may be used to pay off the loans.

In 2001, the Texas legislature authorized the Texas Transportation Commission (TTC) to create "a regional mobility authority (RMA) for the purposes of constructing, maintaining, and operating a turnpike project in a region of the state." A turnpike project involves borrowing against future toll revenues to pay for the construction of a roadway; tolls are also used to operate and maintain the roadway. In effect, these projects pay for themselves over a period of time. One or more counties can petition the TTC to establish an RMA to develop one or more turnpike projects. These projects, if regionally significant, must be included in the TIP and the MTP. If federal funds are involved, the development process must comply with federal rules for public involvement and environmental review. If the project is on the state highway system, it must be designed according to TxDOT design criteria.

In Missouri, the analog to the RMA is the transportation corporation. Local business leaders and the Missouri Highway and Transportation Commission worked together to build the Lake of the Ozarks Community Bridge by forming a nonprofit transportation corporation. This corporation financed and built a bridge across the lake for $22.4 million dollars in six years. The bridge was fully financed by revenue bonds, which are being repaid with toll revenues. The Missouri Department of Transportation assisted with right-of-way acquisition, maintenance, and the bid process while private interests supervised the bid sale and the design-and-build process.[77] Although this project was not initiated by an MPO, an MPO could play a role in facilitating the formation of the RMA or corporation if local jurisdictions and the public are interested in pursuing a toll-financed project.

Resources

- State Infrastructure Bank Applicant Handbook, TxDOT, September 2000. Available: ftp://ftp.dot.state.tx.us/pub/txdot-info/fin/sib/handbook.pdf
- Regional Mobility Authorities: Proposed Rules, TxDOT, January 31 2002. Available: http://www.dot.state.tx.us/insdtdot/orgchart/tta/rules/RMA_preamble.htm
- Innovative Finance, Federal Highway Administration. Available: http://www.fhwa.dot.gov/innovativefinance/index.htm

3.6 The UPWP and Other Reporting Activities: Planning to Plan

The Unified Planning Work Program (UPWP) produced annually by all Texas MPOs documents all planning and administrative activities an MPO intends to pursue in a given fiscal year. It is the MPO's agenda and budget for the upcoming year. The UPWP describes in detail each function the MPO will perform in the coming year, how each function will be funded, and what results are anticipated. The primary purpose of the UPWP is to document how MPOs will spend TPF funds. However, the UPWP must document all transportation and transportation-related air quality planning activities regardless of funding source.[78]

The UPWP is more than just a budget. However, an MPO must first generate an internal budget in order to develop a proper UPWP. One of the first steps to developing a budget is to calculate the fixed costs associated with the administration and operation of an MPO. Items such as staff salaries, benefits, travel, supplies, communications, maintenance of equipment, indirect costs and membership dues must be estimated in the budget. After accounting for fixed costs, the MPO can add items such as special planning studies, depending on the amount of planning funds available to the MPO for programming.

After a budget is prepared, the MPO staff can then begin drafting their UPWP. The TxDOT Transportation Planning and Programming Division has prepared a special format that Texas MPOs should use in completing their UPWPs.[79] Use of this format enables TxDOT to more easily verify the appropriate use of funds to FTA and FHWA. The format consists of five tasks (administration and management, data development and maintenance, short-range planning, long-range planning, and special studies) as well any subtasks identified by the MPO. The MPO staff determines how to allocate the funds it needs in its budget to specific tasks and sub-tasks within the UPWP. This should be done based on the anticipated degree of workload associated with each task or subtask.

The keys to producing a good UPWP are providing clear, detailed descriptions of all tasks and subtasks, especially public involvement and Title VI compliance, and allocating anticipated funds accurately and completely. Because the purpose of the UPWP is to document how the MPO will use its funds, all tasks should be described explicitly so that any reader, regardless of his or her prior knowledge of the planning area, can understand what the MPO will be doing in the coming year. In addition, each MPO should aim to expend as much of its anticipated funding as possible while using cost estimates for each task that are as precise and accurate they can be. Lastly, the MPO should take care to provide an accurate budget summary and include all required attachments, such as the Certificate of Compliance and Self-Certification form.

The Waco MPO UPWP is an example of a well-crafted UPWP. In particular, the task descriptions and budgets are detailed. For example, the Waco UPWP provides the following description of Subtask 3.6, Public Transit Education Programs:

> The MPO and Waco Transit will develop audio-visual materials for broadcast on the City of Waco Cable Channel and for public service announcements. Waco Transit will distribute fliers and inserts to promote their system and public transportation in general. A brand new transit education campaign targeted at junior high school students will also be developed to create awareness of the local transit system. The target market will be offered free schoolbook covers that have interesting facts, pictures and games printed on them to educate and entertain the students on services provided by Waco Transit. Bus tours will also be offered to the students to introduce them to the physical layout of buses. Waco transit employees will become involved with PTA functions to develop a bond with the students' parents and address their concerns for children riding on public transportation. The PTAs will also be given opportunities to give input on how they would like Waco Transit to better serve their children.[80]

The description is precise: it tells the nature of each activity within the subtask, the purpose of the activity, and the agency or agencies that will be responsible for it. In addition, the budget for Task 3.0, Short Range Planning, replicated in Table 8, shows clearly how funds from various sources will be allocated to the various activities:

Table 8
Funding Summary, Task 3.0, Waco MPO

Subtask	Responsible Agency	TPF	FTA Sect. 5307 (Sect.9)	Local	Total
3.1	FTA, FHWA, TxDOT, MPO, Waco Transit	$21,600			$21,600
3.2	FTA, MPO, Waco Transit		$2,000	$500	$2,500
3.3	FTA, Waco Transit, MPO		$30,000	$7,500	$37,500
3.4	FTA, Waco Transit		$2,000	$500	$2,500
3.5	FTA, MPO, Waco Transit		$2,000	$500	$2,500
3.6	MPO, Waco Transit, Waco I.S.D.		$2,000	$500	$2,500
3.7	FTA, Waco Transit, MPO, TxDOT, WHA	$4,000	$2,000	$500	$6,500
3.8	FHWA, MPO, TxDOT	$10,000			$10,000
TOTAL		$35,600	$40,000	$10,000	$85,600

Source: Waco Metropolitan Planning Organization. Unified Planning Work Program, Fiscal Year 2002. *Waco, TX.*

Using this table, it is easy to determine how the MPO will spend its funds from the federal government, the state Department of Transportation, and local governments to support the various aspects of short-range planning.

A UPWP is drafted and submitted each fiscal year for the following fiscal year. At the end of the fiscal year, each MPO is required to report on the past year's actual performance and expenditures as outlined in the UPWP. In the annual performance and expenditure report, MPOs should compare actual performance with established goals, describe their progress in meeting schedules, compare budgeted amounts to actual costs incurred, describe cost overruns or underruns, and list approved work program revisions.[81] The annual performance and expenditure report may be similar in format to the UPWP because it consists of tasks, costs, and revenues; however, the report looks back at the previous year instead of forward to the upcoming year. By comparison, the annual listing of projects describes transportation projects, rather than transportation planning activities, that were carried out in the metropolitan area in the past year.

CHAPTER FOUR

GOING BEYOND THE BASICS

Most MPOs do more than just produce an MTP and TIP. In addition to the basic requirements established by ISTEA and TEA-21, MPOs face responsibilities created by other laws, such as the Clean Air Act, that can significantly affect how they plan. For example, civil rights laws, air quality conformity, and freight planning are three issues that many small MPOs are still figuring out how to address. Furthermore, MPOs may participate in projects that are important to the local transportation system but that do not directly relate to the TIP or MTP. This guidebook provides some tips on how to approach some of these activities.

4.1 Title VI: Providing Service to All

Title VI of the Civil Rights Act of 1964 aims to ensure equal provision of government services to all people. It requires all recipients of federal financial assistance, in the form of grant, loan, or contract, to be certain that their programs do not cause positive or negative impacts to be distributed unequally on the basis of race, color, or national origin.[82] Such recipients cannot provide unequal services or privileges, or provide these services or privileges in a different manner, based on a person's color, race, or national origin. In addition, no one may be denied the opportunity to participate in integral planning or advisory boards because of their race, color, or national origin.[83] Because MPOs receive funds from FHWA and FTA, they must abide by Title VI.

