VOLUME I, SECTION II.
CONCLUSIONS

INTRODUCTION

The 1990s was a decade of empowerment for Metropolitan Planning Organizations [MPOs], whereby Congress vested them with primary responsibility for planning transportation projects and distributing certain transportation dollars within their regions. As the decade came to a close, Congress commissioned an independent study of the planning process and organization of the Denver MPO. This report responds to that Congressional mandate. We examined the processes and procedures of MPOs in transportation planning, focusing on such issues as need satisfaction, project prioritization, fiscal allocation, and equity and fairness of the decisional process.

Because many issues arising in Denver are of common concern to metropolitan areas nationwide, case studies identifying "best practices" were included in the report. In evaluating the performance of the Denver MPO, and in trying to identify "best practices," we found it analytically useful to compare and contrast its strengths and weaknesses with those of several other MPOs. The Research Team was most interested in those metropolitan areas possessing characteristics similar to Denver, particularly the following: population size,[1] overall population growth, the presence of rapidly-growing jurisdictions, the number and type of jurisdictions in the MPO, sunbelt region status, and air quality status. We were particularly interested in the efficacy of transportation planning in large metropolitan areas confronted with growth, and therefore engaged in a comparative analysis of MPO structures, processes and procedures in four large and rapidly growing metropolitan areas:

- **Dallas-Ft.Worth** (the North Central Texas Council of Governments)
- **Denver** (the Denver Regional Council of Governments)
- **Phoenix** (the Maricopa Association of Governments)
- **Seattle** (the Puget Sound Regional Council)

We also examined how well the transportation planning and allocation process is carried out in areas served by multiple MPOs, evaluating how well these issues are addressed in the following regions:

- **Charlotte** (the Cabarrus/South Rowan County MPO, the Gaston Urban Area MPO, the Rock Hill/York County SC MPO, and Mecklenburg/Union MPO)
- **Miami/Ft. Lauderdale** (the Miami-Dade County MPO, the Broward County MPO, the Palm Beach County MPO)
- **Tampa/St. Petersburg** (the Pinellas County MPO, the Hillsboro County MPO, the Pasco County MPO, and Springhill/Hernando County MPO)

[1] This study focuses on large MPOs that are Transportation Management Areas [TMAs], and only a limited number of such TMAs. One should be cautious in relying on the findings herein to other MPOs of less than 200,000 in population, and to other large MPOs facing different problems or conditions.

In gathering material for this study, we interviewed (personally, by telephone, or by mail) several hundred individuals who participate in or observe the MPO process at all levels, including the public, transportation providers, staff, engineers, planners, and federal, state and local government (elected and unelected) officials.[2] We examined the federal and state statutory and regulatory foundations for MPOs, reviewed the long-range regional transportation plans [RTPs] and Transportation Improvement Programs [TIPs] they produce, reviewed state allocations to metropolitan areas and their interaction and cooperation with MPOs, examined federal certification reviews of MPOs, and digested a wealth of literature addressing MPOs, and the broader subjects of transportation planning and equity. Additionally, through every step in the development of this study, we worked with a Steering Committee comprised of representatives of a major MPO, a state DOT, and city and county governments.[3] We also engaged a review panel of nationally prominent experts on metropolitan transportation planning to review earlier drafts of our study.[4]

FORMALIZATION OF TRANSPORTATION PLANNING & EMPOWERMENT OF THE MPOs

Congress initially mandated that transportation planning be a condition of receiving federal funds in 1962. At that time, Congress also insisted the planning process be continuing, comprehensive, and cooperative (since known as "3-C Planning"). The "cooperative" requirement of the 3-C Planning process insists on cooperation between federal, state and local governmental agencies, as well as cooperation between agencies at each level of government. Our findings reveal that the most successful MPOs have a cooperative relationship with their state DOTs.

As the 43,000 mile Interstate Highway System neared completion, Congressional attention turned to alternatives to the single-occupancy vehicle [SOV] to satiate the public's desire for mobility. Concerns over congestion, sprawl and pollution, all of which defied political jurisdictional boundaries, emerged as political issues. Congress also recognized that the separate and isolated modal networks were not linked together well. Seamless connectivity between modes might well allow Americans to enjoy the inherent advantages of all modes. With a conclusion that the Interstate Highway System would not be further expanded, transportation development would transition to a more regional, or

[2] We formally interviewed 167 individuals, and tabulated questionnaires from an additional 214 individuals in the Dallas-Ft.Worth , Denver, Phoenix and Seattle regions. We also interviewed and tabulated questionnaires from 54 individuals in the Charlotte, Miami/Ft. Lauderdale and Tampa/St. Petersburg regions.

[3] They were Jennifer Finch and Ron Seylhouwer of the Colorado Department of Transportation, David Pampu of the Denver Regional Council of Governments, Richard Brasher and Terry Rosapep of the City and County of Denver, and Duane Fellhauer of Douglas County.

[4] Members of the review panel were Ray Chamberlain of Parsons Brinckerhoff, Chris Paulson of Policy Advantage, Ken Sulzer of the San Diego Association of Governments, and Sam Zimmerman of Daniel, Mann, Johnson & Mendenhall. Other reviewers and contributors included Bruce McDowell of the National Academy of Public Administration.

local, focus. Devolution of power, from the federal government to the States, the regions and the local jurisdictions, would empower institutions closer to the people.

Enactment of the Intermodal Surface Transportation Efficiency Act of 1991 [ISTEA] reflected these concerns. Significantly, it was the first highway bill in the nation's history to have expunged the word "highway" from its title. This legislation provided enhanced flexibility for state and local governments to redirect highway funds to accommodate other modes and modal connections. Most importantly, for present purposes, it significantly enhanced the role of MPOs in transportation planning by giving the larger MPOs increased authority in project planning and prioritization in consultation with the state, while requiring the state and local transit provider to cooperate with the MPO on project selection. The MPO has responsibility for allocating STP-metro, and in some states, CMAQ,[5] and enhancement (e.g., bicycle, pedestrian) funds in "consultation" with the State DOT; the state has jurisdiction over the National Highway System, Bridge, and Interstate Maintenance funds, which it selects in "cooperation" with the MPO. The MPO was required to engage in formalized planning of two types -- a 20-year long-range plan, and a short-term Transportation Improvement Program, covering transportation projects to be implemented over at least a three-year period. The TIP must be updated at least every two years.

The Transportation Equity Act for the 21st Century [TEA-21] further enhanced the importance of the MPOs in the transportation planning process by designating specific funds over which they have allocation responsibility. Thus, beginning in 1991, MPOs were transformed from advisory institutions, into institutions that actually have direct influence over the prioritization and allocation of certain transportation funds -- from voluntary planning organizations, to organizations that have their fingers on some of the purse strings. It is clear that such empowerment over money caused many local jurisdictions to take the MPO process and their participation therein far more seriously than they had theretofore. Many began to send more senior politicians and staff to participate in MPO committees, for example.

All this gave transportation planning a new perspective. The interstate and inter-regional "top-down" highway planning process of the federal and state governments, respectively, and the localized "bottom-up" street and road planning process of the cities and counties, would be coupled with a third regional process which was a bit of both, expanded beyond highways, streets and roads into a comprehensive transportation planning process that took into account all modes, as well as a number of related social, economic, and environmental issues.

In Colorado, a Memorandum of Agreement [MOA] among the State DOT, the regional transit agency, and the MPO, establishes the procedures under which

[5] Congestion Mitigation and Air Quality [CMAQ] fund allocation is the responsibility of the State DOT. Project selection should occur cooperatively between the MPO and the State DOT. Historically, in Colorado a "lump sum" has been allocated to air quality non-attainment MPOs for project selection, and some to rural non-attainment areas for PM_{10} mitigation.

transportation planning and allocation are conducted in the Denver metropolitan region – it is essentially the charter establishing the transportation planning process of the Denver Regional Council of Governments [DRCOG]. The MOA was promulgated in 1977, when the State transportation institution was a Highway Department, well before the federal legislative mandates of intermodalism, alternatives to the single-occupancy-vehicle plus air quality requirements mandated by ISTEA and TEA-21. State legislation creating the Colorado Department of Transportation was passed nearly a decade ago. Below, we recommend that the DRCOG MOA and CDOT legislation be updated to reflect the national priorities established over the last decade, to streamline and modernize the decisional process of transportation planning and allocation, to eliminate unnecessary redundancy, to encourage inclusiveness of relevant constituencies, in an open and fair process which meets the needs of both the State and the metropolitan Denver region at the dawn of the 21st Century.

THE ROLE OF MPOs, STATES, & LOCAL GOVERNMENTS IN REGIONAL TRANSPORTATION PLANNING

It is important to note what federal legislation has done and what it has not. Clearly, it has formalized the regional transportation planning process, involving all stakeholders, including the local cities and counties, the State DOT, the local transit provider, and the public. These procedures are even more stringent and formalized in regions which have air quality attainment problems. Congress recognized that transportation and environmental issues cross jurisdictional lines, and therefore need a regional approach to resolving problems of mobility, congestion, air pollution, and sprawl. MPOs might be described as small group democracy engaged in a process that attempts to build consensus between and among various constituencies. In fact, an MPO is essentially a coalition of local governments, the State DOT, and the local transit provider, ideally working together to solve regional transportation needs.

Beyond the short-term fiscal resource allocation of TIP development, participation in the MPO planning processes may yield other significant benefits. These include access to longer-term policy development and consensus building, sharing of information resources, technical assistance from the MPO staff in corridor or subarea studies, and structured access to a forum of elected peers for coordination and exchange of ideas and political goals. Such collaboration may also move the region to coalesce on issues such as land use planning (which are inextricably intertwined with issues of transportation adequacy), equity issues surrounding the state's allocations of transportation fiscal resources, or even common social and economic issues unrelated to transportation. The ability of the MPO to facilitate such regional planning depends in large part on the technical competence of its staff, the ability of its leadership to build consensus among diverse participants, and the leadership of local officials and the business community. An important role for MPOs is to build "partnerships" of jurisdictions and constituencies for moving forward on solving regional problems. The regional planning framework provided by MPOs can provide the technical studies and consensus-building processes

among local officials enabling support for using state and federal funds from a variety of programs, along with local funds, to achieve broader community goals.

Consensus-building between large and small, central and suburban, counties and cities can consume considerable time and energy. This can be a particularly acute problem for fast-growing regions, where transportation needs can outpace existing infrastructure and available funding. MPOs typically have no power to regulate growth. Fast-paced housing and commercial development can overwhelm available infrastructure. The formal procedural structure of RTP and TIP development, exacerbated by a need to achieve consensus among diverse participants, necessarily can slow the ability of the MPO to respond quickly to rapidly changing transportation needs. The TIP cycle is formalized on a two- to three- year planning horizon, though it can be amended mid-stream. The twenty-year long range plan is manifestly at odds with a local zoning process which may consume only a few months. The planning horizon for shopping centers and housing developments is significantly shorter than the planning horizon for new transportation corridors, or even major expansion of existing corridors, once such corridors have been designated and funded. Thus, there is a disjunction between the metropolitan transportation planning process and land development.

