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| 16. Abstract<br><p>This report examines the new role and consequent alternative organizational responses the SDHPT may wish to take relative to the recently established multi-modal metropolitan planning organizations.</p> <p>The goals and objectives of federal, state, and local governments, especially Texas officials, relative to transportation planning organization matters are discussed. The findings of research which has been done on highway system planning are analyzed as they relate to SDHPT systems planning organization. State organization models that are designed to accommodate and facilitate multi-modal, urban transportation planning are also presented and evaluated.</p> <p>Four organizational typologies developed by Roland Warren that characterize ways organizations behave when interacting are used as a framework for identifying different possible interorganizational planning situations that the SDHPT may become involved in when dealing with non-SDHPT MPOs. Within each of the four possible contexts, alternative SDHPT organizational planning arrangements are suggested and shown in chart form. The emphasis is placed on organizational alternatives that can be adopted by the SDHPT, some alternatives, however, require the cooperation of MPOs or local governments. The intent of the suggested alternatives is to provide the SDHPT with maximum input into the MPO planning process within the parameters established by present legislation and regulations.</p> |  |   |   |  |           |
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A STUDY OF ALTERNATIVE ORGANIZATIONAL PLANNING STRUCTURES  
FOR THE SYSTEMS PLANNING PROCESS

by

Michael E. Weiss  
Assistant Research Planner

and

Sue Richardson  
Research Assistant

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Texas A&M University  
College Station, Texas

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The contents of this report reflect the views of the authors who are responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the SDHPT or FHWA. This report does not constitute a standard, specification, or regulation.

## IMPLEMENTATION STATEMENT

The designation of cities and councils of government as metropolitan planning organizations responsible for coordinating and implementing urban transportation planning means that the Texas State Department of Highways and Public Transportation is operating in a new organizational context in urban areas. This report provides information about alternative organizational responses that can be taken at the state and district level to adjust to the new situation.

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## CHAPTER I

### INTRODUCTION

The State Department of Highways and Public Transportation (SDHPT)<sup>1</sup> organizational structure is geographically comprehensive. In the past the SDHPT has planned and constructed a network of highways and roads that: (1) connected rural, farming activities with commodity marketing centers; (2) linked together towns and cities; (3) provided for extensions within urban areas; and (4) contributed vital linkages in the nationwide system of interstate highways.

Given the 70,000 miles of highways in the current state system, future SDHPT programs will be directed toward maintaining, extending, and adjusting the existing system to accommodate new and changing demands for transportation services. To develop and implement these programs, the systems planning activities of the SDHPT will have to incorporate the efforts of the SDHPT into the overall urban, rural, and statewide transportation requirements. To do this, appropriate planning organizations must exist to furnish leadership and technical direction in transportation planning.

Increased demands and requirements for coordinated transportation planning have placed state highway departments in the position of developing new organizational structures to provide multimodal transportation planning. Because of varying economic, social, and physical conditions, it is desirable that each state develop organizational approaches best suited to its particular needs. Since these varying conditions also exist within a state, it would be desirable to develop several alternative organizational approaches that could be flexibly applied.

## Purpose

It is the purpose of this report to develop analyses of possible alternative organizational approaches for urban, rural, and statewide transportation planning in Texas. The report will attempt to identify factors that can be significant when selecting organizational forms. Because it is a prime factor, the intergovernmental structure within which the SDHPT operates will be analyzed in some detail. The organization and needs of the federal, state, and local governments impose certain considerations on the SDHPT and suggest others. The potential effect of various governmental factors and suggestions regarding their disposition will be discussed.

Well-formulated goals and objectives are required in order to give direction and meaning to a planning process. Without a clear conception of the results desired and the tasks that must be accomplished to achieve those results, it is difficult to establish an efficient organization. Therefore, goals and objectives for transportation planning in Texas will be presented in terms of the expressed preferences of local Texas officials and private industry representatives. In addition, transportation goals and objectives established by other governmental organizations will be examined in order to determine their applicability to Texas transportation needs.

Understanding policy and systems planning issues and their implications for planning organization are important for making informed judgments about the assignment of various planning responsibilities. This is especially true for locating the policy planning functions in a transportation planning organization and for dividing planning tasks between various levels of political jurisdiction. The report will discuss general policy issues.

It will also address policy related to organizing Texas transportation planning efforts and suggest fairly specific system planning task assignments.

As the federal government continues the policy of decentralizing authority and making block grants to states, there will be a corresponding increase in administration of funding and planning at the state and urban level. Therefore, the report will dwell on these areal divisions of planning in Texas. Statewide and urban<sup>2</sup> transportation planning organization concepts will be described. Finally, theory regarding the planning process and its relationship to various levels of political jurisdiction, as well as the advantages and disadvantages of each of the areal jurisdictions will also be explained.

#### The Cities Enabling Act

The Cities Enabling Act, enacted in 1969, complicated attempts to engage in coordinated multimodal planning in urban areas. The Act authorized cities to accept direct grants and loans from the federal government for financing the purchase or rehabilitation of mass transportation equipment. Because of the direct financing provision, the state was bypassed and had limited involvement. The Act further authorized cities to undertake research and development projects and to use public rights of way and easements and, finally, to issue revenue bonds for financing purposes.<sup>3</sup> This made it possible for a city to develop its own transportation planning system. The net effect of having two programs, the SDHPT and the Cities Enabling Act, was to reduce the state's coordination and policy making effectiveness. This was an unfortunate situation since city governments

and the state could have profited by combining both programs and maximizing their resources. This could have been done in an ad hoc manner by the cities having their 3C policy advisory committee establish a policy that the 3C urban planning process incorporate the available resources of the Cities Enabling Act into their systems planning process. In this way the two programs could have been developed into a single transportation system for the city, using the expertise made available by the SDHPT.

#### The Urban Mass Transportation Assistance Act of 1974

The Urban Mass Transportation Assistance Act of 1974 included new requirements for coordination of funding and planning. Funding in the new act is tied to the existence of an urban 3C planning process for multimodal transportation. After July 1976, the Department of Transportation is prohibited from approving urban transportation projects not based on a 3C planning process.<sup>4</sup> The allocation formula is established as a six-year commitment, although, unlike general revenue sharing, there are specific planning requirements and a detailed application process.<sup>5</sup> The major application requirements include submitting a program of projects on an annual basis, submitting formal applications for projects, and maintaining an annually updated transportation plan.<sup>6</sup>

The new act requires the state to engage in public transportation planning. The Texas Legislature responded to that requirement by assigning the SDHPT the responsibility to:

Prepare and maintain a comprehensive master plan for public and mass transportation;

Determine the location, type, and cost to the state and its political subdivisions of public transportation systems; and

Advocate the development of public transportation systems of all types.<sup>7</sup>

Finally, the SDHPT must coordinate its public and mass transportation plans with the 3C planning process already established.<sup>8</sup> The Act essentially provides a specific source and amount of funds to cities over 200,000 population for a six-year period through a formula grant system. The long term financial commitment makes it possible for urban areas to establish and implement their own transportation priorities and plans. The Act also integrates state planning and urban planning procedures by requiring urban areas to have their own 3C planning process (hereinafter referred to as local 3C) covering all transportation modes and requiring the state to coordinate its public transportation plan with local 3C plans. The existing SDHPT 3C process can be adjusted to the tasks required of the state. Transportation planning organization below the state level will probably require more development because there has been relatively less experience with large scale transportation planning below the state level.

#### The State Department of Highways and Public Transportation

Transportation planning organization in Texas was changed by the state legislature in 1975 to accommodate the increased interest in and emphasis on multimodal transportation planning. The Texas Mass Transportation Commission (TMTCC) was abolished as a separate body and its functions placed in the Texas Highway Department.<sup>9</sup> The Texas Highway Department was renamed the State Department of Highways and Public Transportation,<sup>10</sup> and extra funds were appropriated to support its increased responsibility.<sup>11</sup>

The new legislation provides greater authority for state involvement in planning and implementing public transportation. Senate Bill 762 appropriated thirty-one million dollars for the newly titled State Department of Highways and Public Transportation to use in planning and implementing. According to Senate Bill 761, the SDHPT is permitted to ". . . purchase, construct, lease, and contract for public transportation systems in the state;"<sup>12</sup> and is obligated to ". . . develop and maintain a comprehensive master plan for public and mass transportation development in this state;"<sup>13</sup> These legislative actions provide the capability for integrating transportation modes into a multimodal system.

The initial decision of the SDHPT was to place the functions of the expired TMTD within the Planning and Research Division, which was subsequently renamed the Transportation Planning Division (see Figure 1). No other significant organizational changes have been made. Presumably, the SDHPT intends to carry out its new responsibility through the existing organization framework.

The Department has been organized on a strongly decentralized basis since its inception as a State agency in 1917 (see Figure 1):

The District Offices . . . are directly responsible to the State Highway Engineer for planning, design, acquisition of right-of-way, relocation assistance, construction and maintenance of all highways within their particular District. These activities are performed in conjunction with the various Main Office Division acting in consulting and advisory capacities.<sup>14</sup>

The District Offices are headed by District Engineers who supervise both Resident Engineers responsible for planning, design and construction, and Maintenance Supervisors who oversee maintenance operations. Since the inception of the Action Plan, District Environmental Coordinators responsible for coordinating environmental and interdisciplinary efforts in planning,

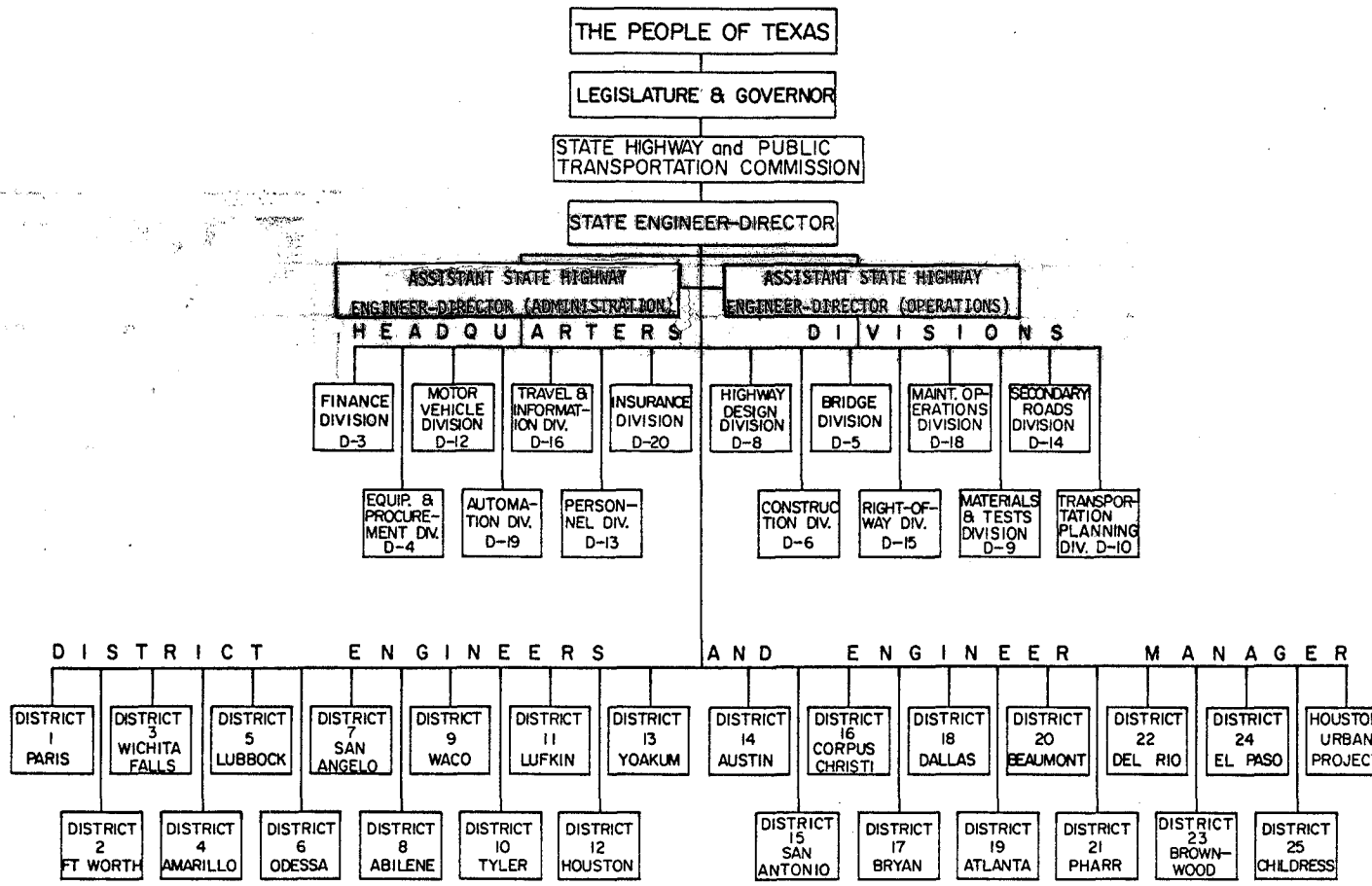


Figure 1. Texas Highway Department Organization Chart

Source: Texas Highway Department. The Action Plan of the Texas Highway Department: Process Guidelines for Systems Planning and Project Development, August, 1973, p.4.



design, and maintenance operations are appointed and supervised by District Engineers, also.<sup>15</sup>

In areas of 50,000 and greater population, urban transportation planning is conducted on a comprehensive basis in cooperation with local governments. The SDHPT and local governments agree in writing to a formalized planning approach. A Policy Advisory Committee, Steering Committee, Study Coordinator, Technical Committee, and study staff comprise the planning organization (see Figure 2).<sup>16</sup>

The Policy Advisory Committee is composed of elected officials from each city and county involved in the study. In addition, invitations are extended to elected officials of other incorporated cities, state senators and representatives, and U.S. Congressmen representing the area to be planned. It is the function of this group to give general policy direction, approve the resulting transportation plan, and help implement it.<sup>17</sup>

The Steering Committee is comprised of the above officials, or their representatives, plus SDHPT personnel and is concerned with the practical tasks involved in conducting a transportation study. They make sure that there is proper coordination between transportation modes and communities, and they select the final transportation systems plan. The Steering Committee also appoints the members of the Technical Committee, which is composed of specialists not otherwise available to the study organization. Technical committee membership is flexible and fluctuates as different specialties and skills are needed.<sup>18</sup>

The Study Coordinator or Planning Engineer is appointed by and under the supervision of the District Engineer. He is responsible for the following:

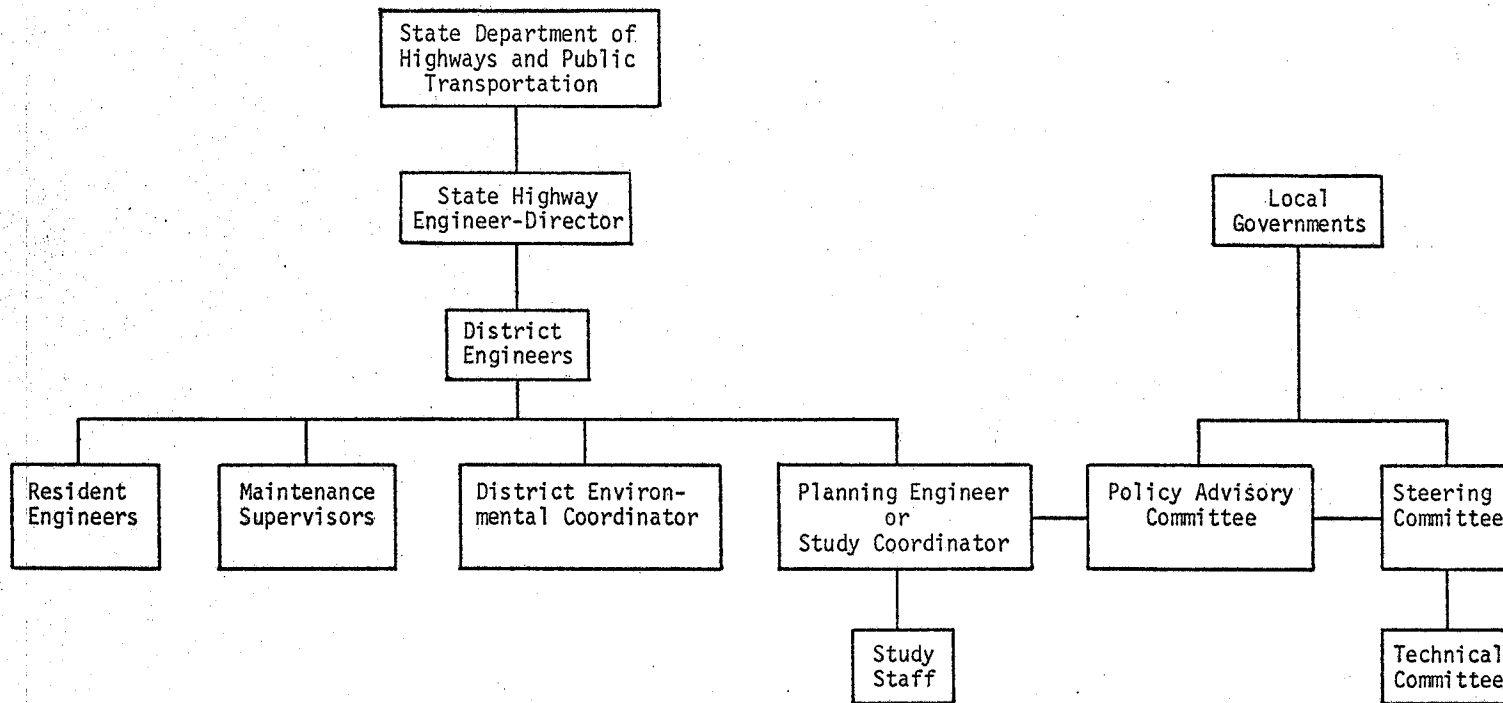


FIGURE 2: SDHPT 3C Planning Organization

- (1) Coordinating all operations necessary to complete the transportation plan.
- (2) Hiring and supervising all personnel in the study office with the exception of the . . . (Transportation Planning Division) . . . personnel.
- (3) Supervising all personnel temporarily assigned to the study office from the city or SDHPT.
- (4) Gathering all data not specifically stated to be collected by some other source.
- (5) Providing liaison between the various governmental units and organizations involved.<sup>19</sup>

The Study Coordinator also supervises the study staff which includes office and field personnel.