However, Title VI is not composed entirely of prohibitions. Indeed, recipients of federal financial assistance must "take affirmative action to asssure that no person is excluded from participation in or denied the benefits of the program or activity on the grounds of race, color, or national origin."[84] Title VI requires more than vigilance—it requires an effort on the part of federal aid recipients to continuously evaluate the impacts of their programs, both positive and negative, and to restructure their programs, if necessary, to avoid discriminatory impacts.

Environmental justice policies build on Title VI of the Civil Rights Act of 1964. The term "environmental justice, " first widely used during the Clinton Administration, gives a name to the phenomenon that low-income people and minorities have often endured more than their fair share of the negative impacts of industrial and government projects. Environmental justice means ensuring that low-income and minority groups do not suffer disproportionate adverse social, economic, health, or environmental effects from public works or other government projects. It became a mandatory consideration for MPOs when President Clinton issued Executive Order 12898 in 1994, which requires all federal agencies to identify low-income and minority communities in their jurisdictions and assess potential adverse impacts to these communities from the agencies' projects.

In response to the executive order, the Federal Highway Administration and Federal Transit Administration issued an order stating how they would implement the president's directive. Because MPOs receive substantial funding from FHWA and FTA, they must comply with those agencies' policies. In general, MPOs must make sure their TIP and MTP comply with Title VI, gather additional information to identify low-income and minority communties, and engage minorities and low-income people in decision-making. More specifically, MPOs need to:

- Enhance their analytical capabilities to ensure that the long-range transportation plan and the transportation improvement program (TIP) comply with Title VI.
- Identify residential, employment, and transportation patterns of low-income and minority populations so that their needs can be identified and addressed, and the benefits and burdens of transportation investments can be fairly distributed.
- Evaluate and - where necessary - improve their public involvement processes to eliminate participation barriers and engage minority and low-income populations in transportation decision making."[85]

Furthermore, FHWA states that it (and, by extension, MPOs) will attempt to avoid effects by:

- "Identifying and evaluating effects
- Proposing measures to avoid effects and providing offsetting benefits
- Considering less discriminatory alternatives
- Providing public involvement opportunities and soliciting involvment from affected minorities or low-income populations."[86]

While these tasks may be time-intensive, they do not require the hiring of consultants or the purchase of expensive software. As each MPO is different, each one must determine individually how to address the needs of its low-income and minority populations and get them involved in the transportation planning process. The MPO's UPWP, TIP, and MTP should reflect these efforts.

Two of the initial steps in any Title VI program are determining where minority and low-income populations reside and analyzing their current transportation practices. The Census Transportation Planning Package 2000 (CTPP), developed for state departments of transportation, MPOs, and transit providers, will include software and data that make that analysis easier. This package will be available as early as Spring, 2003.

In addition, beginning in 2004, all counties in the United States will have access to sample data from the annual American Community Survey. The main advantage of the American Community Survey over the decennial census is that it will be conducted every year. The U.S. Census Bureau is currently testing this process in a few communities and intends to implement it across the nation by 2004. This survey is not a head count, but the

samples will be large enough to demonstrate community trends after a few years of data accumulation. The American Community Survey offers journey-to-work, demographic, social, housing, and economic data in a format that allows for customized cross-tabulations. In addition, it will be available for areas as small as a block-group.

The Killeen-Temple Urban Transportation Study (K-TUTS) is an example of a small Texas MPO that has established procedures for identifying minority and low-income communities. K-TUTS staff members use the census to calculate the percentage of people per census tract in each of the following four groups:

- Persons over 65 years of age
- Persons with disabilities
- Minorities
- Persons with low to moderate incomes

Each census tract is then color-coded on a map to indicate the percentge of people in the tract who fit into one of those four categories. K-TUTS does not use a certain percentage to determine what is or is not a low-income or minority community. Instead, the planners look at the relative value of the percentage to assess how much extra effort should be put into outreach to ensure adequate representation. For example, K-TUTS may do more outreach in a community that is 50% minority than in a community that is 20% minority. However, the staff members still take note of the fact that the latter community is 20% minority in their planning efforts.[87]

After identifying the location and travel patterns of low-income and minority communities, the next step is to get them involved in the transportation planning process. The best way to do this is by creating and fostering face-to-face interaction among peer groups. For example, in order to get African American residents of Calhoun Falls, South Carolina, to attend a meeting about road improvements that might impact their community, the mayor hand-delivered invitations to many residents and contacted four ministers in the community, each of whom announced the meeting during Easter Sunday worship services. The North Carolina Department of Transportation partnered with the Crest Street Community Council in Durham in order increase involvement of that community's residents in planning for mitigation and enhancements along the East-West Expressway. [88]

The Charlottesville-Albermarle MPO in Virginia uses fairly low-tech methods to involve historically underserved groups in transportation planning. The staff meets with a group of seniors to discuss their needs and creates workshop activities for children so that they too can be involved in the process. The MPO maintains a 4,000-person mailing list and an e-mail list and posts advertisements in all local newpapers, including a Spanish-language publication. The advertisements stress why people should come to a meeting and be involved in transportation decision-making. [89]

K-TUTS has revised its public involvement plan to reflect the requirements of Title VI. Some of the strategies K-TUTS uses to reach minorities include:

- Identifying community leaders and including them on mailing lists
- Producing fact sheets in English and Spanish using volunteer translators from Belton Independent School District and the University of Mary Hardin Baylor
- Identifying alternative meeting sites, such as churches, schools, and senior centers
- Increasing the number of hearings and outreach opportunities
- Placing copies of plans in alternative locations

Engaging minorities and low-income people, who have historically felt excluded from decision-making, in the transportation planning process naturally requires new and creative outreach techniques. If traditional public hearings at city hall were sufficiently welcoming to minorities and low-income people, then there would be no need for Title VI. Therefore, MPOs must employ a variety of outreach techniques specifically targeted to the culture of their local communities in order to avoid discriminatory impacts and comply with Title VI.

Resources

- U.S. Department of Transportation. Departmental Office of Civil Rights. Available: http://www.dot.gov/ost/docr/main.html

- FHWA and FTA: "Environmental Justice: Case Studies." Available: http://www.fhwa.dot.gov/environment/ejustice/case/index.htm

- Census Transportation Planning Package 2000.
  - FHWA Website--Available: http://www.fhwa.dot.gov/ctpp/about.htm

- American Community Survey
  - FHWA/FTA. "American Community Survey: New Data Source to Profile Communities." Available: http://www.fhwa.dot.gov/environment/ejustice/effect/amcom.html
  - U.S. Census Bureau. "American Community Survey."Available: http://www.census.gov/acs/www

4.2 Air Quality: The Role of MPOs

Because of the links between transportation infrastructure, travel behavior, and emissions, the transportation plans that MPOs produce can impact a region's air quality—for the better or for the worse. To date, most small MPOs in Texas have not exceeded the National Ambient Air Quality Standards (NAAQS) established by the Clean Air Act. These MPOs have no legal obligation to improve or even maintain air quality. However, that does

not mean that small urban areas are immune to air quality problems. In Texas, the Beaumont-Port Arthur area, represented by the Permian Basin Regional Planning Commission, is in nonattainment. In addition, the Longview and Tyler MPOs are considered near-nonattainment areas because they have experienced some violations of the standards.[90] In 1998, 72 small- and medium-sized places across the U.S. were in violation of the NAAQS.[91]

Furthermore, the new NAAQS and conformity regulations passed in 1997 for ozone and particulate matter are likely to result in the designation of many more nonattainment areas—places that are in violation of the NAAQS. Some of these areas will probably be small and medium-sized places. The EPA estimates that about 150 new counties may be designated nonattainment for ozone due to a switch from using the 1-hour standard for ozone to using the 8-hour standard.[92] (Attainment of the standard is determined by the number of times in a 3-year period that the average concentration of ozone in the air over a designated length of time, such as 1, 8, or 24 hours, exceeds 0.08 parts per million.[93]) In addition, several hundred counties may be designated nonattainment for particulate matter. However, several years may pass before the EPA has collected enough air quality data to determine which regions are and are not in attainment.[94] In the mean time, all MPOs should educate themselves about air quality regulations and consider how to implement air quality plans for their regions in case their conformity status changes in the future.