For purposes of better coordination between transportation and land use, it is useful to consider the experience of other rapidly-growing metropolitan areas and states. For example, the State of Washington enacted a Growth Management Act in the early 1990s which has served as a framework within which transportation decisions are made. In surveys conducted in the Seattle area, this statute was cited numerous times for its effect in focusing and simplifying transportation decision making in the central Puget Sound region. The Washington Growth Management Act seeks to "encourage efficient multimodal transportation systems that are based on regional priorities and coordinated with county and city comprehensive plans." These comprehensive plans must include an assessment of the impact of the transportation plan and land use assumptions on the transportation systems of adjacent jurisdictions.[6] Comprehensive plans must be coordinated with, and consistent with, the comprehensive plans of other contiguous areas or those with related regional issues.[7]

Fewer than half of the respondents we surveyed believe their MPO is able to meet rapidly changing transportation needs. The primary reasons appear to be the inadequacy of funding, and structural problems inherent in the MPO transportation planning process. In Dallas/Ft. Worth, and to a lesser extent in Seattle, those respondents who felt the MPO process was unable to meet rapidly changing transportation needs identified inadequate resources or unattainable tasks as the primary reason; in Denver and Phoenix,[8] the primary reason identified was that the process was excessively complex and time-consuming, a reason ranking second in Dallas/Ft. Worth and Seattle. Hence, MPOs

[6] RCW 36.70A.070.
[7] RCW 36.70A.100.
[8] In Phoenix, a reason ranking as high as "complex process/time-consuming" was "conflicting interests/lack of cooperation."

should work toward simplifying their procedures in a way that does not sacrifice public participation or fairness.

MPOs do not create resources; they allocate resources. It is for the federal, state, and local governments to create the necessary tax resources to meet transportation needs (though the MPO could attempt to influence resource creation). In many (perhaps most) jurisdictions, needs outpace resources. MPOs also do not design and build transportation projects, pour asphalt, or purchase transportation infrastructure or rolling stock. MPOs (in a collaborative process driven by their member jurisdictions, the state, the transit provider, and the public) designate which projects shall be built with the economic resources within their jurisdictional ambit.

The empowerment of MPOs sought to be achieved by Congress also included a requirement that the state engage in "cooperative" transportation planning with the local jurisdictions. ISTEA took this long-standing requirement a step further by requiring that the State DOT submit its projects for approval in the TIP. Theoretically, a state which refused to engage in cooperative planning, or pursued priorities significantly different from those of the MPO, could have its projects vetoed by the MPO, for unless they were included in the TIP, they could not be federally funded. But then, the Governor has an equally potent veto over the TIP, for he or she must sign off on the TIP, and it must be included in the STIP, or the MPO's projects will not be federally funded. The state could also retaliate by devoting its resources to projects outside any metropolitan area whose MPO or its members challenged the state's priorities. Because either side could "checkmate" the other, it has been rare that either side has exercised its veto over the other's projects, no matter how they may disagree with the other's priorities. In this sense, there is a balkanized disconnect between one set of projects (the larger set) that do not have to satisfy the criteria which have been developed by the collective will of the jurisdictions in whose areas the infrastructure will be built. The formalized federal requirement of putting the state's projects in the TIP is meaningless if the state may ignore the objective criteria of project prioritization developed in the TIP. Therefore, we recommend that MPOs and State DOTs work together to develop criteria for the TIP and long-range plan that evaluate projects from local governments as well as state-proposed projects in a fair and equitable manner.

Because the state controls most of the transportation dollars spent in a metropolitan area (in many areas, the state controls two-thirds or more of the regional transportation dollars; the regional transit provider also controls a sizable amount), it is difficult to assess the success or failure of MPOs in transportation planning. In fact, metropolitan transportation planning is a complex process in which the MPO process is only a component part, for the State DOT, the counties and cities each play a primary role with respect to those projects within their fiscal and jurisdictional realm.

Moreover, relative to needs, in most regions financial resources are chronically inadequate. Thus, the competition for scarce resources may be viewed as a "zero sum game", in which some jurisdictions are perceived "winners" at the expense of others,

perceived as "losers." The MPO may be blamed for an inadequate transportation infrastructure, whose inadequacy may be a product of circumstances beyond its control, including the inadequacy of economic resources to keep pace with needs for infrastructure maintenance or expansion.

Inherent in the MPO process also is the competition among participants for finite transportation dollars and the perceived inequities which may result. When funding is available for limited projects, the situation is ripe for participants whose jurisdictional projects have been excluded to place blame upon the MPO. In reality, the lack of project prioritization may be attributable to any one or more of a combination of extrinsic factors, not the least of which is the disparate "gamesmanship" of the various participants. For example, in order to have a project funded by the MPO, the participant must play an active role in the development of the TIP criteria, submit projects fashioned to score highest on the TIP criteria adopted, and take whatever other steps may be necessary to assure that their projects were included on the long-range plan. For smaller, less well organized jurisdictions, this extensive investment of staff time and effort may prove prohibitive. Some jurisdictions may simply prefer the state's more political process of project prioritization to the more formalized MPO process.

Participation in the MPO process, as noted previously, consumes considerable time. Typically, the individuals who participate on the key committees of the MPO wear two hats -- they may be a mayor, city council member, city planner, or county commissioner in the jurisdiction they represent, and a board or committee member at the MPO. Because the process and substance of TIP criteria development are complex, these representatives may have to rely on the MPO staff to guide them through. The staffs in all large and complex organizations tend to have considerable influence on development of the organization's work. But the point here is that effective participation by a jurisdictional representative in the MPO's work will enhance its jurisdiction's ability to get a larger piece of the pie. Those who fail to bring home a larger slice may be replaced by the jurisdiction which may send one who is more capable of representing its interests to serve on the MPO board or committee.

That, of course, begs the question of whether "getting a larger piece of the pie" is what MPO participation should be about. Shouldn't the primary focus of the MPO, and its participants, be about meeting regional transportation needs? Aren't all jurisdictions "winners" when regional transportation needs are met? That may mean prioritizing projects in a way that puts the region's most pressing transportation needs at the top of the list, even when such prioritization may not satiate a particular jurisdiction's parochial needs.

DRCOG INSTITUTIONAL AND PROCESS STRUCTURE

Typically, an MPO organizes the development of its short-range Transportation Improvement Program and its long-range Regional Transportation Plan through the use of specific committees. There is usually a technical committee (Transportation Advisory Committee [TAC] at DRCOG) composed of planners and engineers from jurisdictions represented in the MPO. There is also a policy committee (Transportation Policy Committee [TPC] at DRCOG), composed of local elected officials plus representatives from the state DOT, regional transit operators, business groups, environmental groups, citizen groups, and regional air quality councils. Finally, there is the MPO Board of Directors, usually composed of elected officials from jurisdictions represented in the MPO. There is one other particularly important committee at DRCOG called the Transportation Committee [TC], a 10-voting member group composed of four representatives from DRCOG, three from CDOT, and three from RTD, which has approval authority over all transportation actions. There are also two non-voting members on the TC, one from the Regional Air Quality Council [RAQC] and one from the State Air Pollution Control Division [APCD].

The cycle of TIP development usually takes over a year from start to finish.[9] The process starts with the DRCOG staff producing an initial draft of the TIP criteria document, which is reviewed by CDOT, RTD, and the TAC. The TAC makes a formal recommendation for approval of the TIP criteria to both the TPC and the TC. The TPC and TC can also suggest and make changes to the criteria, and then each must formally approve the criteria. Finally, the criteria are sent to the Board for approval.

Once the Board approves the criteria, a solicitation for projects is distributed. Any local government (city, town, or county), CDOT, RTD, or other eligible project sponsors may submit projects to be considered for inclusion in the TIP subject to limitations on the number of project requests by jurisdictions based on population size. Project applications are submitted and then reviewed by DRCOG staff to determine project eligibility. All projects to be included in the TIP must implement the improvements and/or policies contained in the fiscally-constrained RTP.[10] DRCOG staff then scores and ranks the eligible projects based on the approved criteria developed for each project type category (maintenance; safety; management; transit; highways; bicycle and pedestrian projects; elderly, disabled, and nonurbanized transit projects; and other projects).[11] The TAC reviews the staff work, which is then reported to the TPC which may direct that revisions be made to the project evaluation.[12]

Following these reviews and revisions, a draft program of projects is prepared for committee review and public hearing. After review and approval from the TAC, TPC, and TC, the Board approves the list of projects to be included in the air quality

12 DRCOG, Interim Policy on Transportation Improvement Program Preparation, May 19, 1999, p. 6.
13 DRCOG, Interim Policy on Transportation Improvement Program Preparation, May 19, 1999, p. 7.
[14] DRCOG, Interim Policy on Transportation Improvement Program Preparation, May 19, 1999, p. 17.
15 DRCOG, Interim Policy on Transportation Improvement Program Preparation, May 19, 1999, p. 17.

conformity analysis. All projects included on the TIP must conform to the State Implementation Plan [SIP] for air quality. The DRCOG staff conducts the air quality modeling for conformity analysis, which is reviewed by the staff at the State Air Pollution Control Division and the Regional Air Quality Council. For air quality non-attainment and maintenance areas, the MPO, FHWA, and FTA must all issue a conformity determination for final TIP approval.[13]

Following air quality analysis, a recommended program of projects is prepared, public hearings are held, and the recommended program is referred to the TAC, TPC, and TC for recommendation to the Board.[14] The final TIP program must be adopted by the Board upon recommendation of the TC and the TPC.[15] The TIP must also be approved by the Governor before it can be included in the STIP.[16] The TIP is subject to amendment, either administratively by the TC, or when policy amendments are concerned, by the Board.[17]

The institutional and process structure of DRCOG as related to the development of the TIP and RTP is extensive, complex, and somewhat cumbersome. There are numerous committees involved in the process, which adds to the time it takes to complete a plan. Only 26% of survey respondents indicated that the institutional structure and decisional process of DRCOG was meeting the long-term transportation needs of the region either very well or adequately well with qualifiers. Together with Phoenix, this was the lowest rating among the MPOs surveyed. Structural/authority problems were identified by 26% of respondents referring to needs not being met because: 1) the MPO does not hold the power to resolve long-term issues or to implement goals, 2) the MPO is not accountable for its actions, 3) the structure and process are inconsistent, or 4) there is a weak relationship with or inadequate support from the state transportation department. Inappropriate focus (not regional, just individual interests; short-term instead of long-term) was identified by 16% of respondents while funding limitations were mentioned by 13%. Numerous respondents indicated dissatisfaction with the size and complexity of the committee structure, though there was no consensus on a single, specific remedy. A number of respondents did indicate some redundancy between the Transportation Committee and the Transportation Policy Committee, which may be one area where some streamlining could occur.