Counties not covered by an urban transportation study may develop transportation plans through a county transportation planning process. This is a cooperative process in which the District Engineer, local county officials, and representatives from major city governments and regional planning agencies plan together. A Study Coordinator, appointed and supervised by the District Engineer, is responsible for the daily conduct of the study.<sup>20</sup>

The Transportation Planning Division at the state level assists both urban and county transportation studies by: "(1) collecting much of the travel data; (2) coordinating all transportation studies; and (3) maintaining quality controls over interdisciplinary inputs to the study, including all studies of social, economic, and environmental factors."<sup>21</sup> Also, the District Environmental Coordinator and the Public Affairs Officer assist by coordinating transportation planning with other District efforts and by developing public participation programs for citizen input into planning studies.

## MPOS

The new cooperative guidelines published in the September 17, 1975 Federal Register by the Federal Highway Administration (FHWA) and the Urban Mass Transportation Administration (UMTA) indicate that an increased emphasis is going to be placed on coordinated, multimodal urban transportation planning.<sup>22</sup> The scheduling of a yearly update for unified planning work programs plus the coordination and multimodal orientation of the rules and regulations are designed to support the required local 3C planning process.

The process is to be coordinated and administered by Metropolitan Planning Organizations (MPOs) which have full responsibility for developing short and long range urban transportation planning. In September, 1975, the Governor designated MPO status in Texas. Two SDHPT 3C Urban study groups, nine cities, and eleven councils of government were designated.<sup>23</sup> In urban areas under 200,000 population, the SDHPT has been named the designated recipient for Section Five funds authorized by the 1974 Urban Mass Transportation Assistance Act (hereinafter referred to as the Act). In urban areas over 200,000 population, the cities have been named designated recipients with the exception of San Antonio where the San Antonio Public Transit Board has received the designation. In those areas where the SDHPT is the designated recipient, state and local Section Five funds will be under SDHPT control. In the large urban areas where cities have been named designated recipients, the SDHPT funding process will have to work with whatever funding system the cities choose to establish. In order to comply with the Act's requirement that urban area transportation planning be based on a 3C process, additional adjustments may be necessary. If the decision is made to combine the city planning process with the existing SDHPT 3C process, the planning

procedure can be similar to that used currently in areas conducting SDHPT 3C planning. Because the Governor has assigned the SDHPT the responsibility of administering the formula and discretionary state grants supplied by the Act, it is likely that urban areas will want to establish a local 3C planning process that facilitates cooperation and coordination with SDHPT procedures.

A factor that has to be considered in assessing the SDHPT's role is the MPO designations. In the two cases where the current 3C organization has been designated as the MPO, the SDHPT is in control. This is especially so when the SDHPT 3C organization is also the designated recipient for the Act's Section Five funds, a situation which exists only in Lubbock at present. In Austin, where the city is the designated recipient for Section Five funds, and the SDHPT 3C process organization is the MPO, the SDHPT role will vary depending on the manner in which the city chooses to disburse Section Five funds and implement its local 3C process. The SDHPT role may be identical to that described immediately above if the city decides to grant the SDHPT 3C organization the authority to conduct the local area's 3C planning process. The SDHPT 3C role may be altered if the city decides to establish their own 3C process and conduct transportation planning independently of the SDHPT. Negotiation and coordination will be required before a plan can be developed and the final SDHPT 3C plan will probably be limited by local 3C planning decisions.

The MPOS and UMTA represent additional layers of government for the SDHPT to deal with. This situation is mitigated somewhat by the fact that most MPOS are either city governments or COGS and composed of elected officials and/or their designees. Since the SDHPT 3C policy advisory committees and steering committees have representation by the same officials, planning decisions made during the SDHPT 3C planning process should be consistent with local 3C planning decisions and final MPO coordination

activities.

Because the new rules and regulations of the FHWA and UMTA and the MPO designations of the governor are so recent, it is difficult to know how everything will be organized. However, it is certain that implementation of a statewide multimodal transportation plan and urban 3C planning processes will require local multimodal planning approach that is conducted with some degree of cooperation between participating government jurisdictions and agencies. Since there has been little experience with local multimodal transportation planning in Texas, new forms of planning organization will probably be needed. When the organizational forms are selected and developed, mayors, city council members, and county judges will have a strong influence on how local transportation planning is organized. Consequently, the following chapter discusses the activities and objectives of local Texas officials who will be **involved** in the organization of transportation planning groups.

## Notes

<sup>1</sup>The title, "State Department of Highways and Public Transportation," will be used throughout the report, including the instances when reference is made to matters occurring prior to the name change.

<sup>2</sup>The term "urban" as used in this report has reference to a geographical area with continuous population which may extend beyond one or more political boundaries.

<sup>3</sup>Texas Transportation Institute, The Role of the Texas Mass Transportation Commission, College Station: Texas A&M University, August, 1971, p. 17.

<sup>4</sup>Daron K. Butler, "Transportation Policy: The Urban Mass Transportation Assistance Act of 1974 and the Texas Response," Intergovernmental Report, Vol. III, No. 2.

<sup>5</sup>Ibid., p. 9.

<sup>6</sup>Ibid., p. 10.

<sup>7</sup>Ibid., p. 11.

<sup>8</sup>Ibid., p. 8.

<sup>9</sup>Texas Senate Bill 761 (1975), p. 3.

<sup>10</sup>Ibid.

<sup>11</sup>Texas Senate Bill 762 (1975) pp. 6-7.

<sup>12</sup>Ibid., p. 1.

<sup>13</sup>Ibid., p. 2.

<sup>14</sup>Texas Highway Department, Guidelines and Processes for Systems and Project Planning, The Action Plan (August, 1973), p. 23.

<sup>15</sup>Ibid., p. 3.

<sup>16</sup>Ibid., pp. 15-16.

<sup>17</sup>Ibid., p. 16.

<sup>18</sup>Ibid., pp. 16-17.

<sup>19</sup>Ibid., p. 17.

<sup>20</sup>Ibid., pp. 21-22.

<sup>21</sup>Ibid., p. 22.

<sup>22</sup>Federal Register, Department of Transportation, Federal Highway Administration, Urban Mass Transportation Administration, Transportation Improvement Program, Wednesday, September 17, 1975.

<sup>23</sup>Telephone conversation with Howard McCann, FHWA, Austin, Texas.



CHAPTER II  
ATTITUDES AND OBJECTIVES OF  
LOCAL TEXAS OFFICIALS

There is some evidence that the decentralized organizational structure and emphasis on local involvement practiced by the SDHPT and described in Chapter I is preferred by local interests for all transportation planning. There is also some indication of public support for the state's efforts to promote public and mass transportation planning.

This information was developed at a series of hearings held by the Interagency Transportation Council (ITC) in the fall of 1974. The hearing was established in order to determine the technical needs, attitudes, and values of representatives of different sized political jurisdictions. The findings are of interest because they indicate the general goals of public officials in regard to how Texas transportation planning should be conducted, especially as it relates to urban areas. This chapter summarizes the aspects of the hearing that describes those goals. Questions sent to mayors, county judges, and other representatives to consider and address in their appearances at the hearings included:

- (I) What are your transportation problems, needs, priorities, and probable sources of funds . . .
- (II) What should be the State's role in these areas?
- (III) Is the organization, structure, and duties of the State transportation agencies satisfactory? (sic) If not, what changes do you recommend?
- (IV) What should be the State's role in financing public and or mass transportation?
- (V) Is additional legislation needed to allow solution to regional public and mass transportation problems? If yes, what kind?
- (VI) Are there other areas of transportation in which additional legislation is needed? If yes, what kind?<sup>1</sup>

The critical issues brought out at the hearings by representatives of cities and organizations of all sizes were: (1) the organization and function of state-level transportation agencies; (2) the organization and responsibility for transportation at a regional level; (3) the integration of public and mass transportation with other modes; (4) sources of funding for various modes and levels; and (5) the extent of local (and citizen) participation in the planning process.

#### Organization and Function of State Transportation Agencies

Flexibility and coordination seemed to be the key words throughout testimony by representatives of local governments. The State's role was seen as the provider of technical assistance and the coordinator of planning for urban and regional areas. Local governments and regions want state and federal funding support, but maintenance of their independence and autonomy was critical. In other words, the state should provide planning coordination assistance with as much allowance for local input and participation as possible.

The State Department of Highways and Public Transportation seemed to be the most visible and familiar transportation agency to many representatives. City and county officials generally perceived the SDHPT as doing a good job in planning transportation projects. The grassroots organization of the SDHPT may be one reason for these sentiments. Many representatives favored folding other transportation agencies into the SDHPT to facilitate coordination and organization on the state level, while maintaining separate funding arrangements.

Testimony indicated that the majority supported coordination of transportation efforts, but suggestions for the organization and structure of that coordination varied widely. Some (9 of 63), particularly the large cities, favored a state department of transportation providing one agency with responsibility for all modes and functions. Some representatives (27 of 63) felt that a coordinating body or mechanism, such as that provided by the Interagency Transportation Council was sufficient--acting primarily in an advisory capacity. Still others (6 of 63) favored making the SDHPT the umbrella transportation organization for the State, especially since its organization already permeates all levels of government. A few representatives (7 of 63) opposed any attempt at coordination, especially a DOT, claiming that existing organizations were sufficient for their needs and expressing fear of increased and complex multi-agency involvement. Overall, the great majority preferred that a coordinating mechanism or planning body be established to provide guidance and coordination in the transportation area.

#### Organization and Responsibility for Transportation at Regional Level

Nine of 63 participants at the ITC hearings advocated legislation to allow the creation of regional authorities to plan, fund, and implement public and mass transportation systems. Particularly in the larger cities, participants voiced a need for a regional concept to coordinate efforts of governmental units toward transportation systems. It was recommended that regional authorities be formed to administer and operate mass transit facilities. It was intended that transit authorities be structured in such a way that they are able to make long range plans without becoming enmeshed

in unrelated local political issues. The regional authorities could be on a metropolitan or county government basis. One suggestion advocated the creation of voluntary regional authorities providing multimodal transportation facilities flexible enough to allow individual regions of the state to select the most appropriate organization and funding sources. Medium-sized cities expressed a need for regional authorities, but not as acutely as the larger cities, focusing instead on state and local concerns. Enabling legislation for regional multi-jurisdictional operating entities was requested. Regional councils were seen as allowing for improved expression of citizen needs.

#### Integration of Public and Mass Transportation with Other Modes

In the past, mass transit was handled on an individual city basis, usually in conjunction with the Federal government. Even with consolidated state agencies and increased funding from the State, most mass transit programs have been based on city boundaries, serving primarily downtown areas. Many efforts are being made at present to improve urban systems.

Representatives appearing at the ITC hearings held widely varying opinions on public transportation. Some thought that public transit should be provided as a social service, to provide more jobs for the poor and increased mobility for youth, aged, or infirm. Some participants suggested that the State should stay out of public and mass transportation altogether; public transportation was seen as a localized problem that should be solved by local organizations using locally-generated revenues.

The great majority of representatives at the ITC hearings favored a mid-range position, with the State providing some sort of aid to local

governments. The State's role was generally seen as providing technical assistance or aid in planning or designing transportation facilities. Many felt that the majority of the responsibility for financing and controlling the facilities should stay at the local level, with the state fulfilling an advisory role. Many hoped the State would be able to provide as much expertise in the area of mass transportation as it provides for highways and streets. Only a few of the representatives opposed any sort of State aid to mass transit or supported complete state control of mass transit facilities. In general, most agreed the State should coordinate planning and provide technical assistance to urban areas or regions desiring mass transit.

#### Sources of Funding for Various Modes and Levels

Representatives present at the hearings of the Interagency Transportation Council had many different suggestions for the funding of various modes of transportation. Many suggested that regional authorities plan and fund transportation systems. Such authorities could have a variety of funding mechanisms and powers to raise revenue for their activities. A regional authority for transportation would be flexible enough to permit each area to determine the best arrangement of transportation modes to meet its needs.

None of the representatives at the hearings favored using the highway trust fund for other purposes, especially not for mass transit. Several wanted mass transit to have its own separate trust fund so that its funding source would be stable and secure. Several favored making mass transit the responsibility of the SDHPT but maintaining separate financial sources.

This scheme would not prohibit state financial aid to mass transit, but it would protect the highway trust fund.

Opinions varied on state involvement in mass transportation. Some said that the State should provide subsidies to local or regional governments for transit programs, while others maintained that mass transportation should be a strictly local responsibility. Those who indicated support for state aid to mass transit generally saw the aid in the form of funding for capital programs, not for operating costs.

The views on state versus local roles in transportation systems varied from the state as planner and local unit as funding source, to state as funding source and local unit as planner. Some thought that the State should be the planner and coordinator for all transportation systems, but that the local unit should provide funds for the systems chosen. Others stated that all planning and decisions about transportation should be made on a local level, but that the State should provide funding assistance for the local unit's choices.

Several participants saw the state role as coordinating the funding from all sources--local, state, and federal--to gain maximum efficient use of funds. A state transportation organization could balance the allocation of money among different modes of transit and among different communities. Even if federal and state funds were utilized, many stated that the local governments should be able to decide how the funds are spent. If possible, the State should participate in federal grant projects, assisting local governments in meeting federal grant participation requirements. A pooling of resources by local, state, and federal agencies is needed, with state and federal agencies providing the major share of those expenditures. If the

State did not want to fund mass transportation directly, they might consider a compromise of subsidies to certain groups such as the elderly, disadvantaged, disabled, or poor.

#### Extent of Local (and Citizen) Participation in the Planning Process

Local participation in the planning process was seen by most of the representatives of large and small cities as an important issue. Representatives of the largest cities voiced concern for stronger local government powers in the areas of zoning and land use controls. Several suggested regional authorities as an avenue toward more effective citizen participation, especially if the authority was accountable to elected officials. Most of the representatives of the largest cities saw the local unit participating in and contributing to total transportation planning in Texas. If legislation was required to facilitate coordination, the State should encourage it. In coordination, however, the local governments must be allowed to maintain their independence.

Several of the medium-sized cities' representatives emphasized that active local participation is desirable in establishing transportation priorities. Three emphasized that local governments must retain control of their mass transportation systems. The State should assist in planning and implementation, always being aware of local participation and input. The State could coordinate and consolidate various regional plans prepared by local governments and could provide technical support to interface between regional and local planning authorities and state and federal organizations.