A region is considered to be in nonattainment status when concentrations of pollutants listed in the Clean Air Act (carbon monoxide, ozone, sulfur dioxide, lead, nitrogen dioxide, and suspended particulate matter) exceed the national standards (NAAQS). As of November, 2001, Beaumont-Port Arthur, Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria were all in nonattainment for ozone. El Paso is also in nonattainment for carbon monoxide and particulate matter.[95] The presence of ozone, carbon monoxide, and particular matter in the air can often be linked to exhaust from internal-combustion engines inside the region as well as various other sources, including power plants and refineries. Sources of pollution may also be located outside of the region, as pollutants can migrate from elsewhere. However, the MPO is still held accountable for bringing air quality back to the standard regardless of the source of the pollution.

When the area is designated nonattainment, it must then develop a plan to lower pollution levels to meet the standards.[96] That plan may or may not include changes to the transportation system depending on local conditions. Ultimately, the state has the primary responsibility for determining how to meet the NAAQS. The state must develop a State Implementation Plan (SIP) for meeting the NAAQS that is approved by the Environmental Protection Agency (EPA). Nonattainment MPOs work with the state in developing the SIP because the MPOs have control over transportation spending in metropolitan areas. The state develops implementation plans for rural areas that are outside the boundaries of metropolitan planning organizations.

The MTP and TIP produced by an MPO in a nonattainment area must then *conform* to the approved SIP. In other words, no project or program in an MPO's TIP or long-range plan may increase violations of the standards or delay achievement of the standards via the method outlined in the SIP.[97] If FHWA, FTA, and EPA jointly determine that the TIP and

MTP do not conform to the approved SIP, the nonattainment area enters a "conformity lapse."[98] During a conformity lapse, the nonattainment area may not initiate any new federally-funded capacity-adding projects that are not present in an approved plan and TIP. In order to avoid a lapse, the MPO must brings its plans into conformity with the approved SIP. *Conformity* means only that the transportation programs and improvements listed in the MPO's plans are the same as those in the approved SIP; it does not mean that the area has improved its air quality enough to meet the NAAQS.

In order to improve or maintain air quality, many regions implement transportation control measures (TCMs) that reduce the emissions resulting from vehicular traffic. The three main types of TCMs are fixed-route transit, transportation demand management, and alternative fuel vehicle projects.[99] Land use activities comprise a fourth type of TCM, now recognized by EPA. Land use control strategies are intended to reduce the number and length of automobile trips and improve opportunities for walking, bicycling, and using transit. Examples of such strategies include establishing a maximum amount of parking at new developments, promoting transit-oriented development (TOD), and providing incentives for redeveloping underutilized or abandoned lots in the urban core.[100]

Naturally, not all TCMs are suitable for all problems in all contexts. MPOs should blend TCMs that are appropriate to their circumstances. For example, in order to reduce emissions of carbon monoxide associated with cold starts, Fairbanks, Alaska, implemented a "plug-in" program to encourage drivers to plug in their engine heaters when temperatures are between 0° and 25° Fahrenheit. This solution identifies a specific action that can be taken to directly address the particular pollution problem that Fairbanks is facing.

In many areas, implementing TCMs alone will not solve the pollution problem. Stationary sources, such as fossil-fuel burning power plants, may also contribute significantly to air quality problems. For example, high levels of ozone in the Longview area were linked to emissions of nitrogen oxide from eleven industrial sources. MPOs have no statutory authority to regulate these types of sources. However, the Longview MPO, in cooperation with Northeast Texas Air Care, negotiated with the industries to achieve voluntary reductions in emissions.[101] In some places, stationary sources may not even be located within an MPO's study area, but pollutants can migrate into the area from elsewhere and cause violations of the standards. In such cases, a high degree of cooperation between governmental jurisdictions and industry is required to achieve a resolution. Interagency technical working groups that foster cooperative problem solving for air quality are expected to become more important as the 8-hour standard goes into effect.[102]

Once an area has achieved the air quality standards, it is required under the Clean Air Act to maintain compliance. In order to be redesignated as attainment, the state's implementation plan must include procedures for maintaining compliance in that area for the next ten years. The area is then referred to as a "maintenance" area.[103] Victoria (ozone) and Collin County (lead) are the only maintenance areas in Texas as of April, 2002.[104]

There is reason to believe that more MPOs may be entering the game in the future.[105] Therefore, even the MPOs that are currently in attainment with all air quality regulations

should consider implementing a program to address air quality issues. The extent and complexity of the program may depend on the amount of staff time available, the level of staff expertise, and the number of local jurisdictions involved.[106] A very basic program of staff education could be conducted for an estimated $2,730, says Scott Lane with the Capital Area MPO in Raleigh, NC.[107] This program would include about thirty hours of time educating the staff on air quality issues, policy, and the SIP and about fifty hours of time coordinating with staff at state air quality agency and state DOT. A more involved program might include a greater level of coordination with local partners, air quality data collection by interns, and a review of the potential air quality impact of projects in the current long-term plan.[108]

While only one small or medium-sized MPO in Texas, the Southeast Texas Regional Planning Commission (SETRPC) in the Beaumont-Port Arthur area, is currently dealing with conformity issues for transportation-related pollutants, it is not the only MPO with an air quality program. The SETRPC engages in monitoring and public education activities because of the region's status as a nonattainment area for ozone.[109] SETRPC also facilitates the region's Ozone Action Day program, which encourages residents to limit their polluting activities on days when the Texas Natural Resources Conservation Commission (TNRCC) predicts elevated ozone levels.[110] The Tyler MPO, though currently in attainment with the NAAQS, developed an education guidebook about air quality for elementary school students and is coordinating with Northeast Texas Air Care to develop other ozone awareness public education programs. Tyler hopes to maintain ozone attainment status via voluntary community actions.[111]

Greg Davies and the rest of the staff at the Longview MPO are coordinating with numerous organizations, including Northeast Texas Air Care, the Texas Natural Resources Conservation Commission, and the East Texas Council of Governments in order to improve air quality planning across the region. For example, Longview MPO staff members attend meetings of the East Texas Clean Cities Commission and various technical working groups to discuss methods for improving air quality. The coordination between government and industry was of great value in reducing emissions from industrial sources, says Davies. It is important to attend meetings and make your presence known, says Davies, in order to get things done. The Longview MPO is approaching the air quality challenge from many different angles. In addition to negotiating with industry about reducing emissions at their facilities, the Longview MPO promotes ozone action days, participates in the Drive Clean Across Texas program with the Texas Department of Transportation, and is implementing a new fixed route transit system, featuring a fleet of clean-fuel buses.[112]

Resources

U.S. DOT. FHWA. *Conformity Reference Guide*. Available: http://www.fhwa.dot.gov/environment/conformity/ref_guid/index.htm

U.S. DOT. FHWA. *Transportation Conformity: A Basic Guide for State and Local Officials*. Available: http://www.fhwa.dot.gov///////environment/conformity/basic_gd.htm

U.S. Environmental Protection Agency. "EPA Guidance: Improving Air Quality Through Land Use Activities." Available: http://www.epa.gov/otaq/transp/landguid.htm.

4.3 Freight: Getting Freight Stakeholders Onboard

ISTEA and TEA-21 introduced into metropolitan transportation planning the requirement to consider impacts on freight transport and involve freight shippers when evaluating potential transportation projects. Among the seven issues that metropolitan transportation planners must bear in mind during the planning process are increasing accessibility and mobility options available for freight[113] and enhancing the integration and connectivity of the transportation network for freight across and between modes.[114] MPOs must also ensure that freight shippers have "a reasonable opportunity" to comment on all plans and programs.[115]

Some MPOs have been dealing with freight transport issues since their creation, but others are confronting them for the first time. Freight transport differs from the transport of people in fundamental ways, and it may require a special effort on the part of transportation planners to come to understand the issues surrounding freight movement and how to plan for it. In the future, researchers believe freight movement will increasingly be multimodal and intermodal.[116] Thus, the private freight industry must be involved in the planning process in order for planners to understand the industry's changing needs and constraints. Planners should also carefully consider how both public and private entities will benefit from the use of public funds to enhance freight transport. Making the public more aware of the value of freight planning is also an important part of the process.[117]

FHWA has prepared a set of guidelines for freight planning that proposes a basic process for involving private industry in freight planning and promoting continuous and productive cooperation between public and private entities. In order to earn the respect and cooperation of private sector representatives in a task force setting, MPO planners should do the following:

- Meet with personnel at freight transport providers and logistics managers at major employers to understand their needs and perspectives
- Tour the facilities of major freight transport providers