16 Texas Transportation Institute. 1997. A Review and Summary of the Seminars on Transportation Improvement Program Development. Sponsored by Federal Transit Administration in cooperation with the Federal Highway Administration. Section 1, p. 2.
17 DRCOG, Interim Policy on Transportation Improvement Program Preparation, May 19, 1999, p. 38.
18 DRCOG, Interim Policy on Transportation Improvement Program Preparation, May 19, 1999, p. 39.
19 Texas Transportation Institute. 1997. A Review and Summary of the Seminars on Transportation Improvement Program Development. Sponsored by Federal Transit Administration in cooperation with the Federal Highway Administration. Section 1, p.2.
20 DRCOG, Interim Policy on Transportation Improvement Program Preparation, May 19, 1999, p. 39.

OTHER MPO INSTITUTIONAL AND PROCESS STRUCTURES

Survey results indicate that more respondents in Dallas-Ft. Worth and Seattle, in comparison to Denver and Phoenix, agreed that the institutional and process structure in their MPO was meeting long-term transportation needs. In Dallas, for example, 77% of respondents indicated that the institutional structure and decisional process of the MPO were meeting long-term needs very well.

In the Dallas-Ft.Worth region the North Central Texas Council of Governments (NCTCOG) has a General Assembly comprised of all 220+ members, each having one voting representative. The General Assembly annually elects an 11-member Executive Board (comprised of nine local elected officials and two regional citizen representatives), which acts upon transportation planning policies and decisions first approved by the Regional Transportation Council (RTC). The RTC is composed of 37 policy leaders, and is the principal transportation policy group in NCTCOG. Thirty-two members are city and county officials (almost all elected officials), with proportional representation based on population. Dallas has six seats, Ft. Worth has three, and other jurisdictions have a single seat or share a seat with other small jurisdictions. Dallas and Ft. Worth, only, may appoint up to one-third of their seats from non-elected officials. The other five members of the RTC are composed of two state DOT representatives, two transportation authority representatives, and one representative from the North Texas Tollway Authority.

In the Seattle region, the structure of the Puget Sound Regional Council (PSRC) is a product of a restructuring effort initiated in the late 1980s. During this period of rapid growth in the Seattle region, concerns began to surface about the direction of the predecessor MPO, the Puget Sound Council of Governments (PSCOG). Elected officials had developed a long-range Vision 2020 Regional Plan, but found its implementation difficult to achieve with the existing MPO structure and process. Acting as catalysts for change, the State of Washington developed its statewide Growth Management Act while the federal ISTEA legislation was enacted. Thus, in the early 1990s, the MPO was restructured, with the following changes made:

- In order to provide better direction, a new director was appointed and the mission and functions of the MPO were changed to focus on regional transportation planning and regional growth management.
- In order to be more inclusive of the major transportation agencies in the region, representatives from the three major ports, the State DOT, and the State Transportation Commission were added to the Executive Board. Furthermore, transit representation was provided through a requirement that at least fifty percent of county and city elected officials who serve on the 26-member Executive Board must also serve on one of the six transit agency boards in the region.
- In order to create a more representative process, full-time weighted voting in proportion to jurisdictional population was instituted for both the General Assembly and the Executive Board. The General Assembly is composed of all elected officials representing the executive and legislative branches of cities,

towns, counties, and tribal governments in the region, with the weight of each jurisdiction's vote proportional to the total population within the regional agency's jurisdiction. The 26-member Executive Board has proportional representation based on county or city status and population, and also has population-weighted voting. The result is that nearly one-half of the votes on both the General Assembly and the Executive Board are represented by the 4 counties in the region with nearly one-half of the votes represented by the 81 municipalities in the region. Additional votes are controlled by the major transportation agencies in the region. (See table 1 below.)

PSRC Board Membership Voting Distribution

County	Jurisdiction	Members	Votes
King County	County	4	4
	Largest city (Seattle)	3	3
	Other cities/towns	3	3
Kitsap County	County	1	0.5
	Cities/towns	1	0.5
Pierce County	County	2	2
	Largest city (Tacoma)	2	1.5
	Other cities/towns	1	1.5
Smohomish County	County	2	2
	Largest city (Everett)	1	1
	Cities/towns	1	1
	TOTALS	21	19

Table 1

- In order to foster a more cooperative transportation planning process between counties and municipalities, the Transportation Improvement Program (TIP) project selection process was changed to include both a regional process and a countywide process. The countywide process is conducted by a countywide organization of county, city, State DOT, transit, and other groups in the county developing criteria, scoring and ranking projects, and submitting projects for final approval by the Transportation Policy Board of the Regional Council.

- To symbolize the new structure and process of the MPO, the name was changed from the Puget Sound Council of Governments (PSCOG) to the Puget Sound Regional Council (PSRC).

In both the Dallas-Ft.Worth and Seattle MPOs, the more effective institutional structures and decisional processes took a long time to develop. In Dallas, the improvements took place over a ten-year period and required a great deal of effort from the leadership of the MPO to develop a truly collaborative process. The same could also be said of Seattle, where major restructuring efforts were necessary to develop a stronger comfort level within the region concerning the purpose and direction of the MPO.

TRANSPORTATION RESOURCE NEEDS

Introduction

As metropolitan areas have experienced rapidly expanding growth over recent decades, provision of transportation infrastructure necessary to accommodate that growth has not kept pace. Thus, large metropolitan areas, including Denver, Dallas, Phoenix, and Seattle, are increasingly faced with severe problems of traffic congestion and delays that rob individuals and companies of millions of hours of lost time and productivity. Significant improvements in transportation can reduce these economic and social costs, and alleviate some of the burdens imposed by the population size and geographic radius of our metropolitan areas.

Because provision of transportation infrastructure generally confers benefits and reduces costs, decisions concerning how transportation revenues and resources are distributed become critical. These decisions are particularly vexing today as so many states and metropolitan areas must address rapidly growing transportation needs and must also vie with each other for a finite amount of economic resources available for transportation infrastructure provision. Adding to these pressures is the increasing realization that all individuals and groups in society should be treated fairly; that there should be no discrimination on the basis of race, ethnicity, gender, disability, geographic location, or other characteristics of the population. Distribution of resources must address these *equity* concerns along with the more standard problems associated with efficiency of resource use.

The Transportation Equity Act for the 21st Century (TEA-21) reflects increasing concern with the fairness of the distribution of transportation costs and benefits. Among other things, it sought to establish a minimum guaranteed amount of funding to each state equivalent to at least 90.5% of the transportation revenues each state paid to the federal government. Increasing concern with equity is also reflected by the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) environmental justice policies that require MPOs to perform analyses regarding the extent to which transportation plans provide equity of access to activities across neighborhoods, thus

showing no evidence of any systematic patterns of negative bias toward certain neighborhoods or classes of people.[18]

With equity considerations in mind, one of the principal purposes of this Study is to address whether transportation resource needs are being met within the Denver region. There is no single factor that appropriately measures transportation needs for the purpose of resource allocation or equity analysis. Measures such as population, revenues generated, motor fuel taxes, person miles traveled, climatic conditions, per capita income, employment, and others, could be used. A 1995 GAO study found that using direct measures of need, such as miles of poor pavement or number of deficient bridges, could foster a perverse incentive that would encourage the deterioration of infrastructure.[19] The GAO also found that the disadvantages of basing a formula on actual needs could be remedied through the use of proxies for need, such as those reflecting the extent (e.g., lane miles) or usage (e.g., vehicle miles traveled) of a highway system, or more highway-neutral measures such as population.[20] The GAO concurred with the Executive Director of the Surface Transportation Policy Project in supporting the use of population levels for the purpose of distributing highway funds.[21] A 1986 GAO report[22]and a 1986 study sponsored by the FHWA[23] both indicated that proxies, such as lane miles and vehicle miles traveled, are closely aligned with highway needs. The American Association of State Highway and Transportation Officials (AASHTO) Policy Review Committee observed that data on vehicle miles traveled have been statistically designed for a high level of measurable accuracy and are relevant as an indicator of both capital and system preservation needs.[24] Using lane miles as a factor for apportioning highway funds was also endorsed by the AASHTO Policy Review Committee in 1991.[25] Nevertheless, factors reflecting a system's extent and use in isolation do not provide a complete picture on needs, and additional variables should be considered in resource allocation decisions or distributional needs analysis.[26]

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[18] U.S. Department of Transportation, Federal Highway Administration. FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, Order 6640.23, December 2, 1998. Correspondence with Bruce McDowell, Intergovernmental Management Associates, November 17, 1999.

[19] General Accounting Office. 1995. Highway Funding: Alternatives for Distributing Federal Funds. GAO/RCED-96-6, p. 6.

[20] General Accounting Office. 1995. Highway Funding: Alternatives for Distributing Federal Funds. GAO/RCED-96-6, p. 32.

[21] General Accounting Office. 1995. Highway Funding: Alternatives for Distributing Federal Funds. GAO/RCED-96-6, p. 35.

[22] General Accounting Office. 1986. Highway Funding: Federal Distribution Formulas should be changed (GAO/RCED-86-114, March 31, 1986).

[23] Jack Faucett Associates. 1986. Development and Evaluation of Alternative Factors and Formulas, December 1986. Cited in General Accounting Office. 1995. Highway Funding: Alternatives for Distributing Federal Funds. GAO/RCED-96-6, pp. 22-23.

[24] General Accounting Office. 1995. Highway Funding: Alternatives for Distributing Federal Funds. GAO/RCED-96-6, p. 34.

[25] General Accounting Office. 1995. Highway Funding: Alternatives for Distributing Federal Funds. GAO/RCED-96-6, p. 33.

[26] General Accounting Office. 1995. Highway Funding: Alternatives for Distributing Federal Funds. GAO/RCED-96-6, p. 36. Disadvantages associated with measures of the system's usage or extent could be

Recognizing the difficulties of identifying appropriate measures for transportation needs, this study assessed whether transportation needs are being met by comparing the distribution of funding for transportation project selections with need-based proxies, specifically population, vehicle miles traveled [VMT], and lane miles. It is recognized that these proxy measures have advantages as well as disadvantages, so that conclusions based on this analysis should be tempered.[27]

MPO Transportation Improvement Program [TIP] Project Funding Allocation

Analyses were conducted on the amount of funding to Transportation Improvement Program (TIP) projects within each county in the Transportation Management Area (TMA) of Denver and the three other comparable MPOs (Dallas, Phoenix, and Seattle) during the period from 1993 to 2004. The Denver TMA includes all of the City and County of Denver, Boulder, Douglas, and Jefferson Counties, plus the western halves of Adams and Arapahoe Counties (See Figure 1 at the end of this Section).