Of the representatives from small cities, five expressed concern for continued local government control of the determination of need and

operation of systems. Most saw the State's role as coordinating and assisting local governments, not directing them. Some said that local problems should be solved by local government alone, while some wanted the State to help finance solutions to local government problems. Most favored whatever arrangement would best allow for citizen input, or some sort of direct citizen contact. All of the representatives seemed to favor participation from local officials, as well as citizens and officials of the state and county governments; in a coordinated effort to educate, research, and study solutions; define and delegate responsibility; and provide specific funding.

#### Miscellaneous Issues

##### Regulation

Most of the representatives, particularly those from private industry, stated that flexibility and a continuing review of transportation regulations, laws, controls, and rate structures are needed to meet changing conditions, emergencies, and special problem areas. Several said that where private industry or local mass transit is available, the State should do nothing except planning, coordinating, and providing regulatory authority where needed. The State should encourage the private sector to compete in the transportation field. Several desired that regulation should be flexible but enforced carefully, and should be compatible with other states. Most were satisfied with the way regulation is being handled at present.



## Freight

The representatives' concern about freight generally centered around an equitable distribution of carriers, integration of freight modes, and evaluation of rates. A need was expressed for a system to provide a more equitable distribution of freight cars to meet requirements throughout the state. It was felt that improved technology could increase the efficiency of rail service, especially integrating the movement of goods into a balanced system. Some concern was voiced from South Texas about a re-evaluation of freight rates.

## Intercoastal Waterway

Many representatives, particularly those from coastal areas, noted a need for maintenance and improvement of individual ports and the Gulf Intercoastal Waterway, as well as a need for a deep draft or superport. Port authorities and navigational districts are concerned, but much of the problem is beyond their jurisdiction. Local sponsorship is essential to continue federal participation in the construction and maintenance of channels, and the State is the logical agent to sponsor needed improvements and developments. Most representatives were satisfied with the way the present agencies are handling the Intercoastal Waterway, but said that the State could assist the federal government in assuring that the Intercoastal Waterway is maintained or enlarged. If the federal government and private enterprise are unable to provide superport facilities, then the State should consider participating in offshore port facilities to handle supersize ships.

## Conclusion

This information helps to identify the range of needs perceived by industry and government officials. It also highlights the diversity of values and opinions held. Many of these differences are probably attributable to political, social, and economic variations at the local level. In order to provide adequately for these individual differences and still obtain efficiency in transportation, coordinated transportation planning was advocated by many hearing participants. At the same time, the participants strongly emphasized their desire for local involvement.

The hearing results provide the SDHPT with information regarding the planning goals of local Texas officials and businessmen. This information is valuable because the SDHPT is enabled to take a more informed judgment regarding its own organizational structure by being aware of the attitudes and objectives of local officials regarding urban transportation planning. Many of the needs and values expressed in the testimony deal with the interaction of government units, policy and system planning issues, and regional and urban planning organization. These subjects will be discussed in greater detail in subsequent chapters.

Because implementation of the transportation goals of local officials and businessmen is partially controlled by the transportation goals of other interests, it will be helpful to have an understanding of who these other interests are and what their goals are. The following chapter identifies major interests, discusses their transportation goals, and comments on the implications for local transportation planning organization and SDHPT transportation planning organization.

Notes

<sup>1</sup>Interagency Transportation Council, Hearings on Transportation Needs and Priorities in Texas Cities, August, 1974, prepared by The Division of Planning Coordination, Office of the Governor, Austin, Texas, p. 1-II.

CHAPTER III  
TRANSPORTATION GOALS

Introduction

In our traditional conception of capitalism, the existence of diverse entities pursuing a common goal is encouraged. Competition of this sort is thought to produce excellence or at least the most rapid rate of improvement possible. There are, however, certain combinations of conditions which make a unified and comprehensive approach more desirable. For example, a decision to provide adequate and safe transportation to a majority of the population requires some subsidization by those with more resources to provide transportation for those with fewer resources. Given this goal, a mechanism is required that does not entirely rely on the private market system. Therefore, the government establishes agencies to collect resources and redistribute them in a more balanced pattern. However, the existence of several governmental agencies providing transportation services in an uncoordinated fashion retains some of the drawbacks of the private enterprise system and reduces the integration desired of a public system. Because of this situation, some sort of coordination mechanism is sought that provides public transportation equitably while maintaining the existence of private transportation for those who prefer and can afford it.

Since a public organization does not have the market place to guide its decision making, it is important that goals be specified before commitment to a specific organizational arrangement or course of action is taken. Therefore, the transportation goals of local officials and businessmen in Texas are an important component of transportation planning organization for Texas. There are other interests who have goals that must be dealt with. The transportation

goals of the Federal Department of Transportation and the Texas state government have an impact on the way urban and regional transportation planning is organized. Also, many basic physical and social goals of individuals are affected by transportation decisions. It is important to be aware of these needs in order to be able to be responsive to them.

### Federal Goals

The goals of transportation planning are established at the federal level by the Department of Transportation (DOT). Davis notes that DOT's stated goals are an attempt to promote economic efficiency by fostering the development of an optimal modal mix which maximizes transportation service, convenience, comfort, capacity, and speed. DOT attempts to preserve and improve aesthetic, environmental, and social conditions by making transportation a solution rather than a problem. Maximizing safety is stressed in order to reduce fatalities, injuries, and property loss. Finally, an attempt is made to support other national goals related to transportation.<sup>1</sup> Engeler and Stuart suggest that implicit in DOT's goals and generally assumed in most other lists of goals are the qualities of accessibility, range of choice, diversity of experience, and amenity. Providing accessibility is defined to mean affording relatively equitable access to institutions of advancement such as job and educational opportunities. Range of choice and diversity of experience are qualities that enable individuals to experience their total environments and develop a broader concept of community. Amenities include variety, efficiency, ease of contact, and conservation of human and natural resources.<sup>2</sup>

## National Transportation Study Goals

The U.S. Department of Transportation (DOT) conducted a National Transportation Study (NTS) in 1974.<sup>3</sup> The study was undertaken in order to develop information that could be applied in future planning efforts. The official goals established for the study are of interest because they represent the long term objectives of federal transportation planners. More specifically, they give some indication of what the federal government will want to occur in state and local transportation planning. According to Mongini, one goal of the NTS is to develop quantitative measures of transportation that will be applicable to a future system as well as the present one.<sup>4</sup> This would make comparisons between systems possible at any point in time and would also allow measurement of change in one system over time.

Mongini points out that the ability to gather the kind of data discussed above will make it possible to evaluate existing and proposed transportation systems in terms of their ability to meet goals established by state, regional, and urban concerns. This evaluation procedure will help identify weaknesses in transportation systems and suggest means for making corrections.<sup>5</sup> In order for the approach described by Mongini to be effective, state, regional, and urban governments will need to prepare well coordinated, goal oriented transportation plans. Failure to do so could result in federal plans being introduced in the absence of local solidarity.

The NTS is charged with the responsibility of fostering the continuing development of coordinated, multimodal transportation planning. To accomplish this assignment, the NTS has specific goals. One of these is to encourage increased coordination of U.S. DOT planning grants for the purpose of promoting geographically comprehensive multimodal planning. Another goal is to encourage

the development of transportation plans that are responsive to state and local long-range (15 to 20 years) and intermediate range (5 to 10 years) development plans. In order to reinforce intermediate planning activity, the NTS will promote funding programs to implement priority items at that planning level. The development of a data management system capable of handling quantitative transportation measurements on a national scale will also be pursued so that local, state, and federal planners will have access to current information regarding transportation system performance at all geographic and political levels for all modes.<sup>6</sup>

The NTS goals carry several implications for state and local planning. Chief among these is the increased federal emphasis on comprehensive multimodal planning at intermediate and long-range levels. Transportation planning organizations will have to be better organized and funded, especially at the local level, to conduct this kind of planning. Increased federal involvement in transportation planning will require greater effort by state and local planning organizations to maintain control over the planning process and subsequent implementation. In order to interact with federal planning efficiently and effectively, a state level transportation agency will be helpful. Because of the increased federal involvement, local and state transportation organizations should organize their planning units to interact and plan with federal officials. By taking the initiative with federal agencies, rather than attempting to ward off federal influence, state and local planning may establish a more satisfactory working relationship in terms of local and state control.

## State Goals

### State Reorganization

Norman Ashford suggests that states are adopting unitary transportation planning departments, state DOTs, because of three philosophical changes in government operation. Legislative reapportionment in state legislatures is producing a proportionate increase in the number of urban senators and representatives. This is resulting in a much greater concentration on urban problems and policies than existed in the past. Awareness of urban issues, in turn, has led to an increase in federal interest in the area of social legislation and has fostered a multiplicity of new programs that are forcing state administrative structures to be redesigned. The net effect has been a general reorganization of state governments. This reorganization has usually taken place along functional administrative lines in order to match new federal organizational structures. As a result, some states have decided that coordinating all transportation modes into one state agency is a desirable goal. This kind of consolidation serves to reduce overlapping responsibilities and simplify government operations. 7

### State DOT Goals

The Council of State Governments (CSG) has suggested a list of major goals for state departments of transportation. Chief among their suggestions is the creation of statewide transportation plans which would establish goals for future development and catalogue existing conditions. By selecting the proper budget and administrative planning procedures, complementary transpor-



transportation and general planning goals could be pursued. Of course, pursuing complementary goals can only be done if goals have already been established.<sup>8</sup>

Other CSG goals center around coordination and investment techniques designed to increase transportation planning efficiency. By coordinating and unifying regulation, licensing, and taxation, it would be possible to exercise greater control over the development and growth of transportation modes.<sup>9</sup> For example, the Texas Aeronautics Commission controls the extent of commercial intrastate flight service through its powers of certification and regulation;<sup>10</sup> the Texas Railroad Commission regulates railroads and motor carriers;<sup>11</sup> the Department of Public Safety licenses automobile drivers.<sup>12</sup> There may be an advantage to centralizing these controls so that they can be administered in coordination with each other.<sup>13</sup> The CSG also suggests the goal of coordinating transportation planning policy with economic development planning to assist in producing unified state development. They recommend that this be done by integrating transportation planning policy with economic development policy through the mechanism of the state's general plan. The reason given for making this recommendation is that the direct relationship between accessibility and land use has a significant influence on the amount and kind of economic development that is possible. This relationship also makes possible another CSG goal of coordinating transportation planning with general state planning policy in order to control and shape land use development. Formal implementation of these goals in Texas would require more authority than the SDHPT possesses since other state agencies and the office of the governor are involved in general state planning. The CSG also advocates that state effort to gain maximum benefits from revenue

and to distribute funds according to criteria deemed beneficial to the entire state rather than individual areas. By determining minimum transportation service levels and analyzing alternative modal and network combinations for optimal investment opportunities, more transportation service could be provided for the money available. A centralized fiscal policy would also make possible the application of transportation resources to areas of the state that would not be able to afford transportation otherwise.<sup>14</sup> These CSG goals have a broader area of influence than transportation, because increased accessibility improves economic development possibilities for underdeveloped areas and therefore contributes to a more uniform state development pattern.

The ITC hearing testimony described in Chapter II supports the CSG approach to a limited degree. Many ITC speakers, however, preferred local financing and/or local control of state and federal funding for transportation services. Given the expressions of interest in regional level planning by ITC hearing participants, compromise may be possible in the form of regional planning structures that bring control of funding and financing closer to the local level but still provide a large enough geographical area to make coordinated transportation planning more feasible.

No matter which particular type of state planning structure is established, the existence of state level planning policy and guidelines give regional and urban planning organization a framework for coordinating their planning decisions. The CSG believes that establishing a state level structure is an important goal because the benefit of centralized coordination is maintained and general state transportation planning goals can be achieved. Also, because the federal government is increasingly active in national transportation planning, as evidenced by the national transportation needs studies, it is important that

state governments be in the position of formulating state level policy in order to be able to take an informed stance regarding their needs and preferences.<sup>15</sup>

While the CSG goal of preparing a statewide position on transportation planning is a worthy one, it is not necessarily a good argument for centralized planning. It can be just as easily claimed that planning should be conducted at the grassroots or local level with the results being integrated into an overall policy position. The grassroots approach may be more in keeping with the attitudes and preferences expressed at the ITC hearings. Despite this criticism, the goals of establishing a coordinated transportation planning framework and developing a statewide transportation planning policy stance are valid.

In summary, efforts to reorganize transportation planning at the state level should consider as possible goals: centralization of scattered state transportation planning responsibilities; coordination of transportation planning with other state planning activities; and development of state planning policy to provide guidance for local planning and for interaction with national planning efforts.

#### Individual Goals

In addition to the numerous considerations involved in dealing with federal and state goals, there are important physical, economic, and social goals that concern most individuals. These include:

##### A. Basic Social Needs

1. Personal identity and recognition
2. Control over own destinies - a voice in decision making; involvement and participation
3. A sense of community or belonging (at the local level)

4. Territoriality-identification with a bounded "turf" or neighborhood
5. A sense of being part of a united society at the metropolitan level
6. Compatible neighbors
7. Compatible playmates for children
8. Stability and security; lack of anxiety

B. Basic Environmental Needs

1. Clean air, unpolluted water, trash-free land
2. Low levels of noise and vibration
3. Conveniently situated local services: parks, schools, shops, churches
4. Compatible mixtures of land uses
5. Adequate shelter
6. Privacy
7. Uncongested transportation systems (in the locality)
8. Preservation of buildings and sites of unusual beauty or historical and architectural interest
9. Preservation of established neighborhoods
10. Environment allowing social contact within the neighborhood
11. Safety and security, especially for children
12. Avoidance of commotion, such as during major construction

C. Basic Access Needs

1. Access to employment, whether one has an automobile or not
2. Access to the facilities and services of an entire city, whether one has an automobile or not; mobility, opportunity, and variety
3. Low travel times
4. Low travel costs
5. Safety while traveling
6. Reliable means of travel
7. Comfort and convenience in travel
8. Choice of mode of travel
9. A transportation system that is comprehensible because it is orderly; one can find one's way around easily

D. Basic Economic Needs

1. Avoidance of financial losses occasioned by the construction of transportation facilities
2. Preservation of community tax base (municipal or county)
3. Maintenance of economic stability of a community
4. Low transportation costs, both capital and operating
5. Encouragement of economic growth, especially for the lower income and minority groups. 26

It has been suggested that the failure to deal well with individual goals has been a primary cause of past resistance to highway construction plans.<sup>17</sup> None of the organizational approaches to transportation planning suggested in this report will guarantee that these goals will be accomplished. Indeed it is probable that there will be disagreement over how they can be met. What is important here is that the goals be kept in focus as a means by which to evaluate the worth of alternative organizational planning forms.

### Organizational Goals

More general goal criteria for organizational structures at the state level have been developed. These criteria center around basic organizational needs that are important for efficient and effective administration of a comprehensive, multimodal transportation program. They emphasize the need to be organized in such a way that a unified, multimodal transportation system approach is facilitated. Certain structural steps are recommended by Keese to reach that organizational goal. One is to provide individual officials with the necessary power to carry out their tasks relative to effecting a unified transportation system. Another is to ensure that all modes and all geographical areas have equal organizational status and are programmed to receive equal consideration.<sup>18</sup> He also recommends that the administrative structure be flexible enough to absorb and discard programs in an effort to achieve an arrangement of activities that is efficient and oriented toward total transportation objectives. In addition, the organizational structure should contain administrative positions that are parallel to local and federal levels in order to develop good channels of communication.<sup>19</sup> Finally, Keese suggests that there should be accountability.

Delegated authority should be sufficient to allow personnel to carry out their responsibilities. Program performance should be clearly identified with responsible officials so accountability can be pinpointed.<sup>20</sup> Without identification of responsibility, as described by Keese, it is very difficult to determine cause and effect and make subsequent organizational improvements or adjustments. Because multimodal transportation planning organization is relatively new, it is probable that adjustments will be necessary.

Essentially, these criteria suggest that in order to have a successful transportation planning organization, it is necessary to give planners the power to plan on a coordinated, multimodal basis. Furthermore, the organization should have goals that are reflective of a unified transportation planning orientation and accountability procedures that make it possible to adjust the administrative structure. The next chapter describes alternative administrative and planning organization models and discusses their relative advantages and disadvantages for accomplishing planning goals.