- Set clear, defined goals for collaborative efforts
- Consider all parties' interests in designing the group
- Begin with short-term cooperative projects before tackling complex projects
- Communicate regularly and openly
- Manage group time effectively
- Review the group's goals regularly[118]

This set of guidelines also gives examples of cooperative public-private freight planning. For example, the Heartland Freight Coalition in Kansas City identified the following improvement projects: enhancing signage leading to multimodal facilities, outfitting freight operators with disposable cameras to document bottlenecks, and refining signal timing to relieve bottlenecks. Freight-specific committees are also in place in Chicago, Seattle, Toledo, the San Francisco Bay Area, and the Albany, NY, area. [119]

Activities for Public-Private Freight Task Forces

- Coordinate corridor studies
- Organize educational activities for the public
- Identify needed improvements
- Conduct long-range planning
- Gather data about freight movement

Another aspect to freight planning is communicating the value of freight transport to the public and elected officials. Keith Selman, Director of the Laredo MPO, says that getting freight stakeholders involved was not the most difficult part of freight planning. For example, the National Truckers Association was eager to participate in the planning process. The challenge, Selman says, is getting more money for needed improvements. The Laredo MPO was able to accomplish this goal by communicating to state and local officials the importance of Laredo and the border. "We knocked on doors and kept Laredo in people's minds," says Selman.[120]

The methods for incorporating freight stakeholders are similar to those for incorporating any group of stakeholders: planners must get to know the needs and interests of freight stakeholders by visiting their facilities, listening to their concerns, and working together in all stages of the transportation planning process. The payoff is a transportation system that meets the needs of residents by meeting their needs for goods.

Resources

- FHWA Freight Planning Website. Available: http://www.fhwa.dot.gov/freightplanning/index.htm
  -includes listserve, Quick Response Freight Manual, planning guidelines, 2 case studies, and workshop information

- U.S. DOT. FHWA. "Public-Private Freight Planning Guidelines." Available: http://www.fhwa.dot.gov/freightplanning/guidel2.html

- U.S. DOT Quick Response Freight Manual: 4-step planning model developed in 1996 to forecast commercial truck movements with simple techniques. Available: http://tmip.fhwa.dot.gov/clearinghouse/docs/quick/

4.4 Special Projects: What MPOs Are Doing in Their Spare Time

Some small MPOs struggle to complete the minimum tasks required by law. But many MPOs find time to engage in planning activities beyond what is required by the federal regulations. There are no federal regulations that specifically prohibit MPOs from engaging in planning activities that go beyond the MTP and TIP as long as the MPOs find appropriate funding for those activities. As a result, some of the most outstanding MPOs have found ways to impact their communities beyond the preparation of a TIP or MTP. However, all of these activities in some way support the goal of improving the transportation system over the long term.

For example, Fargo-Moorhead Council of Governments (FMCOG), located in North Dakota and Minnesota, is working now to preserve future highway corridors by marking the corridor with signs reading "future arterial roadway." Brian Shorten, Executive Director of FMCOG, says the area's steady growth necessitates the preservation of these corridors, and the signs help educate the public about the future of these roadways long before construction actually begins.[121] This project is funded by federal, state, and local transportation planning dollars.

The San Luis Obispo Council of Governments (SLOCOG) in California is participating in the PLACE^{3}S grant program, otherwise known as the Planning for Community Energy, Economic, and Environmental Sustainability Community Based Transportation Planning Grant Program, sponsored by Caltrans. SLOCOG received a grant in fiscal year 2001 for the program and hopes to receive a grant again for the 2003 fiscal year. The goal of the program is to enable various jurisdictions to "integrate more fully the transportation nexus with land use, community development, energy, economic, and environmental concerns…" More specifically, SLOCOG is working with various

municipalities, the county, and several state entities to expand local GIS databases and disseminate them to all parties in a format that enables them to coordinate with the other parties for planning purpose. The program is funded by Caltrans and local entities.[122]

Chittendon County MPO in Vermont is conducting a demonstration project to document the economic and environmental benefits of using modes of transportation other than single-occupant vehicles. The program asks selected households to keep one household car at home for four to six weeks and provides a financial incentive for doing so. The household members are instructed in alternative modes of transportation, and their resulting trip-making habits are documented. The analysis of the project will focus on financial savings to the household and the reduction in emissions of pollutants. In addition, the final report on the project will recommend ways to market the benefits of alternative transportation to the public.[123]

The Laredo Urban Transportation Study in Texas is completing a study of safety concerns in school zones. The study involves gathering and evaluating data about conflicts between pedestrians and vehicles in school zones and recommending actions to improve pedestrian safety. The MPO will also explore methods for financing these actions in the study report. The study itself is paid for with federal and local funds, and it matches directly with one of the planning factors, to improve the safety of the transportation system for all users.[124]

Along with Waco Transit and the Waco Independent School District, the Waco MPO is conducting a multi-faceted public education campaign to increase awareness of the transit system. The campaign targets junior high youth and includes public service announcements, fliers, free textbook covers, and bus tours for youth. This project makes more people aware of their options for getting around, which directly relates to the planning factor that calls for increased accessibility and mobility options. Funds from FTA granted under 49 U.S. Code §5307 and local funds pay the MPO's contribution to the campaign.[125]

The Texarkana MPO is working on several special projects including a railroad crossing inventory, a traffic counting program, and the coordination of a Walkable Communities workshop. The railroad crossing inventory consists of digital photos of all at-grade crossings in the study area. One the website that the MPO will be creating, the photos will be linked to information about the crossings describing the safety devices, the sight distance, and other characteristics. Texarkana's traffic counting program is designed to supplement the state's traffic counting program that takes place every five years. Having more recent counts will enable better planning for new developments. Finally, the Texarkana MPO will be hosting a Walkable Communities workshop this fall with the assistance of the Texas Department of Transportation. Through this workshop, the MPO hopes to develop better relationships with the school districts, which are important yet underrepresented stakeholders in the transportation planning process.

Many of these projects are developing knowledge that will help improve transportation planning in the future. Observing outstanding MPOs helps other planners

realize what goals small MPOs can achieve and where to obtain the resources needed to achieve those goals.

CHAPTER FIVE

ADVICE FROM THE BEST LITTLE MPOS IN THE U.S.

In order to get a broader perspective on what small MPOs are doing and what they can accomplish, it is helpful to look at small and medium-sized MPOs across the U.S. that are considered exceptional. In telephone interviews, the directors of ten of the best small and medium-sized MPOs in the U.S. (See Table 9) were asked to reflect upon how and why their MPOs have been successful and what advice they would give to other small MPOs for making the most of limited resources. The following five strategies are those most often mentioned by the MPO directors for maximizing effectiveness:

- Reach out to local officials
- Build trust with quality work
- Hire and retain a competent staff
- Use innovative, interactive public involvement techniques
- Focus funds on priority projects

Table 9
Interview Participants at the Best Little MPOs in the U.S.

MPO	State	Abbreviation	Interviewee	Title
Charlottesville-Albemarle	VA	CAMPO	Harrison Bright Rue	Executive Director
Chittendon County (Burlington)	VT	CCMPO	Bill Knight	Executive Director
Community Planning Association of Southwest Idaho (Boise)	ID	COMPASS	Clair Bowman	Executive Director
Fargo-Moorhead Council of Governments	MN ND	FMCOG	Brian Shorten	Executive Director
Johnson City	TN	JCMPO	Alan Bridwell	Transportation Director
North Central Florida Metropolitan Transportation Planning Organization (Gainesville)	FL	NCFMTPO	Marlie Sanderson	Director of Transportation Planning
Roanoke Valley Area (Roanoke)	VA	RVAMPO	Michael Gray	Director of Transportation
San Luis Obispo Council of Governments	CA	SLOCOG	Ronald DeCarli	Executive Director
Thurston Regional Planning Council (Olympia)	WA	TRPC	Lon Wyrick	Executive Director
Yuma	AZ	YMPO	John Gross	Executive Director

Discovering the Best Little MPOs in the U.S.

The research team assembled a list of ten outstanding small and medium-sized MPOs by consulting with transportation professionals involved with the recently-launched Metropolitan Capacity Building Program, co-sponsored by FHWA and FTA (Website: http://www.mcb.fhwa.dot.gov/). The team also looked at recent winners of awards for small MPOs given by the Association of Metropolitan Planning Organizations and the National Association of Regional Councils. The research team did not use a specific population or staff size to determine whether or not an MPO was small or medium in size; instead, the team relied on the character of the MPO's work to determine its ability to provide suggestions for innovative and effective resource-efficient planning techniques.