Results indicate that the City and County of Denver received the largest TIP funding per capita among the 6 counties in the Denver region, the third largest non-discretionary TIP funding per capita, and the largest funding percentages in relation to percentages of population, VMT, and lane miles. (See Table 2 below) Based on results from the comparable MPOs in this study, this is not an unusual finding; other central counties also received the largest percentages of TIP funds within their metropolitan regions, typically larger than percentages of population, VMT, or lane miles. Jefferson County received the smallest funding per capita, as well as a percentage of funding that was considerably smaller (10%-12% less) than its percentages of the three comparison measures. Boulder County also had low total funding per capita, and received a lower funding percentage in relation to the three comparison measures.

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at least partially counteracted by building incentives into an allocation formula or by creating appropriate performance standards (p. 34).

[27] Disadvantages of using vehicle miles traveled as a proxy measure of need include: 1) VMT is based on vehicles, not people. Person miles traveled is probably a better measure to use, although these data are more difficult to obtain. 2) Total VMT does not take into account different vehicle classifications, nor does it adequately account for transit. VMT may thus be biased in favor of those geographic areas with comparatively less transit utilization. 3) VMT may be at odds with air quality and energy conservation objectives that emphasize the reduction of VMT. 4) High VMT occurs on roadways with very good levels of service, and does not measure level of congestion. Hours of delay may be a better measure of need to indicate extent of congestion.

Disadvantages of using lane miles as a proxy measure of need include: 1) Lane miles could encourage expansion of the system rather than maintenance of existing system. 2) Lane miles do not take into account utilization of the roadway, nor do they adequately account for transit. Lane miles may be biased in favor of more sparsely-populated areas with more dependence on automobiles.

Disadvantages of using population as a proxy measure of need include: 1) Population only represents one end of a trip, while employment or other activities (retail, recreation, etc.), are reflective of the other end of a trip. 2) Population may be biased in favor of urban areas over rural areas, and it downplays system connectivity needs. Goods produced in sparsely-populated areas ultimately must be transported to more-populated areas.

TIP Funding By County Compared to Proxy Measures

	Non-Disc			Average			
	Total TIP	DRCOG	CDOT	Funding/			Lane
COUNTY	Funds	Funds	Funds	Capita	Population	VMT	Miles
Adams	21%	13%	22%	$105	14%	17%	19%
Arapahoe	18%	26%	17%	$60	21%	17%	15%
Boulder	9%	14%	8%	$51	12%	9%	12%
Denver	28%	31%	27%	$86	23%	25%	21%
Douglas	11%	4%	12%	$119	6%	10%	10%
Jefferson	14%	12%	14%	$42	23%	22%	22%
TOTAL	100%	100%	100%	$71	100%	100%	100%

Table 2
Based on 1999-2004 TIP through Amendment # 6 March 1999
Includes non discretionarily Federal and State Dollars programmed in DRCOG Region
Source: DRCOG, Denver Regional Travel Demand Model,
DRCOG Projects Database (2001 estimated), 1993-2004 TIP

The patterns of funding distribution for the other counties were mixed. Douglas and Adams Counties received the highest non-discretionary funding per capita, and the second and third highest total funding per capita, respectively. They each received equitable total TIP funding percentages; but their MPO-managed funding percentages were less than population, VMT, or lane-mile percentages. Arapahoe County's total funding per capita was just below the regional average and it received an equitable funding percentage in relation to the three comparison measures.

Even though some need-based inequities were revealed in this analysis, it is important to recognize several other factors when interpreting these results. There is a considerable amount of daily travel interaction among the counties in the metropolitan area. Nearly half of all the trips that start in Douglas County end in another county. Denver, Adams, and Arapahoe Counties also have relatively high degrees of interaction within the metropolitan area, each having over 40% of residents' trips ending in another county. Jefferson has somewhat less interaction (34%) while Boulder is much more self-contained (17.6%). The degree of daily travel interaction among the counties makes equity analysis at the metropolitan scale more problematic than at other scales of analysis.

Furthermore, the selection of projects is based on a competitive process whereby jurisdictions have the opportunity to submit project applications that are scored and given a priority ranking based on criteria that emphasize regional needs. Some jurisdictions receive lower totals of project funds for a variety of reasons, including: 1) jurisdictions

may not be submitting as many proposals as they can[28], 2) lack of adequate funding may unduly limit the number of projects selected, where in some cases otherwise worthy projects are delayed or not built at all, or 3) the projects of some jurisdictions may simply not score well based on criteria emphasizing regional needs. Also, MPOs cannot make any *a priori* allocations based on percentages or formulas.[29] In light of these points, it is unreasonable to assume that the TIP distribution should exactly reflect distributions based on population, VMT, lane miles, or other criteria.

Still, this analysis provides a benchmark. Though in any individual year, allocations may be "lumpy", over the long run there should be a general pattern of equity. There should not be a long-standing pattern whereby some counties consistently receive much more than their "fair share", and other counties receive consistently much less than their "fair share," however defined. In this analysis, Jefferson and Boulder Counties received funding per capita considerably less than the regional average, and less than their shares on the basis of population, VMT, and lane-miles. This is a problem that should be ameliorated over the next several TIP cycles, if Jefferson and Boulder Counties wish to increase their shares of transportation funding.[30]

In evaluating the distributions of Transportation Improvement Program funds relative to metropolitan needs and equity across the comparable MPOs of Dallas, Phoenix, and Seattle, several conclusions can be drawn. The most noteworthy conclusion is that the proportion of funds distributed to central counties tends to be higher in comparison to percentages based on population, vehicle miles traveled, or lane miles. To a large extent, this result is to be expected. Central counties represent the historic core of highway and transit networks, contain the most dense transportation infrastructure within a metropolitan area, and tend to have higher maintenance expenses. Residents from throughout the metropolitan region utilize transportation facilities in the central county to avail themselves of activities therein.

Second, there appears to be no systematic pattern of counties or cities that received funding shares less than what might be expected on the basis of population, vehicle miles traveled, or lane miles. This includes those counties or cities that would be identified as fast-growing. There were three counties in this study that experienced 1990-97 population growth rates of at least 40%: Douglas County, Colorado (109%), Collin County, Texas (52%), and Rockwall County, Texas (40%). Douglas County received the highest non-discretionary and second highest total funding per capita among all counties in the Denver region, although its percentage of DRCOG-controlled funds was lower than its percentage of population, VMT, or lane miles in the region. The other fast-growing counties, Collin and Rockwall, had total funding lower in comparison to percentages of

[28] For example, all jurisdictions (municipalities and the county) in Jefferson County submitted 22 TIP applications in 1997, and 21 in 1999, even though they could have submitted as many as 84 in each year. All jurisdictions in Boulder County submitted 28 TIP applications in 1997, and 32 in 1999, even though they could have submitted as many as 83 in each year.

[29] 23 CFR 450.321(1)

[30] The issue identified in Note 31 is relevant to this conclusion.

population, VMT, or lane miles, while their MPO-managed funding percentages were larger than percentages of the three comparison measures.

State Fund Allocation Process

The state fund allocation process is the most important factor that determines how much transportation funding will be available to assist MPOs in meeting regional transportation needs. The majority of the funding identified in the regional TIP is controlled by the state, including categories of federal funds that the state DOT manages as well as state transportation funds that are distributed by the state. Thus, while MPOs are charged with developing the Regional Transportation Plan (RTP) and the TIP in cooperation with the state and the regional transit agencies, MPOs are extremely dependent upon an adequate flow of funding from their state to meet their regional transportation needs.

Each state in the U.S. conducts its transportation resource allocation differently. Some use explicit criteria, others use complex formulas, while still others use historical funding trends. Colorado allocates revenues first to statewide priority programs and then to each of six engineering regions for other regional priorities. One of the statewide programs focuses on 28 strategic projects that were identified by the Colorado Transportation Commission as critical to the state's transportation system. Funding for these projects came to be known as the "7th Pot" because it represented an additional category beyond the six engineering region categories. The regional allocation is based on a formula of 45% vehicle miles traveled, 40% lane miles, and 15% truck miles traveled. It was estimated that the Colorado Department of Transportation had $12.83 billion available for years 2001 to 2020. Of that, $3.04 billion would go to the "7th Pot", $7.50 billion for other statewide priority programs (surface treatment, bridges, safety, maintenance, etc.), and $2.29 billion for other regional priorities.[31]

One of the major problems associated with Colorado's resource allocation to the Denver region is that the geographic configurations of the DRCOG Transportation Management Area (TMA) and the CDOT Engineering Regions do not coincide. The DRCOG TMA region includes all of CDOT Region 6, as well as parts of Regions 1 and 4 (See Figures 1 and 2 at the end of this Section). Since statewide allocations are made to the regions, the directors of Regions 1, 4, and 6 must agree on the projects to be submitted to DRCOG for development of the regional TIP. Observations have been made that this process is inefficient, wasteful of resources, and results in project selections that may not be meeting either state or regional priority needs.

There are eleven Commission Districts in Colorado, with four of the districts representing the Denver Metropolitan Area. The districts are determined by the Colorado state legislature, and commissioners are appointed by the Governor. The state

[31] Colorado Department of Transportation. Year 2020 Revenue Projections and Resource Allocation Program, January 22, 1998, p. 21.

Transportation Commission is a powerful decision-making body with authority to approve project and funding allocations, among numerous other powers and duties.
In addition to the engineering region boundaries, the state may reconsider its commission district boundaries. The timing may be propitious in that the upcoming 2000 census will result in new population figures to be used in political district reapportionments. An explicit rationale, based on population and/or other measures, would be useful in helping to identify the number, size, and geographic configuration of commission districts.

These geographic boundary issues create problems in identifying resources available to the Denver region for transportation planning purposes. As a result of ISTEA and TEA-21, state DOTs are required to identify estimates of funds available to MPOs for the purpose of regional transportation planning for both the short-range Transportation Improvement Program (TIP) and the long-range Regional Transportation Plan (RTP). In light of this requirement, and in order to facilitate comprehensive and coordinated planning, the Transportation Commission established a funding level in 1998 of 39.4% of available CDOT revenues for CDOT projects within the six-county DRCOG TMA.[32] Since 1998, revisions in the resource allocation calculations have reduced the eight-county DRCOG region's long-range plan allocations for FY 1999-2020 to 34.8% for all state and federal programs, including funds that are federally mandated to come to the region.[33]

The reduced percentage of CDOT funding to the Denver region has implications for meeting regional needs and equity. Analyses were conducted that examined total and percentage of funding received from the State DOTs by the Denver, Dallas, Phoenix, and Seattle MPO regions in comparison to percentages of funds generated, population, vehicle miles traveled, and lane miles attributed to each MPO region within each State. (See Table 3 below.) It is clear that there are some striking differences among the funding shares that the four metropolitan regions are receiving from their States. The Dallas-Ft. Worth and Seattle regions are receiving percentages of state and federal funds that their State Departments of Transportation allocate which compare favorably with their regional share of state population, VMT, lane miles, or funds generated. In contrast, Denver and Phoenix are receiving percentages of state and federal funds allocated by their State DOTs that are considerably less than percentages based on population, VMT, or funds generated. The Denver region's funding received percentage is larger than its comparable percentage of lane miles, but Phoenix's is less.