#### Summary

Goals are an important component of public agency organization and operation since the market place cannot be relied on for guidance. The U.S. Department of Transportation has formal operating goals that include promoting economic efficiency, preserving and improving aesthetic, environmental, and social conditions, maximizing safety and supporting other national goals and objectives. An indication of future federal transportation goals can be obtained by examining the 1974 National Transportation Study. A major emphasis of the study is to support the further development of coordinated, multimodal transportation planning. In support of this goal, the NTS intends

to: develop a quantification process that will make transportation system evaluation possible; promote the use of planning grants to produce comprehensive transportation plans; encourage development of plans that reflect state and local long and intermediate range goals; and support the concept of funding intermediate range priority projects. In view of increasing federal activity, state, regional, and urban governments will need to prepare well coordinated, goal oriented transportation plans. Failure to do so could result in federal plans being introduced in the absence of local solidarity.

In recognition of federal and other pressures, state transportation planning goals are changing. The Council of State Governments recommends a series of goals that states may choose to pursue. Essentially, these goals attempt to achieve a centralization of planning responsibilities, coordination of transportation planning with other state planning tasks, and development of state planning policy guidelines for use in guiding urban planning and interacting with federal planning efforts.

Transportation planning affects the social, economic, and physical goals of individuals. It has been suggested that the failure to deal well with individual goals has been a primary cause of past resistance to highway construction plans. Planning organizations should provide for more citizen input in an effort to address the problem.

Planning organizations should also develop administrative policy that will facilitate comprehensive transportation planning. Basically, this would entail adoption of goals that are reflective of a comprehensive transportation orientation and delegation of the necessary power to planners to conduct multimodal transportation planning. There are issues in state and local transportation planning that influence the content of administrative

policy and, consequently, the kinds of goals that are adopted. Chapter IV identifies these issues and discusses appropriate organizational arrangements and processes for dealing with them.



## Notes

<sup>1</sup>Grant Miller Davis, The Department of Transportation (Lexington, Massachusetts: Heath Lexington Books, 1970), pp. 156-7.

<sup>2</sup>Rodney E. Engeler and Darwin G. Stuart, "Development Objectives for Urban Transportation Systems," Traffic Quarterly, Vol. 24, No. 2 (April, 1970), pp. 250-252.

<sup>3</sup>For a description of the National Transportation Study see Herman Mertins, Jr., National Transportation Policy in Transition (Lexington, Massachusetts: D.C. Heath and Company, 1972), pp. 92 and 186-7. Also, U.S. Department of Transportation, 1974 National Transportation Study (Washington, D.C.: U.S. Department of Transportation, May, 1972), pp.iii, ff.

<sup>4</sup>Arrigo Mongini, "Relation of National Transportation Planning and State Transportation Planning," Highway Research Record, No. 401 (1972), p. 32.

<sup>5</sup>Ibid., p. 33.

<sup>6</sup>Ibid.

<sup>7</sup>Transportation Research Board, Special Report No. 146, Issues in Statewide Transportation Planning (Washington, D.C.: National Research Council, 1974), p. 39.

<sup>8</sup>Norman Ashford, "The Planning Function in State Departments of Transportation," Traffic Quarterly and Independent Journal for Better Traffic, XXVII, No. 1 (January, 1973), p. 57.

<sup>9</sup>Mongini, "Relation of National Transportation Planning," p. 32.

<sup>10</sup>Texas Legislative Budget Board, Legislative Budget Estimates for the Fiscal Years Ending August 31, 1973-1974 (Austin, Texas: January, 1973), Section III, p. 3.

<sup>11</sup>Texas Legislative Budget Board, Performance Report to the Sixty-Fourth Legislature (Austin, Texas: January, 1975), p. 360.

<sup>12</sup>Ibid., p. 378.

<sup>13</sup>There are a number of state agencies involved in or related to transportation in Texas in addition to the SDHPT:

(1) The Commission on Alcoholism is charged with the responsibility of educating the public about the dangers of drinking and driving. It also cooperates with other agencies dealing with road safety.

(2) The Texas Aeronautics Commission is responsible for developing air transportation in the state. In fulfillment of this responsibility, the Commission

"participates in the improvement and development of air transportation facilities in communities by providing financial and technical assistance,

directs the development of a commercial intrastate network by the certification and regulation of intrastate airlines, and

promotes air safety measures among the continuously increasing number of general aviation pilots by conducting educational air safety courses."

(3) The Texas Air Control Board monitors air quality within the state and recommends appropriate action to improve air quality when needed. One of the concerns of the Air Control Board has been air pollution by automobiles in congested areas. This problem has definite implications for transportation planning in Texas.

(4) The Texas Coastal and Marine Council assesses and plans for coastal resource management and other marine related activities, a major area of concern being the Gulf Coast Intercoastal Waterway. Actions taken by this organization have potential impact on intercoastal shipping and on Texas ports.

(5) The Texas Department of Community Affairs exists to provide local communities with assistance in maintaining and developing essential public services. In addition to administering general planning assistance and other programs to which transportation is related, the Department also administers the Office of Traffic Safety.

(6) The Good Neighbor Commission is responsible for developing improvements in travel conditions for migrant laborers in Texas.

(7) The Governor's Office, in addition to conducting specific projects such as the Transportation Needs Study Through 1990 and the Texas Airport System Plan serves as the clearinghouse and coordinating point for all planning activity and projects at the federal and state levels.

(8) The Texas Advisory Commission on Intergovernmental Relations was created to "improve coordination and cooperation among all governments in Texas by providing research, information, and advisory services to public officials and citizens of Texas". There are four policy committees, one of which is the Community Development Committee which includes transportation in its policy deliberations.

(9) The Texas Offshore Terminal Commission is responsible for developing a deepwater port to accommodate supertankers. The number and location of these ports will definitely influence transportation in Texas.

(10) The Texas Railroad Commission was originally established to regulate the railroad industry. It has been expanded to include supervision of motor carriers. Included in its responsibilities are administering rates on express companies, trucks and buses within the state and hire" ground transportation. The Commission establishes:

"Qualification of motor carriers, motor buses and transportation brokers  
Registration and licensing of motor carrier vehicles and motor buses  
Rate making  
Rate auditing . . . "

(11) The Department of Public Safety is responsible for enforcing traffic laws, patrolling the highway, licensing drivers and supporting safety education.

(12) The Central Education Agency is in charge of safety and driver education in the high schools.

(For substantiation and further information on the above agencies, see two reports of the Texas Legislative Budget Board: Performance Report to the Sixty-Fourth Legislature, January, 1975, pp. 231, 268, 316-7, 347, 360, 378, 432; Legislative Budget Estimates for the Fiscal Years Ending August 31, 1973-74, January, 1973, Section III, pp. 3, 7, 29, 57.

<sup>14</sup>Ashford, "The Planning Function," pp. 57-58.

<sup>15</sup>Ibid.

<sup>16</sup>Roger L. Creighton, "Conference Summary," Highway Research Board Special Report, No. 105 (Washington, D.C.: 1969), pp. 6-7.

<sup>17</sup>See Frank Colcord, Jr., "Transportation and the Political Culture," Highway Research Record, No. 356 (Washington, D.C.: 1971), pp. 32-42, and Robert C. Young, "Goals and Goal-Setting," Journal of the American Institute of Planners, XXXII, No. 2 (March, 1966), p. 79.

<sup>18</sup>Charles J. Keese, Draft Memorandum: Outline of Two Alternative Governmental Structures: I.T.C. and State D.O.T. (May 23, 1974), p. 3.

<sup>19</sup>Ibid.

<sup>20</sup>Ibid.

## CHAPTER IV

### ISSUES IN STATE AND LOCAL TRANSPORTATION PLANNING

#### Issues in State Transportation Planning

State governments are taking an increasing interest in comprehensive transportation planning and mass transit systems. In addition to being pressured by federal action, states are being criticized by citizen groups disenchanted with traditional urban transportation planning and implementation techniques. Mitchell has noted factors influencing the state role in urban transportation planning.<sup>1</sup> He points out that local jurisdictions are the creation of the state and enjoy their power to legislate and plan as a result of authorization by the state. In effect, cities serve at the pleasure of the state, which has the option to alter its delegation of authority.<sup>2</sup>

Since urban areas are major components of a state's economy, society, and politics, Mitchell reasons that state agencies have an essential interest in maintaining urban welfare. For example, the state has prime responsibility for prudent use of public revenues and, especially in highway development, controls the planning, financing, construction, and maintenance of most state projects, including those that take place in urban areas. However, while state governments have control of the implementation of highway plans, they have often designated municipalities or other state agencies as policing authorities, thereby fragmenting control of transportation facilities.<sup>3</sup>

The Cities Enabling Act further weakened the State's role by allowing cities to work directly with the federal government in matters concerning mass transportation. The legislation made no mention of the need for coordination between individual cities and the State. However, the Act did

not remove the requirement that the A-95 review procedure be followed by cities applying for federal grants. Therefore, it was technically possible to coordinate mass transportation planning. Since the A-95 review procedure takes place after applicants have done the bulk of their planning, coordination was difficult.<sup>4</sup>

Some state planning agencies are making efforts to strengthen their role by providing advice and assistance to urban planning agencies. In the case of state highway departments there is abundant skill and experience with highway and traffic engineering but relatively little familiarity with multimodal transportation systems. This supply of expertise can be a problem because state governments have given themselves relatively little authority to get involved in general urban area planning, except for highway departments, which do have a great deal of control of highway planning within urban areas and can strongly influence general urban planning in an uneven manner.<sup>5</sup>

Gakenheimer claims that because the states are the most powerful geographical areas and political subdivisions below the federal level, they may provide the best location for coordinated transportation planning. He explains that the existence of a continuing relationship between state and federal agencies provides a well-developed working interface that is not generally available to urban levels of government. The fact that state government is in a position, constitutionally and practically, to exercise executive power makes it more able to implement plans than most planning bodies.<sup>6</sup>

## Organizational Issues

According to Pecknold, there are a great many organizational issues to be dealt with in establishing a statewide planning organization. For example, should there be a modal or functional approach? What role, if any, will commissions play and will planning and construction be integrated or will they be separate responsibilities? Because of the many other governmental bodies to be dealt with, intergovernmental relations will be an important activity. Responding to the entirely different requirements of the federal Department of Transportation and those of local governments will require careful organization.<sup>7</sup>

## Regulation and Financing

Pecknold notes that the sensitive areas of regulation and financing will also be involved and some type of coordination of regulation and financing will be required. If regulation and financing are completely separated activities, the possibility of fragmentation of effort exists. The main issue regarding financing revolves around the question of who pays and how much. Those in favor of providing revenue from general funds argue that, because of its economic and social benefits, transportation should be supported by everybody. On the opposite side are those who maintain that each transportation mode should be self-supporting so that the people who do not use a particular mode do not have to pay for it.<sup>8</sup>

Since the concept of multimodal planning is relatively new, Pecknold says that determinations regarding its application under varying circumstances must be made. For example, how can multimodal planning be applied when funding is carried out separately for each mode? Since each mode of

transportation already has a planning and implementation process, how will the state comprehensive planning approach incorporate these activities? Of great significance is the problem of dealing with competition among regions and between regions and the state. When the state is in a position to plan transportation, there is a potential for altering and otherwise controlling regional competition by manipulation of access among the regions and between the regions and other states. Competition also exists among modes of transportation. Care will have to be taken to ensure that distortions do not develop because of decisions that unfairly assist or disrupt a particular mode. Essentially, the problem will be one of resolving trade-offs among modes in order to achieve the best investment level given an industry that contains both private and public organizations.<sup>9</sup>

#### Timing

Timing will be a critical matter for statewide comprehensive transportation planning. There are valid reasons for conducting both long-term and short-term planning efforts. However, limited resources generally preclude conducting both with success. It has been well argued that long-term planning is necessary in order to provide a focal point toward which to move. It is claimed that failure to provide direction will result in a poorly developed product. For example, if a long-term state highway system plan is not available to urban areas, coordinated planning is made difficult. Local plans are developed without the benefit of knowing where major corridors of regional and state significance will be located. At the same time, local growth may be structured in a direction that is detrimental to overall development.<sup>10</sup>

On the other hand, proponents of short-term planning point out that current projects need to be planned and are more relevant than plans projected twenty or thirty years into the future. Here, also, there are important trade-offs to be considered, especially in terms of cost, relevance, and practicality.<sup>11</sup>

#### Problems with State Role

The process of developing successful urban, regional, and state transportation planning will be greatly aided by recognizing the positive role that the state can play. Pecknold lists a number of uncertainties about how the state would carry out a comprehensive transportation planning role. Some of these uncertainties are due to problems that lie outside the scope of this study but are important to comprehensive transportation planning. Problems of this kind include: identifying special studies and analyses necessary for planning with different modes; identifying differences in analysis, forecasting, and evaluation procedures and methods for each mode; determining whether existing techniques for assessing social, environmental, and economic impacts are satisfactory for multimodal planning; and determining whether urban transportation data collection and analytical techniques are applicable to statewide planning and vice versa.<sup>12</sup> Further research on these problems will provide helpful information regarding transportation planning organization. Until such research is conducted, unified transportation planning organizations will have to proceed on a trial and error basis in these areas.

Other items that Pecknold lists include: determining if regional transportation plans can be aggregated into a coherent statewide plan; identifying procedures to be used for securing public involvement in multimodal planning;



identifying procedures for integration and coordination of transportation and other planning processes; and developing techniques for formulating high and low capital intensive programs.<sup>13</sup> These are items that can only be resolved as more experience is gained with comprehensive transportation planning organization. While this report suggests various organizational configurations for conducting social studies and analyses and the other activities listed above, it is recognized that methodology for carrying out these tasks needs to be evaluated, improved and, in some cases, newly developed through further research.

#### The Federal Impact on State and Local Planning

The state planning process simply does not operate in a vacuum. The authority and activity of the federal government must be accounted for and programmed into comprehensive transportation planning at the state and local levels. Organizational approaches that do not do this will be incomplete.

The federal government has taken an increasingly significant role in transportation planning at the state and local level. A major step in that direction was the 1962 amendment to the Federal-Aid Highway Act. Now known as "3C", the Act required that urban areas of more than 50,000 population have a continuing, comprehensive planning process conducted cooperatively between the state and local governments. The intent of the legislation is expressed in a subsequent implementation memorandum which indicates that "ideally, all political subdivisions should participate in the transportation planning process."<sup>14</sup>

The same memorandum established the wide scope of interest with which transportation planning should concern itself by setting forth ten basic elements:

1. Economic factors affecting development.
2. Population studies.
3. Land use.
4. Transportation facilities including those for mass transportation.
5. Travel patterns.
6. Terminal and transfer facilities.
7. Traffic engineering features.
8. Zoning ordinances, subdivision regulations, building codes, etc.
9. Financial resources.
10. Social and community value factors.<sup>15</sup>

Including land use, mass transportation facilities, and social and community value factors into federal highway legislation, in effect, formalized the concept held by some that transportation is an integral part of society and environment and cannot be planned and implemented independently. The extension of this philosophy is manifested in the form of the Action Plan statements which describe the organization to be used and the procedures followed in identifying economic, social, and environmental effects and involving other agencies and the public in planning at an early stage in the process.

Other important factors in selecting organizational approaches include revenue and expenditure policy as well as the role the federal government chooses to play in terms of providing guidance of a social, economic, or physical character. The structure of revenue and/or expenditure policy dictates, to some degree, certain aspects of the planning approach. For example, the principles and methods used for distributing and supervising federal funds requires specific actions on the part of the receiving agencies. The guidance provided is a function of the dominant political viewpoint's conception of the national interest, states' constitutional

rights and the amount of unity considered desirable among states, their regions, and local communities. These factors are variable and will probably always be so. Therefore, it is logical to maintain as flexible an approach to them as possible. This would suggest that alternative organizational structures should be available to be made use of as needed. It will also be helpful if the structures themselves are somewhat flexible in order to respond better to individual differences among regions and localities.

### Issues in Local Transportation Planning

It can be said that the State of Texas has had a fragmented transportation planning effort. The SDHPT has done the majority of planning through its highway and expressway-related work. However, this has been a unimodal rather than comprehensive approach. Tentative and somewhat limited steps were taken to broaden statewide comprehensive planning by establishing the Texas Mass Transportation Commission<sup>16</sup> and the Interagency Transportation Council.<sup>17</sup> These groups were designed to provide advisory and consultive assistance to other entities. Because of the direct relationship between cities and the federal government established by the Cities Enabling Act, statewide coordination of transportation through state organizations was difficult.