After assembling this list, the research team interviewed the executive director or transportation director of each organization over the telephone. Table 8 shows the names of all the MPOs that were studied along with the names of the individuals who were interviewed. In addition, the team acquired information about the population, budget, staff, committee structure, and planning activities of each MPO via its Website and work program. Table 9 shows the shows the population, staff size, budget for transportation planning, and local planning dollars at each MPO.

One of the common themes emerging from the interviews is the importance of reaching out to local officials in member jurisdictions. John Gross emphasizes the importance of giving all local governments a vote on the board. Clair Bowman and Brian Shorten explain how the spirit of trust and cooperation that develops when the MPO and local governments work well together has resulted in additional revenue for MPO activities. Shorten adds that his bi-state organization makes a special effort to maintain good relationships with the two state DOTs and four U.S. Senators. Ronald DeCarli says that SLOCOG (See Table 9 for key to abbreviations) has embraced partnership with the counties, transit agencies, and CalTrans, and this partnership helps the MPO understand potential problems and facilitate agreement and resolutions. Marlie Sanderson believes it is important to communicate clearly and directly with board members and use visuals as much as possible. Along similar lines, Shorten and Bill Knight emphasize the importance of earning the trust of local governments. Knight says CCMPO has garnered the respect of members for their technical planning services and scoping procedures. FMCOG has earned trust through hard work, an earnest desire to innovate, and simply being around for thirty-four years, says Shorten.

Having a good staff is another reason for the accomplishments of CCMPO, JCMPO, NCFMTPO, RVAMPO, and TRPC, say their directors. Alan Bridwell says that JCMPO invests in training for its employees and has not had any problems with turnover. In addition to the general training provided to new employees, JCMPO provides training in computer skills, and several employees have received training related to Intelligent Transportation Systems (ITS). Marlie Sanderson credits NCFMTPO's staff with the organization's

successes because the staff members always strive to do better. Nonetheless, the Executive Directors of FMCOG and CCMPO mentioned that it can be hard to find competent staff.

Several MPO directors think that broad public involvement is essential to doing a good job. Harrison Bright Rue is proud of the Charlottesville-Albemarle MPO's fresh approach to public involvement that includes training community members to conduct workshops. Sanderson says that NCFMTPO bends over backwards for public involvement. Charlottesville-Albemarle MPO and RVAMPO and have Citizens' Advisory Committees, and RVAMPO Transportation Director Michael Gray says that the committee is an excellent venue for building consensus early on in the planning process. Clair Bowman and Lon Wyrick also mentioned the importance of having a thorough public involvement process. Most of the outstanding MPOs also have specialized committees that address specific issues in the region, demonstrating the value they place on the expertise of individuals outside the staff and MPO policy board.

The final piece of advice offered by several of the MPO Directors is to apply funds strategically. Cut out the fat, says Lon Wyrick, and make sure that your stakeholders' priorities are being addressed. Michael Gray says that MPOs must not try to do everything. Stay focused on the important issues for your region, he says. Alan Bridwell recommends setting attainable goals and priorities. Remember the cost-effective solutions, says Ronald DeCarli; the standard way of solving a problem may not be the most efficient way. Simple ways to become more efficient may include increasing the use of digital means to distribute documents and utilizing free software when possible. For example, JCMPO is utilizing a free software program called HAZUS, provided by the Federal Emergency Management Agency, to develop an incident management program.

All of these strategies can be applied at MPOs of any size. However, it is important to note that all of these MPOs, with the exception of JCMPO, have a population over 100,000 and a staff of at least four full-time people. Table 10 shows the population, staff size, budget for transportation planning, and local planning dollars at each MPO. Seven of the ten MPOs are combined with other regional authorities, such as councils of government or regional planning councils, which means they have access to a larger staff and more funds but also have additional responsibilities. Hannah Twaddell, a former staff member of the Charlottesville-Ablemarle MPO, says that while CAMPO only has the equivalent of four full-time staff members, it is able to draw upon the skills of 67 staff people at the Thomas Jefferson Planning District Commission. In addition, she has observed that "allocating staff across a variety of commission programs helps keep everyone employed and engages the MPO in other arenas such as housing, economic development, and rural transportation."[126] Both the staff and the community benefit from this kind of staff sharing.

The Fiscal Year 2002 transportation planning budgets of these MPOs vary greatly, from a high of $3,812,640 at COMPASS to a low of $285,266 at JCMPO, a free-standing MPO. Of the free-standing MPOs, CCMPO has the largest budget because it receives the entire allotment of federal planning funds for the state of Vermont. At some MPOs, such as NCFMTPO, SLOCOG, and YMPO, the local governments contribute significantly more funds than what is required to match the federal planning grants. In fact, the member

jurisdictions of these three MPOs contributed over 20% of the funds for planning activities in the 2002 fiscal year budget. As a result, these MPOs have the flexibility to take on additional projects beyond the basic corridor studies because local funds typically have fewer stipulations than federal or state dollars.

By comparison, most of the MPOs in Texas receive a much smaller percentage of their funds, if any, from local jurisdictions (See Table 2, Chapter 2). In many cases, the state provides the entire match for the federal funds while local governments provide no funding at all. Many Texas MPOs receive the minimum amount of funding allowable under state and federal laws. In contrast, outstanding MPOs outside of Texas are seeking ways to go beyond the minimum by communicating the value of metropolitan planning to local officials and pursuing special state and federal grants. One way to begin developing a more cooperative financial relationship with local governments is to explore opportunities to share or trade funding and other resources. For example, the Charlottesville-Albemarle MPO passes through some of its MPO funds to local planning and transit agencies in exchange for an in-kind match, such as staff to generate land use forecasts.[127]

While all MPOs are encouraged to seek additional funding sources beyond TPF and expand their staff resources, the differences in funding and staffing do not mean that the strategies used by these organizations cannot be adapted for use by MPOs with fewer funds. In fact, most of the recommendations described in this section relate to how MPO staff and policy board members communicate with each other and the public and how they allocate their funding. Enhanced communication and strategic project prioritization do not necessarily require additional funding. Instead, they may require a change in the way staff and policy board members approach the everyday tasks of transportation planning, such as board meetings and public workshops. MPOs are encouraged to try new and different approaches to every one of their tasks in order to give new energy to the transportation planning process.

Table 10
Selected Attributes of Outstanding Small and Medium-Sized MPOs

Name	State	2000 Population[1]	Staff Size[2]	Federal TPF Funds (PL & 5303)	Local Planning Funds[3]	FY02 Planning Budget[3]
Charlottesville-Albemarle MPO	VA	81,449	4	$193,172	$24,146	$484,465
Chittendon County MPO (Burlington)	VT	105,365	6	$1,352,800	$338,200	$2,855,800[4]
Community Planning Association of Southwest Idaho (Boise City)	ID	272,625	15.8	$809,541	$543,079	$3,812,640[5]
Fargo-Moorhead COG	MN ND	142,477	6	$527,935	$127,206	$706,404
Johnson City MPO	TN	102,456	5	$157,040	$39,698	$285,266
North Central Florida MTPO (Gainesville)	FL	159,508	5	$489,497	$293,560	$1,028,931
Roanoke Valley Area MPO	VA	197,442	4	$341,708	$42,714	$427,135
San Luis Obispo COG	CA	53,498	14.5	$493,112	$613,241	$2,669,800[6]
Thurston Regional Planning Council (Olympia)	WA	143,826	6.6	$162,306	$85,638	$684,105[7]
Yuma MPO	AZ	94,950	5	$171,949	$339,317	$902,597[8]

1 Source: National Archives and Records Administration. Office of the Federal Register. Federal Register. May 1, 2002 (Vol. 67, No. 84). Pp. 21,961-21,967. Accessed Aug. 6, 2002 via the World Wide Web: http://www.access.gpo.gov/su_docs/aces/aces140.html.
2 Staff size may include staff members of the larger regional councils with duties unrelated to transportation planning
3 Includes only those funds designated for transportation planning activities. May include FTA 5307 funds, state in-kind match, or State Planning and Research funds.
4 Chittedon County MPO's planning budget does not distinguish between local and state contributions. The budget includes $1,164,800 from an FTA New Starts Grant.
5 The total planning budget includes $2,075,420 in funds from the Surface Transportation Program and funds from the Bureau of Reclamation, the Environmental Protection Agency, and the FHWA Congestion Mitigation and Air Quality Program..
6 The total planning budget includes numerous federal and state grants.
7 The total planning budget also includes $365,851 in funds from the Surface Transportation Program.
8 The total planning budget also includes $231,007 in State Planning and Research funds (federal), $94,424 in FTA 5307 funds applied to transit planning, and $20,000 in FTA 5313 funds.