[32] Colorado Department of Transportation. Year 2020 Revenue Projections and Resource Allocation Program, January 22, 1998, p. 33.
[33] DRCOG, "Regional Highway Transportation funding Equitable distribution of Highway funding in Colorado," January 13,2000, p. 2. The Denver region has four of the seats on the eleven-member Colorado Transportation Commission, or approximately 36% of the voting power on that body.

State Funding to MPO Regions Compared to Proxy Measures

MPO Region	% Revenue Received	% Revenue Generated	% Pop	% VMT	% Lane Miles
Denver	34%	51%	56%	51%	17%
Dallas	24%	NA	22%	25%	13%
Phoenix	28%	48%	59%	51%	31%
Seattle	55%	59%	55%	52%	22%

Table 3

Sources: 1) Colorado Department of Transportation, Year 2020 Revenue Projections and Resource Allocation Program, January 22, 1998; Resource Allocation Updates, October 1999; and CDOT data, 1999.
2) Denver Regional Council of Governments, "Regional Highway Transportation Funding: Equitable Distribution of Highway Funding in Colorado," January 13, 2000.
3) Texas Department of Transportation, correspondence with Charlie Tucker, Director of Transportation Planning and Development, Dallas District, October 13 and November 22, 1999 and TxDOT data, 1999.
4) North Central Texas Council of Governments data, 1999.
5) Arizona Department of Transportation, RAAC Recommended Resource Allocation for ADOT's FY 2001-2005 Transportation Program, October 13, 1999 and ADOT data, 1999.
6) Maricopa Association of Governments data, 1999.
7) Washington State Department of Transportation data, 1999.
8) Puget Sound Regional Council data, 1999.

State Funding to MPO Regions Compared to Proxy Measures

Noting the difficulties with defining transportation needs cited earlier, it is not easy to assess whether the distribution of funds allocated by the States to the metropolitan regions is adequately addressing state or regional needs. There are many additional concerns that states must address, over and above concerns with population, VMT, or lane miles. People living in metropolitan areas rely on roads and facilities throughout the entire state, while residents in other parts of the state benefit from infrastructure built in the metropolitan areas. State resource allocation cannot be based solely on population; metropolitan areas need to subsidize rural areas to some degree for the purpose of system connectivity and coverage.

Geography is also an important factor in trying to understand state needs and equity. Denver, Phoenix, and Seattle are by far the largest metropolitan areas within their states, each accounting for over half its State's population. But Colorado, Arizona, and Washington have relatively large rural regions with low populations for which transportation infrastructure must be provided. Furthermore, some of these rural areas contain difficult mountainous terrain that requires more resources for construction and maintenance. Colorado, in particular, has difficulties in maintaining and operating its

mountain roads in both summer and winter conditions. Because of these geographical circumstances, it is difficult to identify an appropriate "fair share" for metropolitan regions in large Western states with challenging topography and climatic conditions.

Nevertheless, results from this section of the Study suggest that, at least with respect to our limited sample of four large MPOs, there may be a correlation between the share of funding received from the State DOT and the level of satisfaction in meeting regional transportation needs expressed by the survey respondents. Dallas and Seattle were the highest rated MPOs, and they are also receiving the highest percentages of state and federal funding in relation to population, VMT, or lane miles. Conversely, Denver and Phoenix were rated lower, and are receiving much lower percentages of state and federal funding in relation to population and VMT. Since our review of literature identified the importance of the state DOT/MPO relationship to the success of metropolitan transportation planning, it is not unreasonable to suggest that level of funding from the state DOT to the MPO is a relevant factor. It is inappropriate, however, to establish this conclusion on only four cases; further analyses across additional cases would be necessary to appropriately test this hypothesis.

Furthermore, just as it is unclear whether the chicken or the egg came first, it is unclear whether percentage of funding is a primary causal factor in MPO satisfaction ratings, or whether other factors that result in higher MPO ratings also result in greater funding percentages. It is probable that both are occurring, whereby more funding translates into a perception of a better MPO process, and the perception of a better MPO process translates into more funding. As results from other sections of this Study reveal, there are other factors, in addition to funding amounts, that are important in assessing how well MPOs are performing their transportation planning functions.

Federal Funding and Equity Concerns

With equity considerations in mind, results from other equity studies[34] and analyses of TEA-21 funding were reviewed. Colorado appears as one of the States that received less than its "fair share" based on donor/donee analysis under ISTEA ($0.82 received per dollar contributed), and less in comparison with its share of population, vehicle miles traveled, or lane miles under the TEA-21 allocation. Furthermore, only two states funded their urbanized areas less in relation to urbanized area population than did Colorado based on data from a 1998 TRB report.[35] Of the other states highlighted in this MPO study, Texas was identified as a donor state during the ISTEA funding period ($0.73 received per dollar contributed) but was within an equitable funding range under TEA-21. Washington's TEA-21 funding share was less than its share based on population, vehicle miles traveled, or lane-miles, but it was a donee state under ISTEA ($1.10 received per

[34] Surface Transportation Policy Project. 1996. Getting a Fair Share: An Analysis of Federal Transportation Spending. Also, Surface Transportation Policy Project. 1999. A Donor/Donee Analysis of ISTEA Spending: Preliminary Results.

[35] Transportation Research Board. 1998. Transportation Issues in Large U.S. Cities. Proceedings of a Conference, Detroit, Michigan, June 28-30, 1998.

dollar contributed). Arizona was a donor state under ISTEA ($0.89 received per dollar contributed), but was within an equitable funding range under TEA-21. Thus, according to the analyses presented in this section, Colorado was the only one of the four states that received less than its "fair share" under both ISTEA and TEA-21.

These results suggest that both federal allocation to the states, and the state allocation to MPOs, have an effect on how successful the MPO transportation planning process is perceived, although the state allocation has a more direct effect. The effectiveness of the Denver MPO transportation planning process in particular is hindered by inadequate funding from both federal and state transportation resource allocation processes. The amount of dollars received should not, however, mask any organizational or procedural problems that may be contributing to a perception that regional transportation needs are not being met.

EVALUATION OF THE MPO PROCESS[36]

Along with the equity analysis just described, we completed an assessment of the MPO process. In other research, we have found a very strong connection between the quality of a collaborative process and its impact on the root problem the process addresses. Therefore, our assessment strategy for examining MPO processes was two fold:

- First, we examined the quality of the MPO process by asking the kinds of questions typically explored across a variety of governmental and organizational contexts, when the qualities of processes are examined; and
- Second, we focused on specific questions on MPO effectiveness, identified in our scope of work, that we were directed to examine. These questions dealt more specifically with the variety of ways in which we could assess the extent to which the MPO meets the long term transportation planning needs of its region.

To collect data on both the quality and the effectiveness of MPO processes, three measurement strategies were followed: interviews were used to collect more in-depth, open-ended responses to questions; questionnaires were used to collect more quantitative effectiveness ratings of various aspects of the MPO process and; a 15- item attitude scale was used to collect more reliable and sensitive overall evaluations of the quality of the given MPO process.

The primary data for this research (supplementary data were collected on related questions, for example, the merits of multiple MPOs) were collected from respondents in four locations: Dallas-Ft.Worth, Denver, Phoenix, and Seattle. A total of 378 respondents provided the data; 121 in Dallas-Ft.Worth , 81 in Denver, 94 in Phoenix and 82 in Seattle. A stratified random sampling approach was used to create comparable samples in the four MPOs. These base line samples were all interviewed. Anyone not selected to be

[36] The complete report of the MPO process evaluation, along with supporting research detail, is presented in Volume 3, Section IX.

interviewed received a mail questionnaire. All respondents, those interviewed and those who received mail questionnaires, completed the attitude scale.

RESULTS

If we ask, "How good is the MPO process?" how we answer that question depends, in part, on how similar versus different the MPOs are. If the MPOs are very similar, we can characterize them as a group and reach conclusions about the group as a whole. If the MPOs are very different, then the answer to most questions we ask about them will be "it depends on which MPO you are talking about."

With the above caution in mind, let us briefly characterize the MPOs as a group. On both the process quality measure and the effectiveness ratings, a scale of one to six was used. The average ratings given the MPOs tend to fall between the high three's and the low fives. Since all of our scales have been recoded for analysis so that positive responses receive higher numbers, these scores reflect moderately positive ratings.

The same pattern of moderately positive responses continues through the open ended questions asked in the interviews. When asked "Do the elected officials in the MPO process reflect the needs of the metropolitan area as a whole, or do they focus on the organizations they represent?", most of the respondents say that the elected officials are regionally focused, but approximately 40 % say the elected officials are more concerned with their individual needs. Fewer than half (45%) of the respondents believe that their MPO is able to meet rapidly changing transportation needs. (One may question whether MPOs, designed to promote long-term regional planning, should be expected to meet rapidly changing needs.) Most people feel that the MPO works well with the regional and transit agency. The respondents are more evenly split on whether the MPO works well with the State Department of Transportation.

When asked to evaluate the MPO in terms of the extent to which it satisfies particular transportation needs of the respondents, the respondents evaluated their MPOs very positively with respect to operational and safety improvements, additional transportation capacity, and investment in bicycle and pedestrian facilities. They evaluated their MPOs moderately positively in roadway construction and investment in transit and bus service. Many of the evaluations pointed out that the MPOs performed well, given limited resources.

When discussing whether MPO's TIP criteria are fairly established, and fairly applied, 68% of the responses were positive while only 16% were negative.

A solid majority of the responses indicated that the MPO process is a better process for allocating transportation dollars than the State Department of Transportation's process.

Respondents were asked to recall and describe specific experiences with the MPO that resulted in their thinking "This is a good process; it's fair; it works." The respondents discussed: the quality of the funding allocation decisions; fair and equitable decision making in the application of TIP criteria; cooperative efforts consistent with a regional approach to planning; an open process in which all participants are informed; the responsiveness of the MPO to individual interests; a professional, competent, approachable MPO staff.

Respondents reported that positive experiences with the MPO occurred far more frequently than negative experiences. In fact, 88% of the respondents stated that negative experiences with the MPO occurred only "several times per year" or "almost never," while positive experience were more likely to occur frequently.

In summary, the overall pattern of responses indicates a moderately positive to strongly positive assessment of the MPOs by their participants. For a more detailed description of the interview responses see Volume 2, Section IX, D.

Differences among MPOs. (For all quality and effectiveness averages by MPO, see Section IX, C2.) A very consistent pattern has emerged from the data indicating that in assessing how well the MPO process is working, a great deal depends on which MPO you are talking about. With respect to the quality of process ratings, substantial and significant differences among the MPOs are present. Dallas-Ft.Worth and Seattle receive higher ratings. Both Dallas-Ft.Worth and Seattle rank significantly higher than Denver and Phoenix. Dallas-Ft.Worth and Seattle do not differ significantly from each other, nor do Denver and Phoenix.