According to Mitchell, local transportation planning has a longer history and more deeply rooted tradition than does planning at other levels of political jurisdiction. The value of local autonomy is strongly entrenched and a definite factor in organizing for transportation planning. This results in a tendency for local political jurisdictions to resist attempts at consolidating planning and implementation efforts, a tendency made easier by the Cities Enabling Act. At the same time, there is a temptation to join a

broader based planning organization in order to reduce the relative power of state and federal government. The key to the matter is to take that action that retains the greatest amount of local planning authority. Since local communities will be required to live with transportation decisions and also to pay for them, it is imperative that they participate.<sup>18</sup>

Financing is identified by Mitchell as a continual problem for urban areas because of the heavy drain on their resources due to urban renewal, rising expectations for public services, and increasing costs of services and public works. Although financially weak, local governments are unsurpassed in their knowledge of local conditions and often possess a high quality of general planning skill and knowledge.<sup>19</sup> Despite this ability, Mitchell claims that there has been a noticeable lack of success in developing urban transportation plans. In the past, there has been a weakness in transportation planning methodology and lack of support from local officials and the public. Urban planning efforts also suffered from a shortage of staff and budgeting. A major difficulty with urban transportation planning has been its isolation from local politics. If elected officials are responsible for funding and implementing transportation planning decisions, much more attention might be paid to transportation issues. Another restraint on the development of local and regional transportation planning has been the fact that funds are distributed through federal and state agencies which keep very tight controls on how money is spent and what kind of technical work is done. This lack of flexibility has probably hampered incentive for developing local solutions to transportation problems.<sup>20</sup>

With the advent of "3C" planning, metropolitan and urban agencies have developed representative boards containing elected officials from each

political subdivision and representatives from relevant federal and state agencies. This approach to local planning may run into difficulty because of the relatively large number of people attempting to reach consensus. Complications can arise due to the great variety of interests which are represented on the boards. Sometimes these interests conflict with each other and produce obstacles to cooperative efforts. In anticipation of this problem, some agencies have operated through a strong executive committee. However, this approach reproduces the problem of a lack of technical and jurisdictional representation.<sup>21</sup> Should these kinds of problems occur, assistance in the form of state policy planning may be a valuable tool for local planning efforts.

#### Aspects of State Policy Planning

A national transportation conference in February, 1974 came to several conclusions regarding the importance of policy planning for comprehensive transportation planning functions at the state level. The first recommendation was that policy planning is important enough to be made the basic function of a group attached to or communicating directly with the top transportation planning organization in the state. For states without departments of transportation this could mean either the state planning office, the Highway Department, or the office of the governor. The policy planning group, wherever it may be housed, should possess the capability or have access to expertise capable of using the various analytical techniques necessary for evaluating transportation policy issues.

The requisite techniques include: needs studies, standards and performance measures and benefit studies; studies structured in the same manner as the National Transportation Study; budget and finance analyses; economic

analyses; performance, scheduling and customer satisfaction analyses as indicators of quality of service; simulation studies; studies of impact on consumers, nonconsumers, transport companies, and government bodies; resource allocation studies; and opinion and behavior surveys.<sup>22</sup> The conference also reported that a mix of skills and academic backgrounds would be beneficial to comprehensive transportation policy planning efforts. The following areas of expertise were recommended: (1) political science, (2) public administrations, (3) budget analysis, (4) program planning, (5) economics, (6) transportation planning, (7) transportation analysis, (8) transportation engineering, (9) law, (10) financial analysis, (11) regional planning, and (12) land use planning.<sup>23</sup>

In addition to the mix of skills and academic backgrounds listed above, it was suggested that professional transportation policy planners be prepared to fulfill several basic roles. The role of problem identifier is to determine whether the solutions to be sought in a particular case are "organizational-procedural" or "systems-project" in nature. In essence, it is necessary to determine whether a problem is policy related or design related. The role of options identifier is to coordinate, negotiate, and be a catalyst for alternative solutions. The last two roles include being an innovator and initiator of new policies and interpreting information and analytical findings for the public, the policy group, and urban planning organizations. As a group, policy planners should foster the development of a legislative program that is consistent with their policy formulations. They should also monitor state and federal legislative activities that have an impact on policy planning. Finally, policy groups can involve themselves in public information activities that emanate from the transportation department to be sure that new policy is not accidentally created by inaccurate public announcements.<sup>24</sup>

If it is decided that comprehensive transportation planning at the state level in Texas should be conducted by a DOT, there are alternative organizational approaches:

1. Reconstitute the appropriate state transportation departments into a single Department of Transportation under a single commission and Director, preserving the constitutionally dedicated funding category.

2. Include as a function of the State DOT, all transportation regulatory functions of existing departments.

- (Alternate) 2. Exclude as a function of the State DOT all economic regulatory functions of existing departments, leaving them as a function of existing departments or a Utilities Commission.

3. Allow for a functional organization of the State DOT utilizing strengths of the existing departments oriented to the broad functional categories of: - planning and funding - design, construction, and maintenance - operation and control - regulation.

4. Explicit recognition that the existing dedicated funding will not necessarily be sufficient for meeting the total transportation needs of Texas. The Department of Transportation would present consolidated resource needs for statewide transportation. 25

The same source suggests several advantages and disadvantages of a Department of Transportation:

#### ADVANTAGES OF A D.O.T.

1. Integrated planning and programming based on total transportation needs, alternatives, and resources.
2. The single department concept could eliminate duplication and permit optimum use of expertise, facilities, and other resources.
3. It could provide for a single coordinated legislative program.
4. It could allow for the inclusion of areas not now under an existing State Department and for broadening of existing areas. Water Transportation is an example.
5. Federal legislation may soon require a State Department of Transportation to administer Federal Transportation Programs.

## DISADVANTAGES OF A D.O.T.

1. It could well create a concentration of power.
2. It might be much more difficult to develop meaningful goals and objectives that will stimulate the dedication of purpose which characterizes the existing transportation departments in Texas.
3. Since implementation of programs depends upon public support as well as joint and separate responsibilities among various levels of government, the mutual respect and cooperation among existing jurisdictions might be diminished.
4. Based on the experience of the Federal Department of Transportation, it is highly probable that a State Department of Transportation will become modally oriented with existing departments being submerged under another level of authority.
5. Since there will never be enough money to completely satisfy the transportation needs, the competition for funds among the various segments and modes will probably not be diminished.<sup>26</sup>

## Organizational Processes

No matter which organizational structure is selected, comprehensive transportation planning at the state level will have to establish certain organizational processes. It must have the capability to plan and implement a multimodal transportation infrastructure that facilitates and guides the social, economic, and environmental development of the state systematically. Developing a systematic comprehensive multimodal transportation planning network that coordinates regional, metropolitan, and local transportation planning is also important.

Melchel suggests that steps need to be taken to monitor and control transportation impacts, including incorporating mechanisms into the planning network that protect and encourage the care of natural resources and incorporating mechanisms into the planning network that ensure the proper



utilization of technology. He also thinks that it would be helpful to establish decision making procedures that produce benefits at low investment cost and result in few disbenefits. However, concern with costs and benefits should not be allowed to preclude consideration of a variety of alternatives and attempts to satisfy a wide range of goals. Assessment of alternatives and goals will be improved by establishing citizen participation techniques and programs that provide citizen input before, during, and after planning takes place. Finally, he maintains that an agency should be structured in a manner that anticipates the possibility of rapid societal and technological change and provides mechanisms for responding to these changes.<sup>27</sup>

The way to determine if a comprehensive transportation planning organization, charged with complete transportation planning responsibility, is meeting its objectives, is to evaluate its performance characteristics. This can be done by evaluating the organization in terms of certain accomplishments and continuing activities. No matter which particular organizational arrangements are chosen, an agency can have one group that is responsible for determining the degree to which certain criteria are met. The following examples are indicative of criteria to be used:

- 1) Is the planning process coordinated with state population and land use policies?
- 2) Does the process successfully establish land use impacts on transportation and vice versa?
- 3) Is the organization capable of projecting passenger trip distribution accurately among alternative modes for varying transportation plans?
- 4) Is the organization capable of accurately projecting freight shipment distribution among alternative modes for varying transportation plans?

- 5) Does the planning process successfully determine passenger travel pattern changes according to alternative transportation plans taking into account user costs, supplier costs, environmental impact, and land use impact?
- 6) Does the planning process successfully determine freight travel pattern changes according to alternative transportation plans and rate structures taking into account shipper and supplier costs, environmental impact and land use impact?
- 7) Does the organization continually and regularly monitor freight shipments for changes in trends of costs and amounts shipped for various linkages of the system?
- 8) Does the organization continually and regularly monitor passenger and vehicle trips for changes in trends of cost and number of trips for various links of the system?
- 9) Does the organization display a complete grasp of the operational and financial requirements of private carriers through its actions vis-a-vis the private carriers?
- 10) Does the planning process result in projections of vehicular and person volumes that are accurate and detailed enough for use by design engineers?
- 11) Are the pricing and financing data in regard to freight rates, passenger fares and capital investment productivity accurate enough to be of use to administrators and policy makers?
- 12) Is the process sufficiently flexible and realistic to provide quick, reliable data to administrators on an as needed basis?<sup>28</sup>

These performance measures do not establish the existence or non-existence of a comprehensive transportation plan, nor are they a comprehensive listing of all possible criteria. They do assist an organization in determining to what degree their objectives are being met. When making incremental organizational adjustments, it is possible to evaluate the relative gain or loss that will be occasioned in the change by applying these criteria to the proposed changes and judging the degree to which each performance measure is satisfied.

### Systems Planning

The discussion up to this point in the chapter is intended to state the tasks and processes by which planning takes place. It does not delineate the differences in responsibility between statewide planning levels and regional and urban planning levels. The distinction is an important part of the development of planning organization for each level.

One of the major state level responsibilities is that of systems planning for the various transportation modes. System planning responsibilities will vary somewhat due to modal differences and because state responsibility is assigned to more than one agency. System design for highways includes siting and design factors and attempts to accommodate all road systems while systems planning for bus service is concerned with the design of routes and the coordination of interline connections. Commercial airline systems planning deals with air route and airport systems while general aviation systems planning is limited to airport systems. Systems planning for rail service includes rail passenger systems and rail freight systems design. For trucking activities, systems planning is limited to expressway routing systems. Canal systems planning is coordinated with both rail and highway systems as

well as parts. Finally, pipeline systems are related to both rail and canal systems.<sup>29</sup>

In addition to these planning responsibilities, the National Research Council recommends that state level planners be authorized to determine location, investment, and minimum service level criteria for each transportation mode. For highways these decisions can include establishing corridor location and investment levels according to type, location, and timing of highway construction or highway improvement. For bus systems, these decisions can include determining levels of service, general terminal locations, price levels, and bus sizes. For commercial airline systems, these decisions can include general airport location, size, cost and use of air space, price levels, and limitations on types of airplanes using airports. For general aviation systems, general airport location, airport size and cost, use of air space, price levels, and limitations on type of airplanes using an airport can be determined. General station location, investment levels, price level, level of service, and grade crossing protection criteria can be determined for rail passenger service. Rail freight service decisions can include investment levels, terminal location, pick-up and delivery frequency, coordination with trucking systems, price levels, and grade crossing protection criteria. For truck service, location of terminals, truck size, and price levels can be determined. For canal systems, investment levels and maintenance costs, as well as recreational use can be determined. For all modes, statewide transportation planning should be concerned with the interaction between access by each mode and the resulting economic and population distributions and levels. Finally, the state bears a shared responsibility with regional and local entities to preserve natural, historical, and aesthetic values.<sup>30</sup>

The National Research Council also suggests areas that the state should leave to the discretion of regional and urban planning authorities. In general, these are the matters that can best be determined at the local level given general state guidance through a system planning framework. These items vary somewhat by mode but generally deal with physical design, daily operations procedures, and management:

1. Highways - 1) route location; 2) engineering design; 3) corridor location of highways not owned by state or federal government; 4) traffic engineering; 5) traffic control.
2. Bus systems - 1) specific siting of terminal; 2) scheduling; 3) management of the system; 4) management of daily operations; 5) safety standards and procedures.
3. Air passenger systems - 1) specific siting of airport; 2) scheduling; 3) management of daily operations; 4) air traffic control operations; 5) safety.
4. General aviation systems - 1) specific siting of airport; 2) scheduling; 3) management of daily operations; 4) air traffic control operations; 5) safety.
5. Rail passenger and freight service - 1) scheduling; 2) management of daily operations; 3) safety.
6. Trucking systems - 1) management of daily operations; 2) specific terminal and warehouse siting; 3) safety.
7. Canal systems - 1) operations.
8. Ports - 1) physical design; 2) port management; 3) management of daily operations.
9. Pipelines - 1) safety; 2) management of the system; 3) management of daily operations.<sup>31</sup>

By making a careful distinction between state level and regional and local level planning responsibilities, the probability of inefficiencies and friction occurring is reduced. The division of responsibility suggested in the preceding section is based on a particular approach to planning organization. This approach attempts to retain the advantages of unified planning by establishing a comprehensive system planning framework. At the same time, flexibility and responsiveness to local needs are accommodated by providing for local planning, design, and management within the context of the overall system. Alternatives for local planning organization are discussed in the following chapter. A discussion of unified planning organization at the state level will be conducted in a subsequent chapter.

#### Summary

State government has a vested interest and a legislative mandate to maintain the general welfare, but has lost some of its authority in the area of transportation planning and implementation. Some of this authority is delegated to local government by the state and a further transfer of authority took place when passage of the Cities Enabling Act permitted cities to negotiate directly with the Federal Government without substantive state involvement. Still, state government is the strongest level of government below the federal level and has the capability of exercising executive powers; therefore, it may be the best location for comprehensive transportation policy planning. Organizational issues, regulation and financing problems, and matters of timing will have to be dealt with. Also, further research will be needed to determine the adequacy of existing planning techniques and to develop new techniques for multimodal planning needs at the state level.

The Federal Government has had a significant impact on state and urban transportation planning. Their most notable action has been an attempt to implement the concept that transportation is an integral part of society and environment and cannot be planned and implemented independently.

Autonomy is highly valued and resistance to consolidated planning efforts is strong at the local transportation planning level. There is a simultaneous attraction to broader based planning organizations in order to reduce the relative power of state and federal government. This internal conflict among local planning bodies has not yet been resolved. More time will be needed to determine the direction that local officials prefer. Some guidance may be provided by state policy planning efforts.

State transportation policy planning is a function that should be attached to or in direct communication with the state's highest level transportation planning organization. The policy planning group should have a full complement of analytical techniques and professional expertise. Policy planners have several roles to fulfill. Their roles include: determining whether problems are policy or design related; coordinating, negotiating, and being a catalyst for alternative solutions; innovating and initiating new policies; and interpreting information and analytical findings. Finally, policy planners should encourage the development of legislation that supports their goals.

There are pros and cons to a state transportation planning process. The final test will be whether the process is established in a way that supports and facilitates urban and regional transportation planning.

## Notes

- <sup>1</sup>Robert B. Mitchell, Metropolitan Planning for Land Use and Transportation (Washington, D.C.: The Office of Public Works Planning, The White House, December, 1959), p. 38.
- <sup>2</sup>Ibid.
- <sup>3</sup>Ibid.
- <sup>4</sup>Texas Transportation Institute, The Role, pp. 17-18.
- <sup>5</sup>Mitchell, Metropolitan Planning, p. 32.
- <sup>6</sup>Ralph Gakenheimer, G.M. Croan, D.S. Greenbaum, W.W. Hill, J. O. Litten, and P. Messeri, "Regional Transportation Planning Experience in the United States: A Critical Review of Selected Cases" in Perspectives on Regional Transportation Planning, ed. by Joseph S. Desalvo (Lexington, Mass.: Lexington Books, D.C. Heath and Company, 1973), p. 309.
- <sup>7</sup>Wayne M. Pecknold, Methodology for Systems Planning and Programming (Passenger), Report to the Highway Research Board Conference on Statewide Transportation Planning (Washington, D.C.: Highway Research Board, January, 1974), p. 8.
- <sup>8</sup>Ibid.
- <sup>9</sup>Ibid., pp. 9-10.
- <sup>10</sup>K.W. Bauer, "A Method for Attaining Realistic Local Highway System Plans," Highway Research Board Bulletin, No. 326 (1962), p. 41.
- <sup>11</sup>Pecknold, Methodology for Systems Planning, p. 13.
- <sup>12</sup>Ibid., pp. 5-6.
- <sup>13</sup>Ibid.
- <sup>14</sup>Fitch, Lyle, C. Urban Transportation and Public Policy (San Francisco: Chandler Publishing Company, 1964), p. 67.
- <sup>15</sup>Ibid., p. 76.
- <sup>16</sup>Legislation has been enacted that makes the Texas Mass Transportation Commission part of the SDHPT. Formerly, the Commission was a six-member body charged with the responsibility of promoting mass transportation and rapid transit in Texas.