CONCLUSION

WHERE TO GO FROM HERE

This guidebook offers numerous examples of how to approach the various challenging tasks in which small MPOs are engaged. The staff members of small Texas MPOs have revealed which tasks are the most challenging for them, and the directors of acclaimed MPOs outside of Texas have explained how they plan effectively with their limited resources. We believe that it is helpful to hear about the difficulties other MPOs are facing and their strategies for overcoming those difficulties.

However, this guidebook is only a starting point. There are myriad ways to approach each of the tasks discussed in this book, with only a sample represented here. Small MPOs can explore the resources listed at the end of the sections, and they will lead to more resources that provide guidance on important planning tasks. Perhaps the most important lesson to be learned from this guidebook is that there is much to learn from other planners. Continue discussions among other transportation planners in this state and beyond, and build a database of strategies to employ that fit your circumstances. Resources may be limited, but good ideas are abundant.

APPENDIX 1

KEY TO COMMONLY-USED ABBREVATIONS

CAA	Clean Air Act
COG	Council of Governments
DOT	Department of Transportation
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GIS	Geographic Information Systems
GTPF	General Transportation Planning Fund
ISTEA	Intermodal Surface Transportation and Efficiency Act of 1991
ITS	Intelligent Transportation Systems
LRP	Long Range Plan
MAB	Metropolitan Area Boundary
MPO	Metropolitan Planning Organization
MTP	Metropolitan Transportation Plan
NEPA	National Environmental Policy Act
NAAQS	National Ambient Air Quality Standards
PL	Planning (Federal Funds for Metropolitan Planning)
RMA	Regional Mobility Authority
SIB	State Infrastructure Bank
SIP	State Implementation Plan
SPR	State Planning and Research
STIP	State Transportation Improvement Program
STP	State Transportation Plan
STP	Surface Transportation Program
TAZ	Traffic Analysis Zone
TCM	Transportation Control Measure
TEA-21	Transportation Equity Act for the 21st Century
TIP	Transportation Improvement Program
TMA	Transportation Management Area
TPF	Transportation Planning Funds
TTC	Texas Transportation Commission
TxDOT	Texas Department of Transportation
UPWP	Unified Planning Work Program
UTP	Unified Transportation Program
UZA	Urbanized Area

APPENDIX 2

QUESTIONNAIRE FOR NON-TMA MPOS IN TEXAS

The purpose of this survey is to understand the challenges that MPOs face as they plan the future of their regions. Your responses will help us develop a guidebook specifically targeted to the needs of small MPOs in Texas.

1.What MPO do you work for?

2.What is your job title?

3.What is the single biggest operational challenge your MPO faces?

4.Please rate each of the following activities according to how much it challenges you and your staff (*please circle one choice per activity*):

	Not challenging at all	Not very challenging	Not sure/ neutral	Somewhat challenging	Very challenging	Not applicable to this MPO
Environmental justice	1	2	3	4	5	N/A
Air quality/conformity	1	2	3	4	5	N/A
Planning for rural areas	1	2	3	4	5	N/A
Congestion mitigation	1	2	3	4	5	N/A
Public involvement	1	2	3	4	5	N/A
Travel demand modeling	1	2	3	4	5	N/A
Financial planning	1	2	3	4	5	N/A
Project prioritization	1	2	3	4	5	N/A
Long-range planning	1	2	3	4	5	N/A
Land Use Forecasting	1	2	3	4	5	N/A
Other*	1	2	3	4	5	N/A

**If other, please describe:*

5.How long (in weeks or months) does it take your MPO to complete each of the following tasks?

Metropolitan Transportation Plan _____

Transportation Improvement Program _____

Unified Planning Work Program _____

Annual Listing of Projects _____

Annual Performance & Expenditure Report _____

Travel Demand Forecast Inputs _____

Financial Plan _____

*6.*Which of the required tasks listed above is the most challenging for your staff to complete? Why? *(please choose one task)*

*7.*Of all the tasks that your MPO undertakes, which one do you feel your staff is the best at? Why? *(please choose one task)*

8.What projects or activities does your staff work on besides the federally required tasks?

9. Approximately what percent of weekly staff time is spent on these extra projects?

0-10%	____
11-20%	____
21-30%	____
31-40%	____
41-50%	____
Over 50%	____

10. What projects would you like to do that you currently cannot do because of limited staff time, expertise, or resources?

11.What issues or tasks do you or your staff need more information or training on?

12. Please return with your survey as much of the following information as is readily available, send it as an attachment to an e-mail (in Word, PDF, or RTF format only, please) or indicate if it is available online:

Document	Enclosed	Online	Will send via e-mail	Not readily available
UPWP (unless you've already sent it)	☐	☐	☐	☐
List of staff positions, with responsibilities	☐	☐	☐	☐
Long-range plan (MTP)	☐	☐	☐	☐
Tranportation Improvement Program (TIP)	☐	☐	☐	☐
Financial Plan	☐	☐	☐	☐
Public Involvement Plan	☐	☐	☐	☐
Description of land use forecasting process	☐	☐	☐	☐
Description of travel demand modeling process	☐	☐	☐	☐
Description of environmental justice policies and practices, if any	☐	☐	☐	☐
Documentation of conformity analysis, if any	☐	☐	☐	☐
Annual Performance and Expenditure Report	☐	☐	☐	☐
Description of other projects, if any	☐	☐	☐	☐

Thank you for completing the survey! We know that your time is limited and valuable, and we will work hard to make a guidebook that will be useful for you.

Please return the survey and attached documents to the following address:

Jackie Brown
School of Architecture
Campus Mail Code: B7500
University of Texas
Austin, TX 78712
jackie.brown@mail.utexas.edu

APPENDIX 3

ENGINEERING AND PLANNING PROGRAMS AT TEXAS COLLEGES

Here is a list of career placement contacts for colleges and universities in Texas with planning or transportation engineering programs:

Lamar University
Programs:

- Civil Engineering
  Contact: Linda Dousay, Administrative Support Assistant, dousaylf@hal.lamar.edu, (409) 880-8759

Prairie View A & M
Programs:

- Civil Engineering
  Contact: Dr. Ramalingam Radhakrishnan, Program Liaison, r_radha@pvamu.edu, (936) 857-2418
  OR: Albert Gee, Director of Human Resources, albert.gee@pvamu.edu, (936) 857-3828

Southwest Texas State University
Programs:

- Technology
- Geography
  Contact: Dr. Andrew Budek, Assistant Professor and Technology Program Liaison, AB30@swt.edu, (512) 245-2137
  OR: Mark Carter, Internship Director, Geography Program, MC12@swt.edu, (512) 245-8587
  OR: Josie Garrott, Associate Director for Employee Relations, Career Services Center, jgarrott@swt.edu, (512) 245-2645

Stephen F. Austin State University
Programs:

- Civil Engineering
  Contact: Ralph Busby, Director of Counseling and Career Services, rbusby@sfasu.edu, (936) 468-2401

Texas A & M University
Programs:

- Transportation and Materials (Civil) Engineering
- Department of Landscape Architecture and Urban Planning
  Contact: Texas A & M Career Center, employer@cctr.tamu.edu, (979) 845-5139

Texas A & M University, Kingsville
Programs:

- Civil Engineering
  Contact: Susan Dollar, Director of the Career Services Center, susan.dollar@tamuk.edu, (361) 593-2217

Texas Southern University
Programs:

- Civil Engineering
- Center for Transportation Training and Research
  Contact: Dr. Carol Lewis, Director and Associate Professor, Center for Transportation Training and Research, lewis_ca@tsu.edu (713) 313-7924

Texas Tech University
Programs:

- Civil Engineering
  Contact: David Kraus, Director of the Career Center, dave.kraus@ttu.edu, (806) 742-2210