The effectiveness ratings focused on particular aspects of the MPOs, specifically those aspects identified in our Scope of Work. Very consistent with the quality ratings, we found the following statistically significant differences in the rated effectiveness of the MPOs.

With respect to meeting our regional transportation needs, Dallas-Ft.Worth (5.11) was rated highest and it was significantly different from Seattle (4.37), Denver (4.25), and Phoenix (3.96).

With respect to meeting rapidly changing transportation needs, Dallas-Ft.Worth (5.01) is rated highest and is significantly different from Seattle (3.93), Phoenix (3.73), and Denver (3.54).

With respect to how well the MPO and the regional transit agencies work together, Dallas-Ft.Worth (5.09) is rated highest and is significantly different from Phoenix (4.55), Seattle (4.25), and Denver (4.09).

With respect to how well the MPO and the state department of transportation work together, Dallas-Ft.Worth (5.03) is rated highest and is significantly higher than Seattle

(4.46), Denver (4.00), and Phoenix (3.93). Seattle is also significantly higher than Phoenix.

With respect to how well the MPO process responds to needs in "additional transportation capacity", Dallas-Ft.Worth (4.48) is rated highest and is significantly different from Phoenix (3.60) and Denver (3.29). Seattle is 3.92.

With respect to how well the MPO process responds to needs in "roadway construction", Dallas-Ft.Worth (4.52) is rated highest, and is significantly higher than Phoenix (3.65) and Denver (3.47). Seattle is 3.93.

With respect to how well the MPO process responds to needs in "operational and safety improvements", Dallas-Ft.Worth (4.65) is rated highest, and is significantly different from Seattle (3.92), Denver (3.78), and Phoenix (3.73).

With respect to how well the MPO process responds to needs in "investment in transit and bus service", Dallas-Ft.Worth (4.62) is rated highest and is significantly different from Seattle (3.92), Denver (3.46), and Phoenix (3.27).

With respect to how well the MPO process responds to needs in "investment in bicycle and pedestrian facilities," Dallas-Ft.Worth (4.40) is rated highest and is significantly different from Phoenix (3.70). Denver scored 3.74, while Seattle scored 4.04.

With respect to the fairness of the "TIP criteria", Dallas-Ft.Worth (6.34) is rated highest, and is significantly different from Seattle (5.31) and Phoenix (4.84). This particular issue, the TIP structure and decisions, was explored in greater detail through our evaluation of transportation equity issues, and was measured as a 1 – 8 scale. We mention this issue here because the results are a departure from a prevailing pattern. That is, on the ratings of fairness of the TIP criteria, Denver (5.55) is not significantly different from Dallas-Ft.Worth.

With respect to the institutional structure and decisional process of the MPO meeting the long-term transportation needs of the region, Dallas-Ft.Worth (5.02) is rated highest and is significantly different from Seattle (4.15), Denver (3.83), and Phoenix (3.63). Seattle is significantly different from Phoenix, rated lowest.

The pattern emerging from these results seem to us relatively clear. Dallas-Ft.Worth is substantially and significantly higher in its rated effectiveness, across a wide range of effectiveness criteria, than other MPOs. The Dallas-Ft.Worth MPO may be considered as engaging in "best practices" among this sample of MPOs.

In the responses to the open-ended interview questions, similar patterns continue. For example, 76% of the responses in Dallas-Ft.Worth (disproportionately more than is the case with the other MPOs) are in the highest approval category for meeting participant

needs in the area of additional transportation capacity. Dallas-Ft.Worth is also viewed disproportionately high by respondents in terms of meeting operational/safety improvement needs and road way construction needs. Seattle is the only MPO that surpasses Dallas-Ft.Worth in the perceptions of participants in any area; in the particular area of meeting needs in transit and bus service.

When participants recall and describe experiences which led them to believe the MPO process was working, a good process, a fair process, Dallas-Ft.Worth participants report these experiences occurring more frequently. When respondents describe experiences which led them to believe that the process was not working, not a good process, not a fair process, both Dallas-Ft.Worth and Seattle participants report these experiences as occurring less often. When judging whether the MPO meets the long-term transportation planning needs of the region, Dallas-Ft.Worth respondents place the MPO in the highest category of meeting needs ("without qualifiers") 77% of the time. Other MPO participants are more "mixed" in describing their MPO.

RESULTS FOR THE DENVER REGIONAL COUNCIL OF GOVERNMENTS

Any conclusions about DRCOG must be tempered with the fact that significant leadership changes have occurred very recently in the MPO, the State DOT and the transit agency. Since leadership has emerged as a major theme in this research, it is important to recognize that DRCOG, including its State and Transit Representatives, may already be addressing some or all of the issues associated with this MPO.

First, we have found no evidence of systematic inequity in allocating transportation resources. To be sure, there are individual constituents who are very displeased-to-hostile in their feelings about the MPO, but we have found no consistency in negative feelings, no categories of constituents who differ from other categories in terms of how they rate the quality or effectiveness of the MPO process. DRCOG's most positive ratings are in the fairness with which it creates and implements TIP criteria. In the interview responses, DRCOG is highest of all MPO's in "fair and equitable decision making" and low in "unfair fund allocation". However, there is concern on the part of many DRCOG constituents when addressing how well the MPO meets their needs in additional transportation capacity and roadway construction. Perhaps the issue is priorities, rather than fairness.

Secondly, we have found considerable evidence that DRCOG constituents are concerned about the MPO's structure and operation in three areas:

1. The complexity of the process.

The most consistent perception of DRCOG is that it is very complex, with too many committees, a process which is slow and cumbersome, time-consuming, bureaucratic, with too many steps or phases. The process is made even more complex and cumbersome by statutory and regulatory mandates from the U.S. Congress, the State, EPA, etc. A frequent description of the process is "inefficient", with complex and

inconsistent application of rules and policies. When individuals were asked what are the things they would change about the MPO, one of the most frequent themes in DRCOG responses was to streamline the process. When we asked respondents at the end of the interview what they would like to tell us, the most frequent response from DRCOG members was that the process needs to be simplified, reconstituted, or restructured. These are some of the reasons why our recommendations include simplifying DRCOG's process.

2. The need for a more regional focus.

A substantial number (49%) of responses from DRCOG members reported that elected officials focus more on local than on regional needs. The respondents identify "competition and conflicting interests" as a serious problem with the MPO. The most frequent response to the question about one change that would make the MPO better was adopting a more cooperative, regional approach. The process is politicized, though highly rationalized and detailed. The capacity of individuals to rise above parochial interests and focus on regional issues is basic to collaborative structures such as MPOs. Achieving that broader focus is a leadership issue.

3. The DRCOG/CDOT relationship

Responses from DRCOG members frequently identified a weak, or adversarial relationship with the State DOT as one of the major problems confronting the MPO. In fact, when asked how well the MPO and State DOT work together, 79% of the responses say either fair (36%) or poor (43%). Denver receives the most negative criticism of all comparison MPOs in this category. The MPO/DOT relationship is so important to regional transportation planning that it is mandated to be cooperative by statutory and regulatory acts. Our findings do not assign blame or responsibility for the current state of this relationship. New leadership for both parties to this relationship provides an opportunity to address the problem now.

When we examine the changes recommended by the MPO participants for their own MPO, the following themes emerge. In Phoenix, participants say that the change most needed is for the members of the MPO to set aside their individual differences and individual needs and concentrate on regional transportation planning issues. In Denver, the participants say the MPO should streamline its process, remove any unnecessary complexity, and make it easier to understand and easier to work with. In Seattle the participants say either that no change is needed, or that the MPO should expand its already successful public involvement process. In Dallas-Ft.Worth participants say the MPO should pay its staff more (the MPO staff compensation schedules are tied to the State compensation schedules) because the participants are worried that the MPO may not be able to retain highly professional, competent staff.

While the MPOs, as a group, are seen as functioning moderately well to very well, it is clear that there are significant differences between the MPOs in terms of how well they are seen as functioning. There is room for improvement, to some degree, in each of the MPOs. Our recommendations will reflect the changes we believe most likely to lead to

improvements in the manner and effectiveness of an MPO's regional transportation planning processes.

Several additional findings may be worth noting. Within the MPOs, we found no noteworthy patterns or specific differences to which we would attribute special meaning. For example, in Denver, in the overall evaluation of the process, we found no differences in the categories of constituencies represented. This is not to say that there are not specific individuals, or specific constituencies, who are particularly pleased or displeased with the quality and effectiveness of the MPO process. It is simply that the pleasure or displeasure seems to occur haphazardly, rather than being associated systematically with particular demographic features.

Another finding concerns support for the idea of multiple MPOs. The pattern with respect to support or non-support for multiple MPOs is very clear. The members of the four single MPOs were asked about the advisability of multiple MPOs for their region, their responses were overwhelmingly non-supportive of the idea. When members of three multiple MPO metropolitan areas (two in Florida and one in North Carolina) were asked about the desirability of multiple MPOs in a metropolitan region, their responses were overwhelmingly positive. The issue of multiple MPOs is clearly one in which respondents support the MPO structure that is their present one.

MULTIPLE MPO MODELS

Introduction

The defining characteristic of alternative MPO models is that the transportation planning for a large metropolitan area falls within the jurisdictional boundaries of multiple contiguous MPOs. This arrangement inherently requires some degree of inter-MPO coordination, as local issues impact upon adjacent MPOs, and regional issues require comprehensive solutions.

We examined three different metropolitan areas – Charlotte, North Carolina, Southeast Florida and the Tampa Bay area – with multiple MPOs operating within each. The MPO structures and processes in each of these areas were examined in the context of the state statutory environment in which they operate, how they operate locally, and the mechanisms that they have achieved for regional coordination.

There is a statutory bias toward the preservation of MPOs, once established. Both ISTEA and TEA-21 are silent as to the requirements for merging multiple MPOs into larger, single entities; at the same time, they do establish specific requirements for dividing single MPOs into smaller ones, making subdivision a more difficult process.