<sup>17</sup>The Interagency Transportation Council was established in 1971 in an effort to establish some coordination among the principal transportation-related organizations in Texas government. The Council is chaired by the Governor, or his representative, and the membership is divided into voting and non-voting categories. The voting organizations are those state offices that have direct transportation responsibilities. The non-voters, or ex-officio members, include organizations whose responsibilities are influenced by transportation decisions or activities. Their function is an advisory one.

<sup>18</sup>Mitchell, Metropolitan Planning, p. 39.

<sup>19</sup>Ibid.

<sup>20</sup>Robert B. Mitchell, "Metropolitan Organization for Transportation Planning as an Integral Part of Comprehensive Planning," in B. Harris and Robert B. Mitchell, Metropolitan Development and Transportation Planning (Berkeley: Institute of Urban and Regional Development, 1966), p. 1.

<sup>21</sup>Gakenheimer, "Regional Transportation Planning," p. 306.

<sup>22</sup>Transportation Research Board, Issues in Statewide Transportation Planning, p. 63.

<sup>23</sup>Ibid.

<sup>24</sup>Ibid.

<sup>25</sup>Keese, Draft Memorandum, p. 11.

<sup>26</sup>Ibid., pp. 12-13.

<sup>27</sup>Roger L. Creighton, State of the Art In Statewide Transportation Planning, A paper prepared for the Highway Research Board Conference on Statewide Transportation Planning, Williamsburg, Virginia, February 24, 1974 (Williamsburg, Virginia: Highway Research Board, 1974), p. 9.

<sup>28</sup>Albert G. Melcher, "Citizen Participation in the Transportation Planning Process" in Metropolitan Transportation Planning Seminars, ed. by F. Frye (Washington, D.C.: U.S. Department of Transportation, 1972), p. 39.

<sup>29</sup>Creighton, Hamburg, Incorporated, A Work Plan for Statewide Transportation Planning Volume I, prepared for the Commonwealth of Pennsylvania Department of Transportation, Milton S. Shapp, Governor, Jacob Kassab, Secretary, Department of Transportation (Delmar, New York: Creighton, Hamburg, Incorporated, June, 1973), pp. v-3, v-5.

<sup>30</sup>National Research Council, Statewide Research Planning: Needs and Requirements, Synthesis of Highway Practice, 15 (Washington, D.C.: Highway Research Board, 1972), p. 7.

<sup>31</sup>Ibid.

<sup>32</sup>Ibid.

CHAPTER V  
URBAN TRANSPORTATION PLANNING ORGANIZATION

Introduction

Gakenheimer and others have undertaken a survey study of several transportation planning organizational structures used in the United States.<sup>1</sup> Based on qualitative analysis, they make judgments regarding the relative success of transportation planning conducted by cooperative political jurisdictions in urban areas. The authors maintain that attempts to establish urban scale transportation planning organizations have met with relatively little success in the past. They say that this failure is largely due to attempts to provide adequate representation for such groups by seating at least one elected official from every county, city, and interested state and federal agency involved in the area. The result is often a large, unwieldy organization representing all the various natural conflicts of interest contained in an urban area. Also, the authors further postulate that opposing viewpoints inhibit consensus and obstruct the production of good urban transportation plans.<sup>2</sup>

The above criticism probably has greater validity for larger urban areas. Those areas composed of many political jurisdictions may also experience difficulty with unwieldy organizations. However, as urban size decreases, the composition of representative boards is probably more manageable. In either case, it is more important that opposing points of view and natural conflicts be represented and negotiated through unwieldy boards rather than ignored in favor of limited board size. Failure to resolve conflicts at the planning stage may result in more prolonged and expensive delays when transportation plans reach the implementation stage.

As noted earlier, Gakenheimer reports that some organizations encumbered with large memberships have developed strong executive committees in order to bypass organizational problems. However, this approach lacks technical and jurisdictional representation and may also result in expensive delays when transportation plans reach the implementation stage.<sup>3</sup> This can be an especially serious problem for a transportation system if a strategically located political jurisdiction has not been part of the committee's planning process and is not inclined to cooperate at the project stage.

### Desirable Organizational Characteristics

#### Technical Adequacy

The State of Wisconsin conducted a study of highway system planning in its urban areas.<sup>4</sup> The methodology used relied heavily on interviews and analysis of plan implementation. While not directly applicable to Texas and not descriptive of Texas highway planning, the results are worth consideration when attempting to develop improved urban transportation planning organizational approaches. A major problem in Wisconsin was the technical adequacy of the plans in terms of engineering criteria. By examining the methodology used to develop plans, the study determined that local highway system planning attempts were often conducted on the basis of intuitive judgement rather than quantitative analysis. Therefore, the plans did not provide a sound rationale for long term capital investment. More critically, the plans were not long-range in orientation and could not be depended on to provide comprehensive solutions. This lack of technical adequacy was known and understood by only a few local planning technicians, according to the study. As a result, when the city requested the highway

department to implement the plan and the request was denied because of planning flaws, the city was apt to view the action as obstructionist and the image of the highway department suffered.<sup>5</sup>

#### Statewide Transportation Planning

A second problem revealed by the Wisconsin study was the lack of documented, statewide, comprehensive transportation plans. This was a problem because major highway networks are a prime determinant of urban development, and as these networks develop and/or are changed, urban growth and distribution also changes. Consequently, it is difficult to plan adequately for urban growth and distribution without knowing where major highways are going to be located. An urban transportation planning agency should maintain direct and constant communication with the decision makers who determine system development and location. Without such an arrangement and without comprehensive statewide plan documentation, local planning will experience limited success.<sup>6</sup>

#### Federal Legislation

A third finding of the Wisconsin study emphasized the pervasive influence of existing federal aid systems. At the time of the study (1960), the planning values and directions implicit in federal aid procedures and guidelines took no account of local plans. The study findings concluded that if local highway planning was to be a realistic endeavor, changes would have to be made in the federal aid program to include local planners and plans.<sup>7</sup> The Cities Enabling Act and the 3C planning process were the first major poststudy actions taken by the federal government to accommodate local planning. The intent of the 3C process is to coordinate continuing, comprehensive planning from the

local area through the state and finally to the federal agency level. The Cities Enabling Act provided direct federal assistance to urban areas for obtaining mass transit facilities. Unfortunately, urban transportation planning organizations have not been designed to maximize their resources by integrating both programs into a unified transportation system.

#### Involvement of Local Expertise

Another finding related to the organization of local planning efforts was the failure to involve local city offices, for example, the City Engineer and the Street Department, in the technical parts of plan preparation. The lack of technical adequacy mentioned earlier may be at least partially attributed to this failing. City agencies may show a lack of interest in plan implementation when left out of the planning stages of a transportation project.<sup>8</sup> The 3C process provides for input by city personnel during the data collection phase, while establishing goals and objectives, and as members of the technical committee. Merely providing the opportunity for input may not be satisfactory. Conscious efforts may be required to establish active involvement of city personnel, for example, by requiring their presence on committees rather than making membership optional.

#### Planning Commissions

One other finding of interest was the discovery that planning commissions were particularly successful in obtaining the support of city councils. The Wisconsin study concluded that local transportation planning organization changes should strengthen the commissions and increase their role in plan implementation.<sup>9</sup> A transportation planning commission organizational structure can be adopted by cities to conduct their part of the 3C process without

requiring changes in the SDHPT 3C organizational structure. The planning commission approach gives the city the advantage of an appointed body which can devote its efforts completely to the supervision and coordination of the city's responsibilities in the 3C process. This relieves overburdened elected city officials of additional tasks while allowing careful monitoring and direct input into the 3C process through the commission members.

### Organizational Arrangements

A White House study conducted by Mitchell contains additional suggestions for organizational arrangements for urban transportation planning organizations.<sup>10</sup> He advocates that urban transportation planning be directly connected to urban government so that planning is under the supervision of those who will be responsible for implementation. This arrangement is thought to increase the probability that plans will be followed.<sup>11</sup> The presence of elected officials on the policy advisory committee of the 3C process provides this connection between the SDHPT and local areas. Appointment of an urban planning commission, as described above, would accomplish the same connection for urban areas and their local governments.

### Planning Continuity

Mitchell suggests that the planning process operates best on a continuing basis. Because of the involvement of several governmental bodies and numerous interest groups, there are changing conditions and priorities with a consequent continual need to review projects, coordinate efforts, and revise agreements. Because the process is dynamic, ongoing citizen participation is recommended to ensure that individual values and needs are not overlooked.<sup>12</sup>

## Local Control

Implementing agencies, as mentioned earlier, also have input into the planning process. Similarly, state and federal agencies that have funding and review responsibilities will have some authority over the planning process. It is not unreasonable to expect that funding agencies will always maintain some control of how their monies are spent. Consequently, urban areas are subject to outside control of their planning. This control can be reduced somewhat by establishing a simplified application and funding procedure whereby the state and federal governments make block grants and establish general planning policy parameters within which urban transportation planning is conducted. In this way the direction and initiative for urban transportation planning can be controlled to a greater degree by local governments.<sup>13</sup>

Since many urban areas are composed of multiple political jurisdictions, some arrangement for resolving planning disagreements is needed. Mitchell is of the opinion that decisions made by mutual consent of the majority of the political jurisdictions should outweigh those of the minority. However, minority interests can be protected by maintaining the right of individual jurisdictions not to take the plan's recommended action in their boundaries.<sup>14</sup>

The SDHPT 3C process involves public officials from each participating political jurisdiction in an attempt to resolve differences before the systems plan is finalized. However, local governments have the option to refuse adoption of the plan if its final form is unacceptable. Currently, there are no alternatives available to a local area which refuses to adopt the system plan. Some organizational arrangement designed to accommodate political jurisdictions that opt out of the systems plan is needed if

transportation planning is to be geographically comprehensive. For example, the state can assume responsibility for working directly with a dissenting jurisdiction to develop locally acceptable plans that do not disturb the 3C plan adopted in adjacent areas.

#### Involvement of Local Officials

Urban transportation planning organization is heavily dependent on securing cooperation from participating political jurisdictions. This has been a problem in the past since suburban communities find themselves in competition with one another and the city for various financial benefits. Also, the state and federal government impose certain requirements and limitations regarding funding and administration, the 3C legislation is an example. Even when cooperation has been achieved to a relative degree, there have been problems in implementing urban transportation plans. Usually, the planners must rely on local political jurisdictions to implement the section of the plan falling within local boundaries. Since the local government has usually never committed itself to the plan publicly, or by appropriating tax dollars, there is little chance that public officials will expend their political capital supporting what is essentially another body's project. Attempts can be made to secure public commitment by local officials in order to increase the probability of plan implementation.

The SDHPT secures commitment from local officials by establishing a formal agreement with local governments at the beginning of the systems planning process. Further involvement is attempted by making the city or cities responsible for developing some of the study data and for taking part in decision making. Local officials or their representatives comprise



the policy advisory committee and have responsibility for providing general policy guidance, approving the recommended transportation plan and helping implement it. Local officials, or their representatives, also serve on the steering committee which participates in a study organization conference and provides continuing study guidance during the planning process. The steering committee is responsible for providing coordination among transportation modes and geographical areas and for selecting the recommended systems plan.<sup>15</sup>

#### Adapting for Multimodal Planning

Even though the Action Plan was developed before public transportation was made a responsibility of the SDHPT, the 3C system planning process can be applied to multimodal systems planning. The major participants in the Action Plan systems planning approach are the planning engineer and his study staff and Transportation Planning Division personnel. These people are closely involved in the planning process and have input at most of the critical stages. The planning engineer and representatives of the Transportation Planning Division are involved in the study organization conference at which technical committee, task force, and study staff appointments and assignments are discussed and interdisciplinary and other government agency inputs are planned. The planning engineer subsequently hires and/or appoints the study staff which is involved with others in determining study goals, objectives and inventory needs. Meanwhile, the transportation planning division is involved in the various social, economic, and environmental studies and develops travel pattern, traffic characteristic, and parking data. Finally, the study staff consults with the steering committee on alternative transportation modes and modal combinations and the steering committee, which includes SDHPT personnel, selects a recommended plan.<sup>16</sup>

Because the major participants in the process provide direction for the study and because local officials are dependent on guidance and technical input from the SDHPT, the technical expertise and experience of SDHPT personnel has a significant influence on system planning decisions. Given the new requirements for multimodal planning and the basic highway orientation of SDHPT personnel, there is a need for transportation expertise in other modes and in multimodal planning. Due to the predominant desire for local control of transportation planning expressed in the ITC hearings and the commitment to local planning expressed in the Action Plan, there is also a need for multimodal planning capability at the SDHPT district office level. This is true for urban transportation planning conducted in areas with a population greater than 50,000 and for county transportation planning conducted for each county not covered by an urban transportation study, if planning is to be geographically comprehensive.

Developing multimodal planning capability at the district level can be as simple as adding multimodal planning personnel to the existing staff. In order to facilitate integration of all modes into one systems planning process, it will be helpful to integrate district highway planning personnel and multimodal planning personnel into one administrative unit. These people can be a part of the study staff working under the direction of the planning engineer. Since the planning engineer will be conducting multimodal planning at times, it may be advantageous to have a person experienced in multimodal planning in that position also.

## Adapting Systems Planning to MPOS

In most of the recently designated MPOS, the SDHPT 3C group will be interacting with COGS and city governments. While both organizations have planning backgrounds, neither is as experienced in transportation planning as the SDHPT. Furthermore, because city governments and COGS have multipurpose functions and are run by elected political officials, the MPOS may not be as cohesive and transportation oriented as is the SDHPT. Therefore, the SDHPT can provide valuable assistance by taking the initiative in transportation planning in urban areas.

In fact, the SDHPT already has the initiative since the SDHPT 3C policy advisory committees and steering committees have representation by the elected local officials who serve on COG boards. Therefore, planning conducted and approved at the SDHPT 3C level should be consistent with and help determine urban 3C planning decisions and final MPO coordination activities. Some organizational adjustments can be helpful to the SDHPT in maintaining its transportation planning leadership under the new legislation and the rules and regulations established by UMTA and FHWA. SDHPT personnel, especially at the district level, need to be provided the requisite authority to conduct multimodal transportation planning and they need multimodal transportation planning expertise and/or experience. Without the ability to conduct multimodal transportation planning, the SDHPT will be in the position of having to accept externally imposed multimodal planning constraints on its own activities. With the requisite authority and ability, the SDHPT will be better equipped to take the lead in urban transportation planning and in establishing balanced plans that reflect the best thinking of the SDHPT and influence the planning and decision making

of both the new urban area 3C planning process required by the Urban Mass Transportation Assistance Act of 1974 and the newly designated MPOS.

Because of the highway orientation of the SDHPT, special attention should be given to the need to ensure that all transportation modes are given consideration. The addition of personnel with experience and/or expertise in nonhighway modes, as suggested above, will help. Organizationally the multimodal section in the state office is charged with the responsibility for assessing urban level plans for viable alternative modal applications. When alternatives are found, they can be communicated to the district engineer for consideration in the urban transportation plan. Also, consideration should be given to all levels of political jurisdiction within urbanized areas in order to accomplish comprehensive geographical coverage. Involvement of elected political officials from all political jurisdictions contributes to this goal. Because there are functional differences between different kinds and sizes of political jurisdictions, transportation needs and planning assistance requirements will vary. The district offices can establish expertise in these areas and provide cooperative planning assistance, especially to the smaller towns and jurisdictions that cannot afford to conduct their own planning.

In connection with the above planning assistance, the SDHPT may wish to implement the policy planning approach described in Chapter VI. A policy planning unit established at the state level could determine both operating and formal policy and their differences. Additional tasks can include determining future resource availability, identifying and suggesting general social goals for use in evaluating policy decisions, and suggesting and evaluating various policy alternatives. This information can be very beneficial for local planning since a great deal of relevant information is

assembled in one place at little cost to local planners. In addition, information is prepared and made available that may otherwise never be considered by local planners. In order to better deal with the complex variables of multimodal planning, simulation studies of urban transportation planning proposals can be run. Because the expertise and funding required for this kind of activity is not always available at the local level, it may be a desirable activity for the SDHPT to undertake. Organizationally, the 3C planning process can continue unchanged up to the point when a tentative transportation plan is proposed. At that point, the SDHPT can run simulation studies based on criteria and goals established locally. Unacceptable findings can be adjusted for in the plan and the process reiterated until a satisfactory arrangement is reached.