University of Houston
Programs:

- Civil Engineering
  Contact: Kim Barrow, Job Placement Coordinator, University Career Services kabarrow@central.uh.edu, (713) 743-5123,
  OR: Dr. David Small, Assistant Vice President, Student Services dsmall@uh.edu, (713) 743-5110

University of North Texas
Programs:

- Geography
- Engineering Technology
  Contact: Paul Leverington, Director of Career Services, paul@unt.edu, (940) 565-2105

University of Texas at Arlington
Programs:

- City and Regional Planning Program
  Contact: School of Urban and Public Affairs, Career Development and Placement, (817) 272-3071

- Civil and Environmental Engineering
  Contact: Dr. Siamak Ardekani, Professor and Chairman, ardekani@ce.uta.edu, (817) 272-5055
  OR: UTA Business Career Services, careers@uta.edu, (817) 272-5201

University of Texas at Austin
Programs:

- Community and Regional Planning Program, School of Architecture
  Contact: Sheila Balog, Placement Director, sheila.balog@mail.utexas.edu, (512) 471-1922

- Transportation (Civil) Engineering
  Contact: Nancy Evans, Director, Engineering Career Assistance Center, nancyevans@mail.utexas.edu, (512) 471-1915

University of Texas at El Paso
Programs:

- Civil Engineering
  Contact: Carol Russell, Administrative Assistant and Employer Contact, Career Services, crussell@utep.edu, (915) 747-5640

University of Texas at El Paso
Programs:

- Civil Engineering
  Contact: Samuel Gonzales, Director of Career Services, sgonzales@utsa.edu, (210) 458-4595

NOTES

[1] 23 CFR §450.104

[2] All C.F.R. citations refer to the following source: U.S. Government Printing Office. National Archives and Records Administration. Office of the Federal Register. 2002. *Code of Federal Regulations*. Accessed online via the World Wide Web: http://www.access.gpo.gov/nara/cfr/cfr-table-search.html.

[3] U.S. Department of Transportation. Turner-Fairbank Highway Research Center. "Milestones in U.S. Highway Transportation." Accessed Aug. 13, 2002, via the World Wide Web: http://www.tfhrc.gov/pubrds/spring96/p96sp44a.htm.

[4] Lane, Scott. 1998. "Air Apparent: How the MPO Can Work with Air Quality." Sixth National Conference on Transportation Planning for Small and Medium-Sized Communities. Spokane, WA: Washington State Department of Transportation. TRIS Online Database. P. 2.

[5] U.S. Department of Transportation. Federal Highway Administration and Federal Transit Administration. 1999. "A Guide to Metropolitan Transportation Planning Under ISTEA—How the Pieces Fit Together." Accessed Nov. 2, 2001 via the Internet: http://ntl.bts.gov/DOCS/424MTP.html, p. 1.

[6] U.S. Department of Transportation. 1998. "A Summary: Transportation Equity Act for the 21st Century." Accessed Nov. 2, 2001, via the World Wide Web: http://www.fhwa.dot.gov/tea21/sumcov.htm.

[7] 43 Texas Administrative Code §15.3(b).

[8] All Texas Administrative Code citations refer to the following source: Shea, Gwyn. Texas Administrative Code. Texas Secretary of State. Accessed online via the World Wide Web: http://info.sos.state.tx.us/pub/plsql/readtac$ext.viewtac.

[9] U.S. Department of Transportation. Federal Highway Administration and Federal Transit Administration. 1993. Final Rules—Statewide Planning; Metropolitan Planning. National Archives and Records Administration. Office of the Federal Register. P.2.

[10] 23 CFR §450.312(f)

[11] U.S. D.O.T, F.H.W.A. and F.T.A, "A Guide to Metropolitan Planning Under ISTEA…", 6.

[12] 23 C.F.R. §450.316(b)(1)

[13] 23 U.S.C. §134(f)(1)

[14] All U.S.C. citations refer to the following source: Cornell University Law School. Legal Information Institute. *U.S. Code*. Accessed via the World Wide Web: http://www4.law.cornell.edu/uscode/.

[15] U.S. D.O.T, F.H.W.A. and F.T.A, "A Guide to Metropolitan Planning Under ISTEA…", 7.

[16] 23 CFR §450.316(c)

[17] U.S. D.O.T., F.H.W.A. and F.T.A, Final Rules, 61-62.

[18] Beall, Roger. 1997. "Funding of Metropolitan Planning Program." Proceedings of the Metropolitan Planning/Program Management Workshop (Unpublished). Austin, Texas. P. 2.

[19] Beall, 3.

[20] U.S. Department of Transportation. 1998. "Fact Sheet: Metropolitan Planning." Accessed Nov. 2, 2001, via the World Wide Web: http://www.fhwa.dot.gov/tea21/factsheets/metropln.htm.

[21] Leary, Mike. 1997. "Metropolitan Planning Program Funding." Proceedings of the Metropolitan Planning/Program Management Workshop (Unpublished). Austin, Texas.

[22] Dunlap, Karen. 1997. "FTA Funding of the Metropolitan Planning Program." Proceedings of the Metropolitan Planning/Program Management Workshop (Unpublished). Austin, Texas.

[23] 43 Texas Administrative Code §15.4(b)(8).

[24] 23 CFR 420.109(b).

[25] Beall, 1.

[26] Dunlap, 1.

[27] Beall, 2.

[28] Beall, 2.

[29] Waco Metropolitan Planning Organization. 2001. *Unified Planning Work Program, Fiscal Year 2002*. Waco, TX.

[30] Lubbock Metropolitan Planning Organization. 2001. *Unified Planning Work Program, Fiscal Year 2002*. Lubbock, TX.

[31] 43 Texas Administrative Code §15.3(e).

[32] 23 CFR §450.306(i)

[33] 23 CFR §450.334(a)

[34] Tiley, Paul. "UPWP Development." Proceedings of the Metropolitan Planning/Program Management Workshop. Texas Department of Transportation (Unpublished). Austin, Texas. P. 3.

[35] 23 CFR §450.312

[36] Juarez, Tim. "TxDOT Oversight Responsbility." Proceedings of the Metropolitan Planning/Program Management Workshop. Texas Department of Transportation (Unpublished). Austin, Texas. P. 1.

[37] 23 CFR §450.306; 450.324

[38] Juarez, "TxDOT Oversight Responsbility," 1.

[39] 23 CFR §450.214

[40] 23 U.S.C. §134(a)(3)

[41] U.S. D.O.T, F.H.W.A. and F.T.A, "A Guide to Metropolitan Planning Under ISTEA…", 9.

[42] 23 U.S.C. §134(f)(1)

[43] Oregon Visions Project.1993. "A Guide to Community Visioning." American Planning Association, Oregon Chapter. Pp. 8-9.

[44] Permian Basin Regional Planning Commission. 1999. *Midland-Odessa Metropolitan Transportation Plan, 2000-2025.* Midland-Odessa, Texas. P. 13-14.

[45] Permian Basin Regional Planning Commission. 1999. *Midland-Odessa Metropolitan Transportation Plan, 2000-2025.* Midland-Odessa, Texas. P. 14.

[46] U.S. Department of Transportation. Federal Highway Administration. 2002. "Resources: Land Use and Transportation Modeling Tools - CorPlan, Charlottesville, VA." Accessed Aug. 21, 2002 via the World Wide Web: http://www.fhwa.dot.gov///////tcsp/corplan.html.

[47] 23 CFR §450.212(a)

[48] U.S. Department of Transportation. Federal Highway Administration and Federal Transit Administration. "Interim Policy on Public Involvement." Accessed May 23, 2002 via the Internet: http://ntl.bts.gov/DOCS/FHWA.html.

[49] Howard/Stein-Hudson Associates, Inc., and Parsons Brinckerhoff Quade and Douglas. 1996. "Public Involvement Techniques for Transportation Decision-Making." Washington, D.C.: Federal Highway Administration and Federal Transit Administration. Accessed Apr. 8, 2002 via the World Wide Web: http://www.fhwa.dot.gov/reports/pittd/cover.htm.

50 National Archives and Records Administration.. Office of the Federal Register. Federal Register. May 1, 2002 (Vol. 67, No. 84). Pp. 21,961-21,967. Accessed Aug. 6, 2002 via the World Wide Web: http://www.access.gpo.gov/su_docs/aces/aces140.html.