MPO Designation, Structure, and Boundaries: Statutory and Regulatory Requirements

An MPO is designated for each census-defined urbanized area[37] (UZA) with a population of more than 50,000, by agreement of officials representing (1) at least 75 percent of the affected population, (2) the central city or cities, and (3) the Governor.[38] Boundaries of an MPO are determined by agreement between the MPO and the Governor, but must encompass at least the existing urbanized area and the contiguous area expected to become urbanized within a 20-year forecast period. For areas designated as nonattainment for carbon monoxide or ozone, the boundaries must be coterminous with the non-attainment area.[39]

An MPO's boundaries may be redesignated by agreement between the Governor and units of local government that represent at least 75 percent of the affected population, including the central city.[40] MPOs may also be redesignated when requested by (a) unit(s) of local government representing at least 25 percent of the affected population in any urban area (1) whose population is more than 5,000,000 but less than 10,000,000, or (2) which is an extreme nonattainment area for ozone or carbon monoxide as defined under the Clean Air Act, provided there is agreement between the Governor and local government representing at least 75 percent of the affected population.[41]

More than one MPO may be designated within a metropolitan planning area when the Governor and the existing MPO determine that the size and complexity of the existing area make an additional MPO appropriate.[42] A new MPO may be designated to replace an existing MPO only upon agreement by the Governor and affected local governments representing 75 percent of the metropolitan population, including the local government representing the central city.[43] However, to the extent possible, only one MPO should be designated for each UZA or group of contiguous UZAs.[44] Furthermore, when an urbanized area is in nonattainment for ozone or carbon monoxide, as defined by the Clean Air Act, the boundaries of the MPO in existence as of the date of the enactment of 23 U.S.C. 134 must be retained.[45]

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[37] The urbanized area (UZA) definition includes a central city of at least 50,000 population and its immediate suburbs. UZAs were first recognized in 1950, and have expanded since then based on the population distribution at the time of each decennial census. The UZA includes: 1) a central city of 50,000 population or greater, 2) contiguous incorporated places of 2500 population or more, 3) incorporated places of fewer than 2500 population, provided each has a closely settled area of 100 dwelling units or more, 4) adjacent unincorporated areas with a population density of 1000 or more inhabitants per square mile, and 5) other adjacent areas with a lower population density provided that they serve to smooth the boundary or link otherwise separate densely populated areas. Streets, roads, and creeks are used as the boundary units rather than county boundaries as in the definition of a Metropolitan Statistical Area (MSA). (Hartshorn, Truman A. 1992. *Interpreting the City: An Urban Geography*, New York: Wiley, p. 4)

[38] 23 U.S.C. §134 (b) (1); 49 U.S.C. §5303 (c) (1).

[39] Intermodal Surface Transportation Efficiency Act of 1991, Conference Report, H.R. No. 102-404, 102nd Congress, (Nov. 27, 1991); U.S. Federal Highway Administration: Air Quality programs and Provisions of the Intermodal Surface Transportation Efficiency Act of 1991 12 (1992).

[40] 23 U.S.C. §134 (b) (5) (A); 49 U.S.C. §5303 (5) (A).

[41] 23 U.S.C. §134(b)(5)(B); 49 U.S.C. §5303(5)(B)

[42] 23 U.S.C. §134 (b) (6); 49 U.S.C. §5303 (c) (3).

[43] 23 CFR 450.306(d).

[44] 23 CFR 450.306(a).

[45] 23 U.S.C. §134 (c) (3); 49 U.S.C. §5303 (d) (3).

Experience with Multiple MPOs

A condition of one or multiple MPOs within any given metropolitan area results from peculiar historical, geographic, and socio-political determinants. That is, MPOs are entities that have been tailored to fit the hands of their constituencies. Respondents from both systems prefer to maintain the status quo, because each system has evolved to a point that it perceives itself successful within its own locale.

There have been attempts, and there remains an organizational impetus, to merge multiple MPOs into unitary entities. To a large extent, the degree of inter-MPO coordination that has been achieved in Tampa Bay and Southeast Florida comes in response to threats by the Governor to merge them. He was dissuaded from that action once he was convinced that the multiple MPOs would work successfully to resolve regional issues.

The prevailing orthodoxy, then, is to preserve existing MPO entities as they have evolved, provided they can resolve regional issues successfully. In the three metropolitan areas we examined, three different systems of inter-MPO coordination have evolved:

- Informal, ad hoc coordination (Charlotte).
- Functional coordination (SE Florida).
- Local MPO Coalition for regional issues (Tampa Bay).

Costs and Benefits of Multiple V. Single MPO Models. The three systems of inter-MPO coordination appear to be an evolutionary process, harmonizing regional requirements with local political cultures, economies and needs. Advocates of the multiple MPO model assert local adaptation and response as paramount considerations, accepting also the need for regional inter-MPO coordination.

In this report, we have examined the costs and benefits of multiple MPOs on a qualitative, rather than quantitative basis, largely through the use of a questionnaire answered by 54 respondents, who are associated with the MPOs under consideration. Among respondents in the multiple MPO regions, only 17% felt that a single MPO was preferable for their metropolitan area, the remainder preferring the multiple MPO model, or some hybridized local/regional model. The costs and benefits, which the respondents advance, fall into several broad categories: economies and diseconomies of scale, political and economic equities, and the dynamics of change. They may be summarized as follows:

Economies and Diseconomies of Scale. Single MPO models clearly have the advantage of economies of scale, in that they have greater political and economic leverage, are arguably more economically efficient, and can deal effectively with issues of regional magnitude. It is not clear, however, whether actual cost savings would be realized. Operating against a single MPO is its sheer size. Additionally, bigger is not always perceived as better. Respondents in both the Tampa Bay area and Southeast

Florida, with populations of some 2.5 and 5.5 million respectively, indicate that a single MPO for these large populations and geographic areas would be too ponderous to be effective. Conversely, the Dallas-Ft.Worth MPO, covering an area with 4.3 million people, has become one of the most successful transportation planning institutions in the nation.

Political and Economic Equities. Different counties and cities have different growth patterns, different constituencies and different needs. Multiple MPOs respond to such parochial concerns, which may be compromised in a single larger MPO. A single MPO may be more removed politically and geographically from its constituency. Effective citizen involvement might be eroded, and the interests of smaller communities may be eclipsed by the demands of the dominant stakeholders. In short, a single MPO emphasizes regional concerns to the detriment of local concerns, though multiple MPOs have more difficulty addressing regional issues.

Dynamics of Change. This is a variation on the theme, *if it ain't broke, don't fix it*. MPOs have evolved in their local setting and have routines and procedures in place that work in addressing both local and regional issues. Transition time, down time, embarking on a new learning curve outweigh the benefits of a single MPO. Incremental change is preferable to radical change, and MPOs should continue operating within the same structure as they developed. This sentiment is almost uniform among all respondents, from both single MPO and multiple-MPO areas.

Implications for Denver

Results from analysis of the metropolitan areas with multiple MPOs have some relevance for the situation in Denver. Multiple MPOs within a metropolitan area can work effectively, provided that strong inter-MPO regional coordination mechanisms exist. Also, geographical and historical development circumstances play a large role in the efficacy of multiple MPOs. Urbanized areas in Southeast Florida (Miami, Ft. Lauderdale, and Palm Beach) and the Tampa Bay area (Tampa, St. Petersburg, Clearwater) each started as independent cities, growing as separate urbanized areas over time, and began to coalesce only relatively recently during the superhighway era. MPOs in Florida tend to be based on county boundaries, and reflect the growth of larger, independent cities within each county. It appears that individual MPOs, with strong inter-regional coordination, are appropriate in circumstances such as these.

In contrast, development patterns like those in Denver are different, as growth proceeded outward from one large central city. There is a high level of daily travel interaction among the counties in the DRCOG region. Douglas, Denver, Arapahoe, and Adams Counties each have over 40% of daily trips ending in another county. The case for having separate MPOs is greater if large cities started and grew independently, and continue to be relatively self-contained. This is less apparent in the Denver region, with the possible exception of Boulder.

Furthermore, air quality attainment problems make multiple MPOs more problematic. MPOs in Miami, and Charlotte are each in attainment for air quality, while three of the four Tampa MPOs are in attainment. This status simplifies their transportation planning process, and allows them to conduct planning activities without as much concern for regional coordination. For air quality nonattainment areas such as Denver, transportation planning requirements are much more stringent, including the development of regional transportation plans based on geographic boundaries that are inclusive of the designated nonattainment area. The current DRCOG TMA is coterminous with the nonattainment areas for ozone and PM_{10}, and encompasses the area for carbon monoxide. If another MPO were to be created within the Denver region, it would need to have an extremely close working relationship with DRCOG if for no other reason than compliance with air quality requirements. Whatever advantages gained from having more local access to an MPO planning process could be outweighed by the need for regional coordination for air quality and other purposes. Failure to coordinate in a way that reduces air pollution could have a potentially disastrous economic impact on any region not in full compliance with federal air quality mandates.

Having multiple MPOs within a nonattainment area requires more governmental and bureaucratic activity. Where MPO boundaries do not include the entire nonattainment or maintenance areas, there should be an agreement between the MPO and the State DOT, the state air quality agency, and affected local agencies describing the process for cooperative planning and analysis of projects outside the metropolitan planning area, but within the nonattainment or maintenance area which indicates how the total transportation-related emissions will be treated for purposes of determining conformity with EPA regulations.[46] Proposals to exclude a portion of the nonattainment or maintenance area from the planning area boundary must be coordinated with the FHWA, FTA, EPA, and State air quality agency before a final decision is made.[47] In circumstances such as these, there would need to be extensive coordination between agencies, including the possibility of instituting another governmental layer in the form of a super-MPO organization that would oversee the separate MPOs, such as exists in Tampa. The degree of additional regional coordination required for multiple MPOs, especially in a nonattainment area, considerably reduces the desirability of having multiple MPOs in a metropolitan region.

Results from our survey show that 69% of respondents from Denver felt that having multiple MPOs operating within the metropolitan area was undesirable. Results from the other single MPO metropolitan areas showed even greater disdain for multiple MPOs -- Dallas-Ft.Worth (82%), Seattle (80%), and Phoenix (70%). Respondents mentioned: 1) that multiple MPOs would create additional administrative burdens, depleting the pool of scarce transportation resources, 2) they would cause increased fractionalization among jurisdictions operating in the same geographical area, and 3) the effects would be harmful to the efforts of improved transportation for the region. Only 9% of Denver respondents felt that multiple MPOs were desirable without qualifiers, while 15% felt that multiple

[46] 40 CFR Part 51.
[47] 23 CFR 450.310(f).

MPOs might be acceptable with qualifiers. Concerns about proportional representation, large size, and not meeting needs of rapidly growing areas were cited as justifications for having multiple MPOs.

Based on current statutory and regulatory requirements, as well as current census designations, there are only two other census-defined urbanized areas within the DRCOG region (Boulder and Longmont) that could possibly seek designation as separate MPOs. Other jurisdictions in the DRCOG region seeking status as a separate MPO would need to be designated as a separate urbanized area by the U.S. Bureau of the Census in order to commence a process of redesignation. This requires a central city of at least 50,000 people that is deemed to be separate from the contiguously built-up portion of the main urbanized area. Thus, if other Denver area jurisdictions wish to seek status as a separate MPO, both redesignation requirements and Census requirements would need to be met.