#### Summary

Qualitative research has indicated that cooperative transportation planning efforts are difficult because of the large, unwieldy boards resulting from providing representation for every political jurisdiction involved in the process. This problem probably varies with the size and number of jurisdictions involved. The need to consider all points of view and attempt to resolve conflicts before the project stage is reached suggests that unwieldy board size may be an acceptable price to pay until a better form of representation is devised.

A study of Wisconsin highway system planning produced some suggestions worth consideration in improving multimodal transportation organization approaches. Making adequate technical expertise available to local planning efforts will improve the quality and practicality of local plans. As the amount of multimodal planning increases, it may be helpful for personnel

experienced in public transit and multimodal planning to be available for planning efforts. The availability of a state transportation plan is important for providing a framework for urban transportation planning and for directing urban growth.

State and urban transportation planning were fragmented somewhat by Federal legislation which required a 3C planning process by the State while simultaneously providing direct funding assistance to cities for public transportation projects. Further fragmentation occurs where relevant city agencies are left out of the planning process. The SDHPT 3C process makes involvement of these officials optional. It may be helpful to require their participation in view of the detailed knowledge they have of their cities.

A Wisconsin study discovered that planning commissions receive good support from city councils. Support for that finding is contained in a planning in Texas also. Support for such an arrangement is contained in a report by Mitchell which advocates that transportation planning be directly connected to city government in order to increase the probability of implementation. Further recommendations by Mitchell include planning on a continuing basis, increasing citizen participation, and increasing local control of planning.

The SDHPT has provided for most of the planning characteristics described in the preceding pages in the 3C Action Plan process. Some adjustments will be helpful for orienting the process to a multimodal system planning approach. Adding expertise in multimodal planning is one adjustment that can be helpful. State transportation planning processes and organizational factors relating to multimodal systems planning will be discussed in Chapter VI.

Notes

- <sup>1</sup>Gakenheimer, "Regional Transportation Planning."
- <sup>2</sup>Ibid., p. 306.
- <sup>3</sup>Ibid.
- <sup>4</sup>Bauer, A Method.
- <sup>5</sup>Ibid., pp. 40-41.
- <sup>6</sup>Ibid., p. 41.
- <sup>7</sup>Ibid.
- <sup>8</sup>Ibid.
- <sup>9</sup>Ibid., p. 42.
- <sup>10</sup>Mitchell, Metropolitan Planning.
- <sup>11</sup>Ibid., p. 42.
- <sup>12</sup>Ibid.
- <sup>13</sup>Ibid.
- <sup>14</sup>Ibid., p. 43.
- <sup>15</sup>Texas Highway Department, "Guidelines and Process," p. 16.
- <sup>16</sup>Ibid., pp. 18-19.
- <sup>17</sup>R. Bouchard, "The Challenge of Urban Transportation Planning," Highway and Urban Mass Transportation, (Summer, 1972), p. 10.
- <sup>18</sup>Ibid., p. 11.
- <sup>19</sup>Ibid.

## CHAPTER VI

### STATE TRANSPORTATION PLANNING PROCESSES AND ORGANIZATION

#### Introduction

Reduced to simplest terms, the purpose of statewide transportation planning is to guide regional and urban area transportation development and implementation with the use of multimodal transportation. The traditional planning process includes identifying preferred policy and goals, collecting data, and generating and evaluating alternative systems through the use of demand models, other analytical tools, and intuitive judgment.<sup>1</sup> Statewide transportation planning has been defined as:

. . . a series of activities that:

1. Are undertaken to attain a series of goals or to improve performance in relation to a series of criteria;
2. Consider different groups such as people who travel, private firms that ship, private firms that sell transportation services, people who are in any way affected by facilities or services, and the general public;
3. Are involved in or involve recommending new or changed construction, operation, technology, price regulation, subsidy, and regulation of operations;
4. Consider modes of truck, rail freight, air freight, waterways, ports, pipelines, air passenger and general aviation, bus passenger, rail passenger, and highway (automobile);
5. Involve planning by means of an orderly, objective process based on measurement but include inputs by duly elected officials and reviews by citizen groups and also include priority programming;
6. Are closely integrated and coordinated with land use, economic, environmental, and other plans;
7. Consider the entire state, including both urban and rural areas; and
8. Cover time periods ranging to 20 years.<sup>2</sup>



Because the percentage of Texas residents living in urban areas is continuing to grow,<sup>3</sup> it is expected that the preponderance of future transportation needs will occur in urban areas. Recognition of this trend is indicated in the literature dealing with transportation planning organization.

In a report published in 1974 by the Transportation Research Record, organizational considerations for statewide planning are suggested. A primary recommendation is to provide a framework for urban systems planning and resource allocation so that local transportation planners will know what to expect from the state and can plan accordingly. It is also urged that state organizations develop and implement uniform process guidelines for all modes at state, regional, and urban planning levels to facilitate efficient interaction with other agencies, groups, and individuals. Advisory groups representing private transportation companies can be established to provide input regarding their needs. Finally, it is recommended that deliberate efforts be made to include pertinent regulatory bodies in the advisory process when plans are formulated.<sup>4</sup>

As regards financing, state and federal funding should be based on a regularly formulated and unified state transportation planning program incorporating all areas of the state. State and local governments can then develop a funding formula subject to a single U.S. Department of Transportation review process for all transportation funding allocations. In turn, the U.S. Department of Transportation can establish a single transportation planning grant fund for policy, system, or area planning studies regardless of the funds' modal source and unified transportation planning process guidelines for all modes from policy planning to final construction.<sup>5</sup>

The emphasis seems to be focused on increasing the use of state planning as a facilitator of regional and urban transportation planning processes. Developing uniform process guidelines, system planning frameworks, and single transportation planning grant funds at the state and federal level will help. The manner in which the transportation planning process is conducted will also affect the ability of the state to facilitate regional and urban planning.

### Theoretical Models for Conducting the Planning Process

Creighton, Hamburg, Incorporated have developed theoretical models to describe alternative transportation planning processes. The Consensus Approach operates on the premise that government and private interests have derived a list of transportation system requirements inclusive of all desired modes for a given geographical area. Based on this premise, a list of projects is compiled by consensus of interested government agencies and private organizations. A list of priority projects is developed through mutual discussion and becomes the transportation plan for the area.<sup>6</sup>

The use of this approach results in the rapid development of transportation plans and, because of the direct involvement of those most interested, a high probability of implementation. The disadvantages of the consensus approach stem from the basic premise. The private sector may not have an interest in transportation and, therefore, may not participate in the process. In addition, the projects may not combine into an optimum system especially if inter-modal coordination is weak or nonexistent.<sup>7</sup> Also, if state level officials and private interests are deriving system requirements, compiling projects, and establishing priority project lists,

the statewide planning process may interfere with local control. If local officials and businessmen are planning in this manner, there will probably be little citizen participation. In view of testimony at the ITC hearings regarding urban transportation planning and public participation, the consensus approach would be undesirable at both the state and local levels.

The Policy Planning Approach emphasizes the aspects of transportation planning dealing with resource allocation rather than the physical details of design. The first step in the policy planning process is to determine what current transportation policy is. This procedure requires the compilation of federal and state laws and budgets and the compilation of private transportation companies' budgets and labor contracts. This process is intended to reveal what is being done to determine if it is different than originally intended or assumed by legislators and transportation officials.<sup>8</sup>

The second step is to forecast future resource availability, that is, to determine what capital and operating expenditures, both public and private, will be appropriated for transportation. Cost and rate trends are projected to determine future budget needs. The next step is to determine which general social goals to use in evaluating policy decisions. In addition to the goals listed in Chapter III, others might be: 1) safety, 2) full employment, 3) productivity, 4) equity in the distribution of income, and 5) improved distribution of the population.<sup>9</sup>

The last steps in policy planning are suggesting and evaluating alternatives. These steps can be the most difficult because they often require judgment in addition to technical studies to project what the results of various policies might be. Despite this problem, policy planning is beneficial in that it forces planners to clarify their motives and think through the implications of their recommendations.<sup>10</sup>

The policy planning approach can be very beneficial for local planning because much of the relevant planning information is assembled in one place. This results in a savings of time and money. Also, information may be made available to SC committees that would never have been developed by local planners. Essentially, policy planning is a planning activity that could be supported at the state level but would be too expensive to conduct at the urban or regional level. It is a good example of state level planning that facilitates urban and regional planning activities.

The Needs-Standards Approach involves the setting of standards for each transportation mode. The standards include physical design, service levels, and safety. Surveys are made of the area under study to determine present conditions. Forecasts are then made of what future demands will be. The differences between the standards and current and future conditions is defined to be the need. Since needs usually are greater than available funds, a priority listing of projects is determined (see Figure 3).<sup>11</sup>

The Needs-Standards Approach has the advantage of simplicity, directness, credibility, and the capability of being practically applied. Disadvantages include a lack of objective criteria by which to judge the standards themselves. Also, user and non-user benefits are not directly measured.<sup>12</sup> Consequently, it is recommended that local preferences be obtained so that those most directly affected are able to influence the decision making process. Given citizen input and surveys and forecasts of local conditions, the probability of developing a locally satisfactory transportation plan is increased. Sophisticated surveys and forecasts are expensive and can be supported at the state level more easily than at the local level.

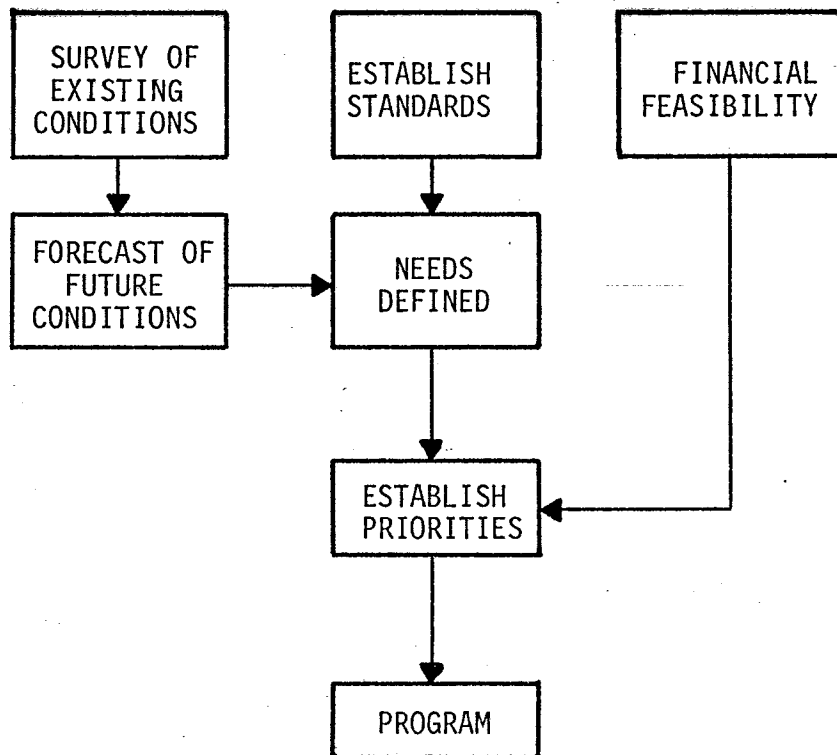


Figure 3. NEEDS-STANDARDS APPROACH

Source: Creighton, Hamburg, Incorporated, A Work Plan for Statewide Transportation Planning, Volume I Prepared for the Commonwealth of Pennsylvania, Department of Transportation, Milton S. Shapp, Governor, Jacob Kassab, Secretary, Department of Transportation, June, 1973, p. III-19.

The Single-Mode Simulation-Evaluation Approach is a variation of the traditional urban transportation planning process briefly described at the beginning of the chapter. The tasks in this approach include: 1) developing goals; 2) developing criteria for assessing the degree to which goals are accomplished; and 3) developing plans designed to accomplish the goals in terms of the criteria established. This planning process differs from the traditional one in that the proposed transportation system performance is simulated and the simulation results are evaluated in terms of the goals and criteria initially established. This process differs from the Needs-Standards Approach in terms of the type and quality of the goals. Standards are usually oriented to physical considerations of the transportation facility itself. Simulation-Evaluation goals tend to be developed from the observations of users and non-users regarding the performance of transportation modes (see Figure 4). The process requires extensive citizen input to develop goals.<sup>13</sup>

The Single-Mode Simulation-Evaluation approach has several advantages. It formulates plans in terms of goals expressed by citizens, such as minimal construction and maintenance costs, and minimal travel, time, and safety costs. This approach concentrates on planning transportation systems rather than facilities. Finally, because of the concentration on systems rather than modes, costs can be compared as alternative modes are tested in the system.<sup>14</sup>

Again, the techniques associated with this approach, especially computer simulation techniques, require a level of expertise and funding not always available to urban and regional staffs. Therefore, state level support of the Single-Mode Simulation-Evaluation Approach is desirable. This process could be fairly easily adapted to the SDHPT 3C planning

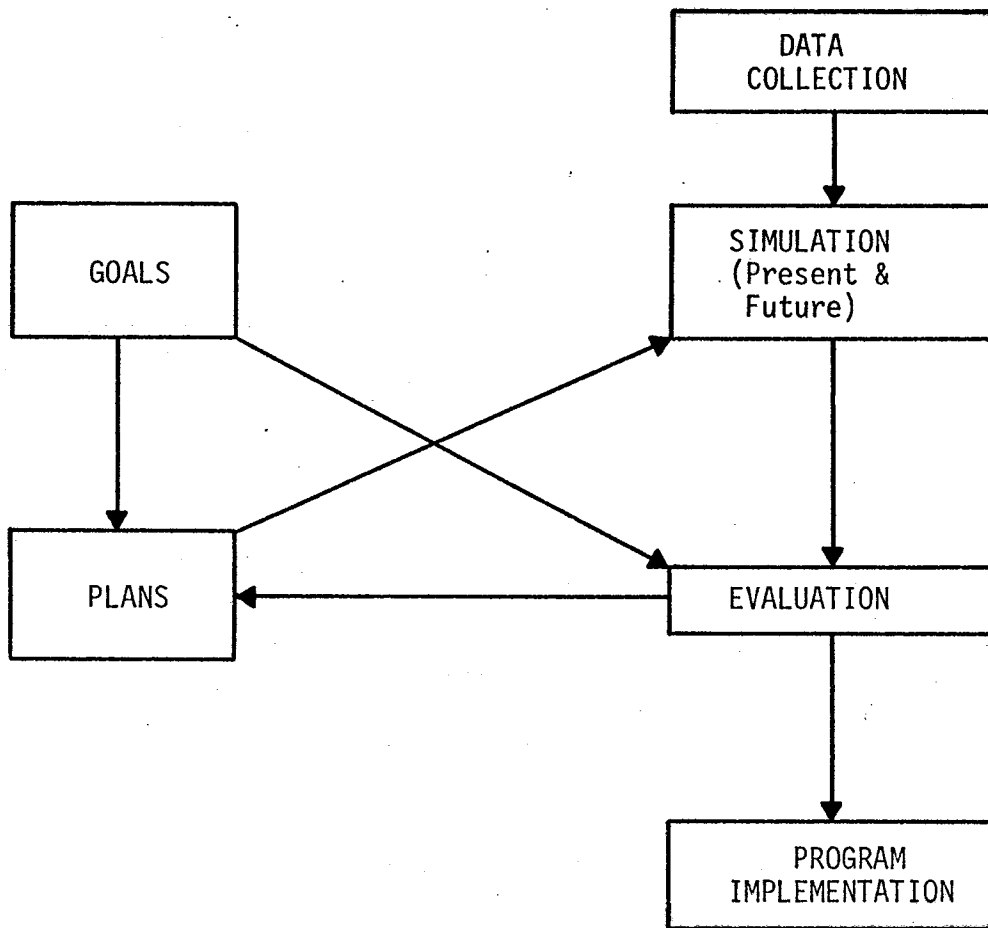


Figure 4. THE SINGLE-MODE SIMULATION-EVALUATION APPROACH

Source: Creighton, Hamburg, Incorporated, A Work Plan for Statewide Transportation Planning, Volume I Prepared for the Commonwealth of Pennsylvania, Department of Transportation, Milton S. Shapp, Governor, Jacob Kassab, Secretary, Department of Transportation, June, 1973, p. III-20.

procedure. The ~~3C~~ planning process can be conducted in the same manner as it now is and the state can assist with a simulation study using criteria and goals established at the local level. Data from the simulation study can be used to make adjustments in the plan and the simulation procedure can be run again. This process can be reiterated until there is satisfaction with the plan and the expected results. This methodology provides local area control of planning while making expensive expertise and technology readily available.