[51] National Archives and Records Administration.

[52] Killeen-Temple Urban Transportation Study. 2001. *Public Involvement Policy*. Killeen-Temple, TX.

[53] National Archives and Records Administration.

[54] Wyrick, Lon. Telephone interview. Apr. 16, 2002.

[55] National Archives and Records Administration.

[56] Boyd, David S. and Amy G. Gronlund. 1995. "The Ithaca Model: A Practical Experience in Community-Based Planning," *Transportation Research Record* No. 1499, pp. 56-61.

[57] National Archives and Records Administration.

[58] Gray, Michael. Telephone interview. Apr. 18, 2002.

[59] National Archives and Records Administration.

[60] Twaddell, Hannah. Letter to the authors. July 29, 2002.

[61] Bright Rue, Harrison. Telephone interview. Apr. 16, 2002.

[62] Bowman,Clair. Telephone interview. Apr. 16, 2002.

[63] National Archives and Records Administration.

[64] Sanderson, Marlie. Telephone interview. May 20, 2002.

[65] Killeen-Temple Urban Transportation Study.

[66] Dickinson, Bob. Telephone interview. Aug. 26, 2002.

[67] Bright Rue.

[68] U.S. D.O.T, F.H.W.A. and F.T.A, "A Guide to Metropolitan Planning Under ISTEA…", 9.

[69] U.S. D.O.T, F.H.W.A. and F.T.A, "A Guide to Metropolitan Planning Under ISTEA…", 9.

[70] U.S. D.O.T, "Fact Sheet: Metropolitan Planning."

[71] U.S. D.O.T, F.H.W.A. and F.T.A, "A Guide to Metropolitan Planning Under ISTEA…", 9-10.

[72] Texas Department of Transportation, 2003 Unified Transportation Program, Exhibit A.

[73] Wichita Falls Metropolitan Planning Organization. *FY 2002-2004 Transportation Improvement Program*. Unpublished. P. 3.

[74] Younger, Kristina and Christopher O'Neill. 1998. "Making the Connection: The Transportation Improvement Program and the Long-Range Plan." *Transportation Research Record*, No. 1617, p. 118-121.

[75] 23 U.S.C. §134(g)(2)(B)

[76] Rushley, Elizabeth. 1996. "Funding Major Transportation Projects in Ohio's Small and Medium-Sized Metropolitan Planning Organizations." Sixth National Conference on Transportation Planning for Small and Medium-Sized Communities. Spokane, WA: Washington State Department of Transportation. TRIS Online Database.

[77] Smith, Scott. 1996. "The Grassroots Public/Private Toll Movement – The Lake of the Ozarks Community Bridge." Sixth National Conference on Transportation Planning for Small and Medium-Sized Communities. Spokane, WA: Washington State Department of Transportation. TRIS Online Database.

[78] 23 CFR §450.314(a)(1).

[79] Tiley, 8.

[80] Waco Metropolitan Planning Organization. *Unified Planning Work Program, Fiscal Year 2002*. Waco, TX.

[81] Juarez, Tim. "Planning Program Management: Monitoring MPO Activities." Proceedings of the Metropolitan Planning/Program Management Workshop. Texas Department of Transportation (Unpublished). Austin, Texas. P. 18.

[82] 49 CFR §21.1-21.3.

[83] 49 CFR §21.5(b)(1).

[84] 49 CFR §21.5(b)(7).

[85] U.S. Department of Transportation. Federal Highway Administration and Federal Transit Administration. "An Overview of Transportation and Environmental Justice." Accessed Jan. 15, 2002 via the World Wide Web: http://www.fhwa.dot.gov/environment/ej2000.htm.

[86] U.S. Department of Transportation. Federal Highway Administration. 1998. "FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (6640.23)."

[87] Bosley, Molly. Telephone interview. Aug. 14, 2002.

[88]U.S. Department of Transportation. Federal Highway Administration and Federal Transit Administration. 2002. "Environmental Justice: Case Studies." Accessed Jan. 15, 2002 via the World Wide Web: http://www.fhwa.dot.gov/environment/ejustice/case/index.htm

[89] Bright Rue.

[90] Davies, Greg. Telephone interview. Aug. 19, 2002.

[91] Everett, Jerry. 1998. "New Ambient Air Quality Standard – FHWA Perspectives of the Impacts on Small and Medium-Sized Areas." Sixth National Conference on Transportation Planning for Small and Medium-Sized Communities. Spokane, WA: Washington State Department of Transportation. TRIS Online Database. P. 4.

[92] Everett, p. 7-8.

[93] U.S. Environmental Protection Agency. 1997. "EPA's Revised Ozone Standard." U.S. Environmental Protection Agency. Accessed Aug. 13, 2002 via the World Wide Web: http://www.epa.gov/ttn/oarpg/naaqsfin/o3fact.html.

[94] Everett, p. 7-8.

[95] U.S. Environmental Protection Agency. 2001. "USA Air Quality Nonattainment Areas." Accessed Jan. 14, 2002 via the World Wide Web: http://www.epa.gov/airs/nonattn.html.

[96] Plater, Zygmunt J.B., et al. *Environmental Law and Policy: Nature, Law, and Society*. St. Paul, MN: West Group, 1998.

[97] 42 USC §7506(c)(1)

[98] 40 CFR §93.120(a)(1)

[99] Pansing, C., E.N. Schreffler, and M.A. Sillings. 1998. "Comparative Evaluation of the Cost-Effectiveness of 58 Transportation Control Measures." *Transportation Research Record*, No. 1641, pp 97-104. (TRIS ID No. 0075620)

[100] U.S. Environmental Protection Agency. 2001. "EPA Guidance: Improving Air Quality Through Land Use Activities." EPA 420-R-01-001. Accessed Aug. 26, 2002, via the World Wide Web: http://www.epa.gov/otaq/transp/landguid.htm.

[101] Davies, Greg. Telephone interview. Aug. 19, 2002.

[102] Fauver, Kirk. E-mail to the authors. Aug. 5, 2002.

[103] 42 USC §7505(a)

[104] U.S. Environmental Protection Agency. 2002."Welcome to the Green Book: Nonattainment Areas for Criteria Pollutants." Accessed Apr. 2, 2002, via the World Wide Web: http://www.epa.gov/air/oaqps/greenbk/index.html.

[105] Everett, p. 1.

[106] Lane, p. 4.

[107] Lane, p. 7-8.

[108] Lane, p. 8-10.

[109] Southeast Texas Regional Planning Commission. 2001. *2002 Unified Planning Work Program.* Beaumont, TX.

[110] South East Texas Regional Planning Commission. "Ozone Action Day." Accessed via the World Wide Web June 19, 2002: http://www.ozoneactionday.org/.

[111] Tyler Metropolitan Planning Organizaton. *Unified Planning Work Program, October 1, 2001 – September 30, 2002.* Tyler, TX.

[112] Davies.

[113] 49 USC §5303 (b)(1)(C)

[114] 49 USC §5303 (b)(1)(E)

[115] 49 USC §5304 (a)(1)

[116] Regan, A., Holguin-Vera, J., Chow, G., & Sonstegaard, M.H. 2000. "Freight Transportation Planning and Logisitics." *Transportation in the New Millenium*. Washington, D.C.: Transportation Research Board. (TRIS ID No. 00784361)

[117] Regan, Holguin-Vera, Chow, & Sonstegaard.

[118] U.S. D. O.T. F.H.W.A. 2001. "Public-Private Freight Planning Guidelines."

[119] U.S. Department of Transportation. Federal Highway Administration. 2001. "Public-Private Freight Planning Guidelines." Accessed May 29, 2002, via the World Wide Web: http://www.epa.gov/air/oaqps/greenbk/index.html.

[120] Selman, Keith. Telephone interview. Aug. 14, 2002.

[121] Shorten, Brian. Telephone interview. Apr. 18, 2002.

[122] San Luis Obispo Council of Governments. 2002. *Overall Work Program and Budget, Fiscal Year 2002/2003*. San Luis Obispo, CA.

[123] Chittendon County Metropolitan Planning Organization. 2001. *Unified Planning Work Program, Fiscal Year 2002*. South Burlington, VT.

[124] Laredo Urban Transportation Study. 2001. *2002 Unified Planning Work Program*. Laredo, TX.

[125] Waco Metropolitan Planning Organization.

[126] Twaddell.

[127] Twaddell.