Any consideration of changing requirements for MPO designation must be cognizant of both the redesignation requirements and the Census requirements. Even if redesignation requirements are changed, Census requirements limit the number of jurisdictions that could possibly consider separate MPO status. Changing either the urbanized area (UZA) designation as the building block for MPOs, or the Census definition for a UZA, would be difficult. The Census goes through a laborious process to determine urbanized areas and metropolitan statistical areas, considering such factors as population, population density, and commuting patterns for work, shopping, and socialization. There does not appear to be another reasonable alternative to the urbanized area definition for the purpose of forming MPOs, except perhaps for the metropolitan statistical area (MSA) or consolidated metropolitan statistical area (CMSA) designations. These Census-defined geographic areas tend to be larger than the urbanized areas, so that using MSAs or CMSAs as the building block for MPOs would make it even more difficult for separate MPOs to form.

Evaluation of Current Legal Ability to Establish Multiple MPOs in a Single Metropolitan Region

The statutory and regulatory requirements for redesignating MPOs have been established to make redesignation a difficult process. MPOs were given authority to conduct region wide transportation planning because there is widespread recognition that metropolitan transportation planning must occur at the regional scale. Local governments must be able to coordinate their planning with other local governments, the state department of transportation, and regional transit agencies within the metropolitan area. Federal legislation has recognized this reality, and has designated MPOs for the purpose of coordinating transportation planning. Allowing local governments easy withdrawal from their MPO would not contribute to the purpose of coordinated regional transportation planning.

On the other hand, the current statutory and regulatory requirements for redesignating MPOs deserve closer scrutiny in light of findings derived from this Study. Currently,

redesignation cannot occur unless agreement is reached by officials representing: 1) at least 75% of the affected population, 2) the Governor, and 3) the central city. The 75% threshold was established to ensure that a very strong majority of jurisdictions (based on population size) within the region would be necessary to make such an important change as redesignation. This requirement is in accord with findings from this study that confirm the importance of open and fair democratic processes, including the use of full-time population-weighted voting for major MPO decisions. All members of the MPO should have direct authority over redesignation in the form of a very strong consensus if major change is needed. Approval of the Governor is established on the basis that the state should be concerned with the effectiveness of the MPO as a regional entity that transcends local, parochial interests. Findings from this study emphasize the importance of a regional perspective in the success of MPOs. Approval of the central city is based on the role that central cities have traditionally played as principal focal points for transportation and other functions within urbanized areas. Yet, from the perspective of other MPO members, the central city represents one of many units of local government within an MPO. From this perspective, the central city redesignation approval authority may be perceived as according preferential status to one specific category of local government. Currently, redesignation cannot occur unless the central city, even if its population is below 25% of the regional population, concurs with the redesignation.

Results from this study indicate that it is undesirable to encourage redesignation for the purpose of creating multiple MPOs in a single metropolitan region. Yet, other results from this study illustrate the importance of establishing fair and equitable structures and processes concerning MPOs. No single local government jurisdiction within the MPO should have unilateral veto authority over such a fundamental structural issue as redesignation. This idea relates directly to one of the principal findings of this Study: the most successful MPOs are collaborative, inclusive organizations that are perceived as fair and equitable to their members. The central city veto over redesignation is perceived as inherently unfair, because it elevates the status of one type of local government over all other local governments in the region. As a result, the central city veto requirement may be detracting from the effort to develop a strong regional ethos among MPO members. Therefore, we recommend that Congress consider removing the statutory requirement concerning central city approval for MPO redesignation.

That said, redesignation for the purpose of creating multiple MPOs in a single metropolitan area should not be encouraged. If a jurisdiction is a part of an urbanized area, both geographically and functionally, it is hard to justify a withdrawal for something as regionally significant as transportation. A jurisdiction that is part of an urbanized area cannot just “pick up and leave”; it is part of that area, just like it is also a part of the State wherein it is located. If geographical and functional attributes of a jurisdiction suggest that it is more of a separate area, or if its linkages are stronger with another urbanized area, then there is a stronger case for redesignation. But these circumstances are considered in great detail by the Census Bureau in their definitions of urbanized areas and metropolitan statistical areas. Over time, the Census Bureau has recognized the growing interdependence of metropolitan areas, and has increased the size of urbanized areas as

outward metropolitan growth continues to occur. In addition, there are many other steps that could and should be taken prior to considering redesignation. Many MPOs simply amend their procedures or by-laws or use other means to change their structures and procedures without going through a redesignation. The recommendations we make in this Study are geared to improving the MPO process by transforming the MPO into a more responsive, collaborative, and accountable organization. If these recommendations are heeded and implemented, redesignation becomes a moot issue.

INTERPRETATIONS

Plausible explanations of results

The patterns we have found so far might be accounted for by any number of plausible explanations. Let's examine the ones that seem to us to occur most readily.

1. Money. Dallas-Ft.Worth has strikingly positive ratings. If the North Central Texas COG receives considerably more resources than the other comparison MPOs, it might follow that its constituents would be more positive about the quality and effectiveness of its process. To conjecture along these lines seems reasonable given the rich history of Texas and its influential citizens in national politics. So it is reasonable to presume that abundant resources might make people generally more happy with an allocation process, and to ask whether NCTCOG has more resources relative to the other comparison MPOs.

2. Severity and complexity of problems. It might be reasonable to assume that the differences in perceived quality and effectiveness of processes are at least partially a function of the complexity and severity of the problems confronted by the different MPOs. The more difficult the problems confronted by the MPOs, it might be argued, the less satisfied its members should be in how effectively the MPO deals with the problems. To be sure, the problems confronted by all four of these MPOs are daunting. But to believe that the problems confronted by Dallas-Ft.Worth are less complex and severe than those of the other MPOs seems to us unwarranted. Dallas is the largest of the four comparison MPOs. It has many more members. Its boundaries cover considerably more territory. Its air quality problems constrain its planning and its allocation. And even if we went to the next set of problems we might consider complex and severe, we might very well be considering Seattle. Therefore, it seems to us unlikely that the patterns we have seen in the results are attributable to less severe and complex problems in Dallas-Ft.Worth and Seattle.

3. The rate of growth. It is conceivable that lower quality and effectiveness ratings in Phoenix and Denver are associated with the rapid rates of growth. More rapid growth rates might be expected to create a greater sense of urgency in responding to transportation needs. Since MPO structures and processes are designed to respond more to the long term transportation planning needs of a region, the sense of urgency

promoted by rapid growth rates seems antithetical to the purposes and function of MPOs.

Many such plausible explanations can be offered for the patterns of findings that have emerged.

Conclusions Regarding the MPO Process

1. **Leadership**

The first trend is very strong acknowledgement of important *leadership qualities* on the part of the MPO transportation directors in both Dallas-Ft.Worth and Seattle. This is especially true in the case of Michael Morris, of the NCTCOG. Almost everyone we talked to in this MPO mentioned Morris by name, and his leadership as an important factor in this very highly evaluated MPO. Morris was acknowledged for his ability to help NCTCOG members set aside an individual agenda and individual differences and concentrate on the long-term transportation planning needs of the region. His leadership was seen as instrumental in countering some of the divisiveness and narrowness of perspective that characterized the MPO approximately 8 or 9 years ago. A strong theme that emerged early in our consideration of interview responses is the theme of leadership. In Denver and Phoenix, recent changes in leadership have the potential to bring about changes in the quality and effectiveness of the process. The most recent change, in Denver, has generated some optimism about the potential for changes in the MPO process.

MPOs are collaborative structures. They were created to promote collaborative problem solving, on issues of common concern, that transcends narrower parochial, short-term interests. Successful collaboration requires a different set of leadership skills and capacities than those associated with traditional politics and positional authority. The right combination of leadership attitudes, skills, and capacities can be the most important determinant of whether successful collaboration, or effective regional transportation planning, occurs. Two steps should be taken to promote more effective collaborative leadership of MPOs:

1. An assessment center should be created, or an already established assessment center should be identified. The assessment center should have competence in assessing the attributes associated with successful public sector collaborative leadership in general, and MPO leadership in particular. The top slate of candidates, perhaps three, for the leadership position of an MPO should be assessed. Recommendations from the assessment center should be entered into the decision making process, and seriously considered, in choosing the final candidate.

2. A leadership development program should be created, or an existing program identified. Well-recognized and highly regarded programs already exist, such as those at Harvard's Kennedy School of Government or The University of Maryland's

Burns Academy. Already established leadership development programs could be asked to collaborate in creating a program specifically tailored to the needs of leaders of collaborative structures such as MPOs. Continuing leadership development experiences, coaching, and mentoring, particularly from MPO leaders with clear records of success, should be provided, on an ongoing basis to MPO leaders.

2. MPO staff credibility

The Dallas-Ft.Worth MPO is seen as having a staff which is unusually competent. They are seen as having well developed technical skills. They are seen as having many planning tools, being very good at forecasting. Their advice is sought by other agencies and organizations, as well as other professional planners outside the MPO staff.

This technical competence and credibility seems to allow the MPO staff to function "above the politics" and the level of a valued resource on technical issues. Developing a large, highly competent technical staff seems to be a deliberate long-term strategic plan of the MPO's leadership.

A technically competent, highly credible staff is one of the most important attributes an MPO can have. If the staff are accurate forecasters, have useful planning models, and are sought out by state, county, and local governments for assistance on difficult technical problems, there are clear consequences. More of the physical and intellectual energy of the MPO staff goes into regional transportation planning issues. The energy of the staff is less likely to be diverted into less productive political issues. We are not suggesting that the MPO staffs are not highly competent already. We are suggesting that the MPOs would benefit from substantially increased resources devoted to developing and sustaining unusually high levels of competence among MPO staff. Therefore, a staff development program should be created, or an existing program identified. Specific reward and/or incentive systems should be implemented by the MPO to encourage both increased commitment of the MPO staff to sustain professional development and increase capacity of the MPOs to retain their most highly competent staff members.

3. Aggressive outreach programs

The Dallas-Ft. Worth MPO seems to be noticeably more successful in creating and sustaining a program that emphasizes public involvement, strategic partnership, and other aspects of what is described as a very open process. These outreach efforts take noteworthy forms. In the MPO's relationship with the state DOT, the MPO is asked to select the projects for a state program (urban streets). Public involvement is extended to the point where both Dallas and Ft Worth have citizen groups which have formed to both monitor and support the MPO's efforts. An open and credible process seems to have been created by the leadership and participants of the NCTCOG.

4. Infrastructure

In Seattle, 35% of the funds allocated by the MPO are given to the counties to be distributed according to a process managed by the counties. As we have already noted several times, the long-standing concern about MPOs is the extent to which they are able to respond to the felt needs of their members. Involving subsets of members (i.e. counties as in Seattle) in creating processes for and recommending projects to the MPO is a direct response to this nagging issue. Dallas-Ft.Worth has an independent Regional Transportation Council consisting of elected officials, some of whom are citizen representatives. These elected officials are described as more "problem focused", and less political. These are some of the differences as seen in the infrastructures that might help explain the findings concerning differences among MPOs.