An improved version of the Single-Mode Simulation-Evaluation Approach is the Multi-Mode Simulation-Evaluation Approach. This technique differs in several ways. Transportation demands are estimated for people and for goods throughout the entire state. The demand estimates are applied to all modes and simulation studies are run to determine which mode best fits each demand. The modes that appear to be most responsive to the various demand estimates are combined into a transportation system plan. Feedback procedures are built into this process to accommodate changes in level of service effects on choice of mode (see Figure 5).

Because this technique is for statewide application, it will not serve well for local ~~3C~~ planning. It can be a valuable tool to a state planning agency as a methodology for developing interurban and statewide transportation plans.

None of these approaches is innately superior to the others. Their value varies with the conditions under which a particular transportation planning task must be carried out. Their use will be largely dictated by the relative amounts of urban, regional, and state planning involved in a project. Often, these models can be used in combination with each other.



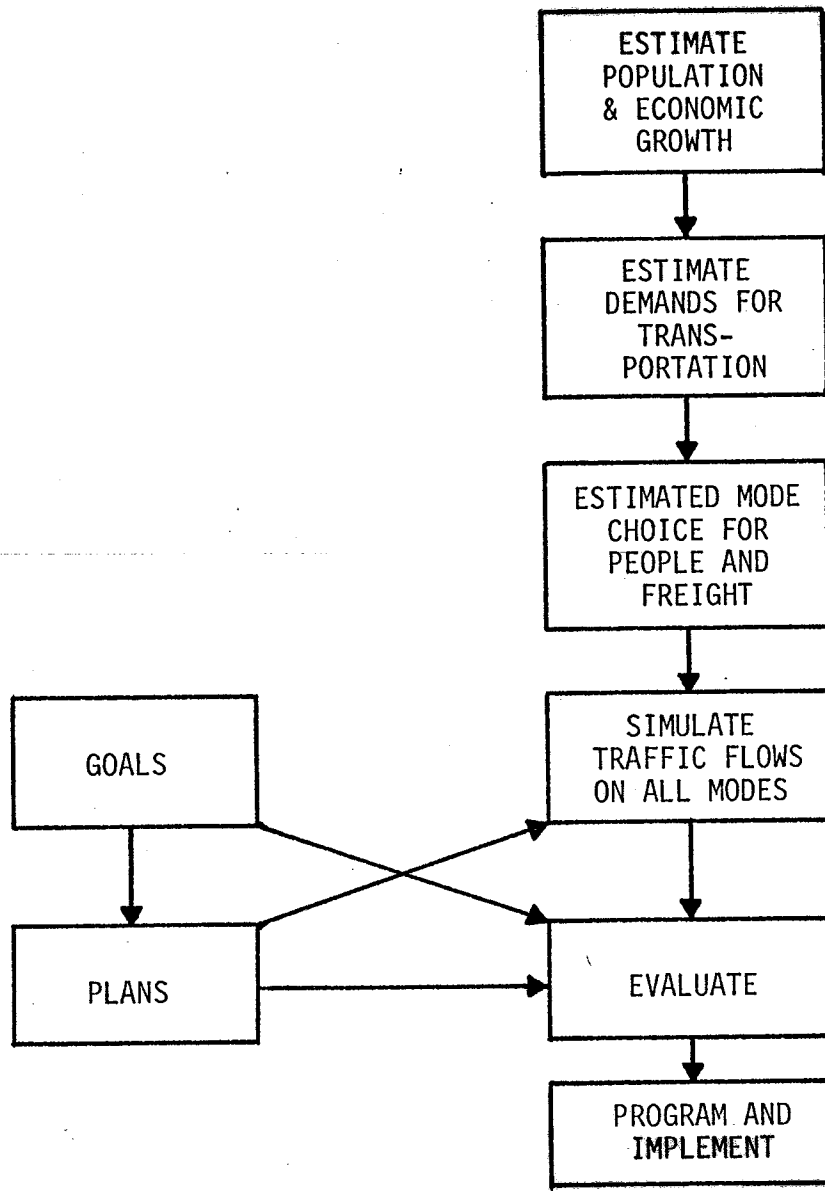


Figure 5. THE MULTI-MODE SIMULATION-EVALUATION APPROACH

Source: Creighton, Hamburg, Incorporated, A Work Plan for Statewide Transportation Planning, Volume I  
 Prepared for the Commonwealth of Pennsylvania,  
 Department of Transportation, Milton S. Shapp,  
 Governor, Jacob Kassab, Secretary, Department of  
 Transportation, June, 1973, p. III-23.

## Organizational Models

The organizational framework used by a state transportation agency has an effect on the way planning is conducted. Norman Ashford has described two basic types of state organization and their impact.<sup>15</sup> In the Equal Status Division arrangement, a planning office is established by enabling legislation and has the same structure and reports to the Secretary of Transportation in the same manner as the other offices, for example the Offices of Highways and Public Transportation (see Figure 6). Usually, this arrangement stipulates that all modal planning will be carried out by the planning office. This organization often induces activity that is oriented to policy implementation rather than policy planning because the various offices are organizationally parallel and separate from the policy making level.<sup>16</sup>

The Advisory Staff Agency approach places the planning function in a staff position with the responsibility of acting as advisor to the decision makers. The channels of administration are clearly distinct from the line or operating division channels. The emphasis of this arrangement is on policy planning as the major activity and policy implementation is minimized (see Figure 7).<sup>17</sup>

Policy planning, discussed in some detail earlier, involves coordination of policy toward a specific set of goals and objectives. Organizational arrangements for coordinating policy usually require a greater centralization of authority. An increasingly popular mechanism for achieving this authority, while still maintaining some autonomy, is to establish interagency review systems for plans of programs that overlap each other. A more recently emphasized approach is the technique of requiring the state development

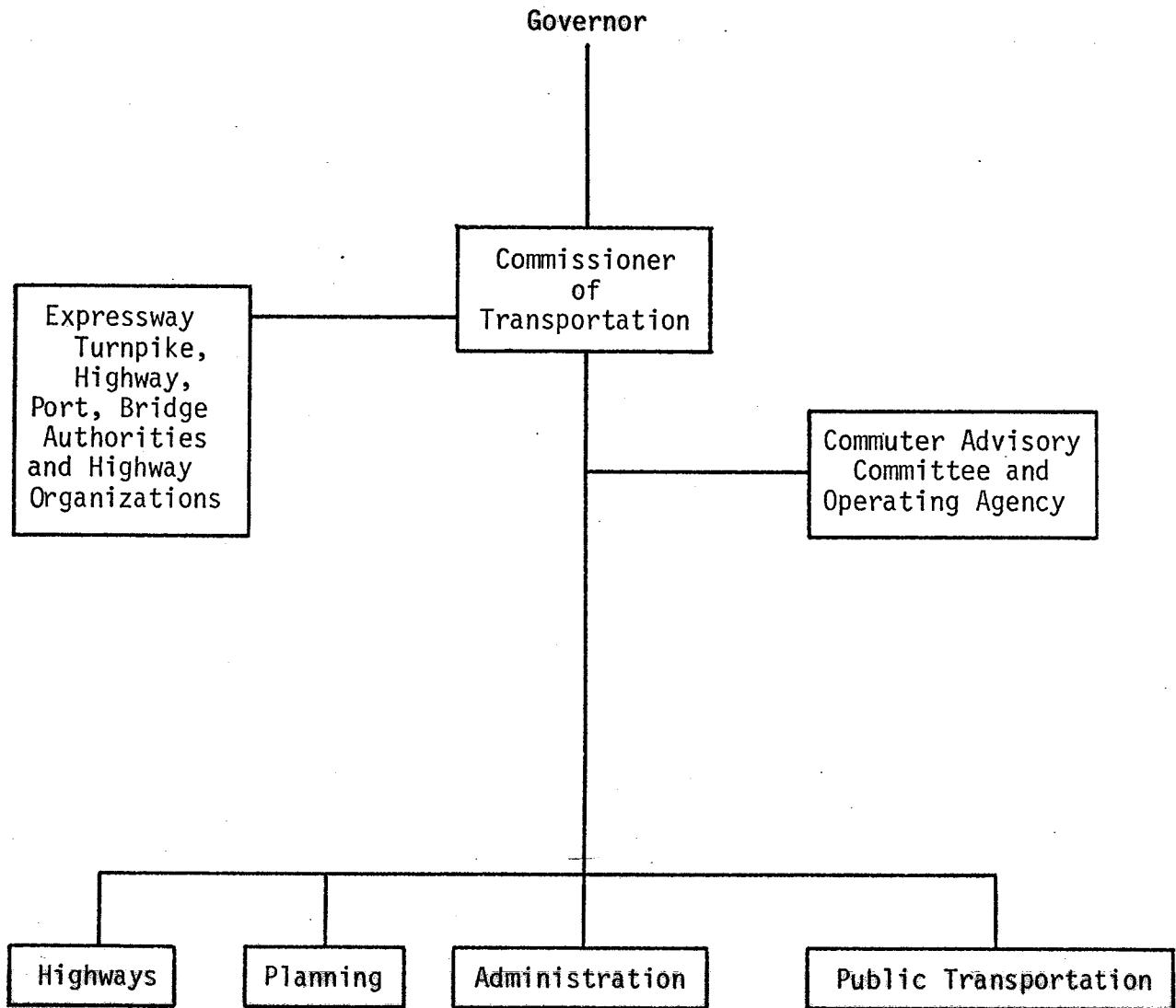


Figure 6. EQUAL STATUS DIVISION

Source: Norman Ashford, "The Planning Function in State Departments of Transportation," *TRAFFIC QUARTERLY*, XXVII, No. 1 (January, 1973), p. 52.

plan and the state transportation plan to be integrated with each other in terms of policy matters. This makes it possible to provide a coordinated policy framework for local 3C planning. This could be done by legislative designation of the state planning office as reviewer of all other statewide planning functions, including the various state agencies having responsibility for transportation planning.<sup>18</sup> Another method would be to designate the SDHPT as reviewer of all state level transportation planning activity with responsibility for integrating this planning with general state planning, in cooperation with the state planning office. The latter approach has the advantage of keeping transportation planners involved in the disposition of transportation plans. Otherwise, transportation plans may be left in the hands of people not involved in the transportation planning process who may not be as informed about policy implications.

In addition to organizational requirements for policy planning, consideration must be given to policy implementation. Categories of policy implementation planning tasks at the state level include:

1. The collection of data for the determination of modal needs and demands, and the design of data recording and retrieval systems for this purpose.
2. Overall statewide system planning at the scale of the multi-modal network, including terminal consideration.
3. The design of the physical integration of networks and the modal balance that is responsive to the demonstrated needs, demands, and resources.
4. The design of unimodal networks which are viable and can operate at optimal conditions when considered separately from other modes.
5. Technical assistance to urban transportation studies and local transportation studies involved with . . . planning to insure adequate technical quality, compliance with federal and state requirements, and conformity with the needs of interregional movements.

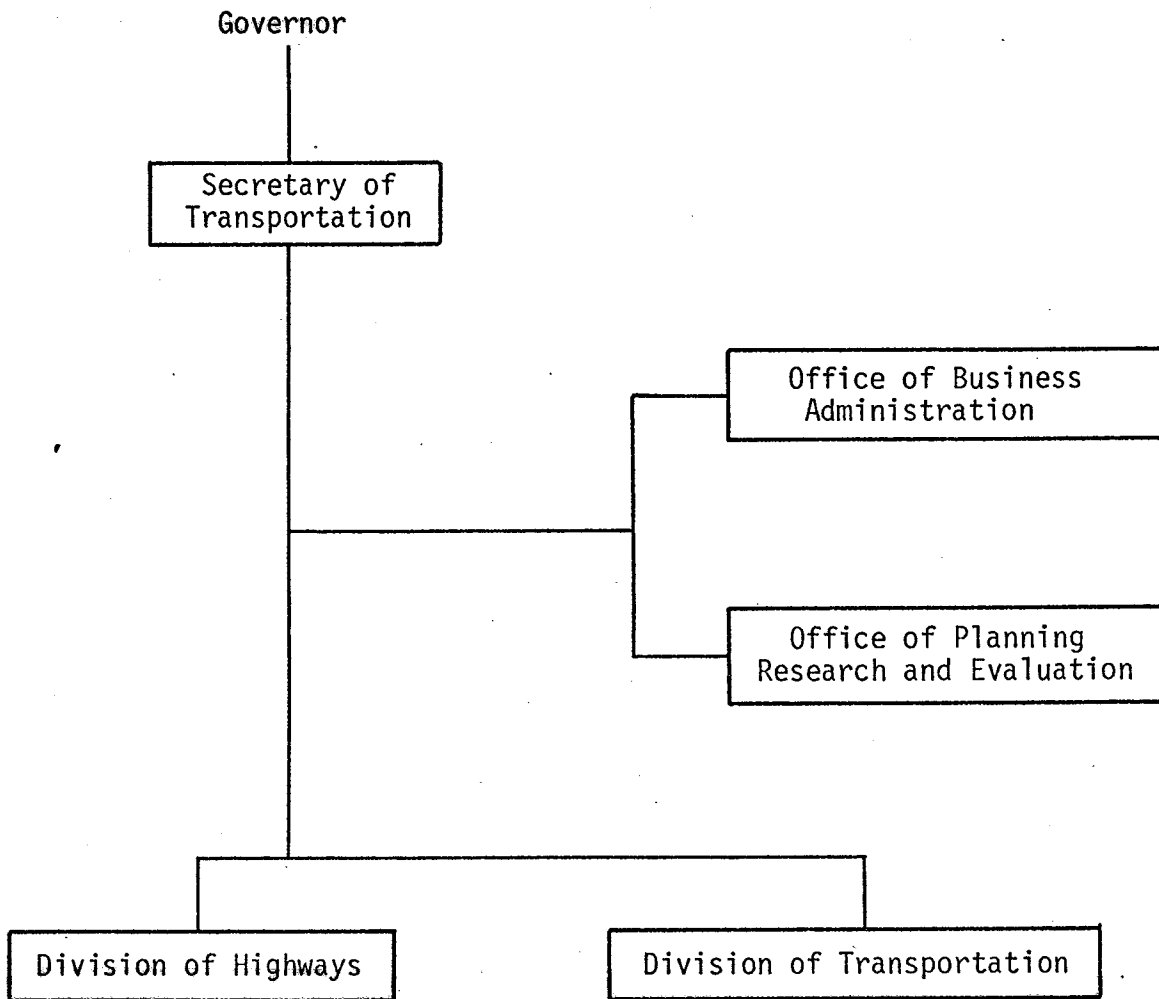


Figure 7. THE ADVISORY STAFF AGENCY APPROACH

Source: Norman Ashford, "The Planning Function in State Departments of Transportation," TRAFFIC QUARTERLY, XXVII, No. 1 (January, 1973), p. 53.

6. Mass transportation studies at both the local and the regional level.

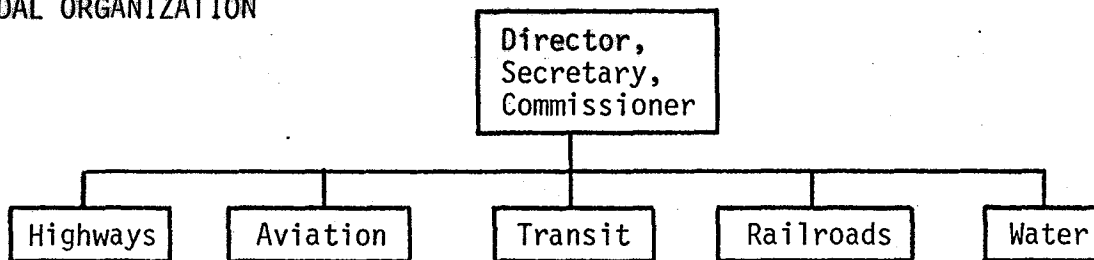
7. Environmental impact analysis of systems.<sup>19</sup>

Policy implementation works well with the Equal Status Division organizational approach because personnel involved tend to be at a level that is within their range of experience and technical ability.<sup>20</sup> This type of state planning activity can be valuable for urban and regional planning efforts because of the data and technical assistance that is developed and available.

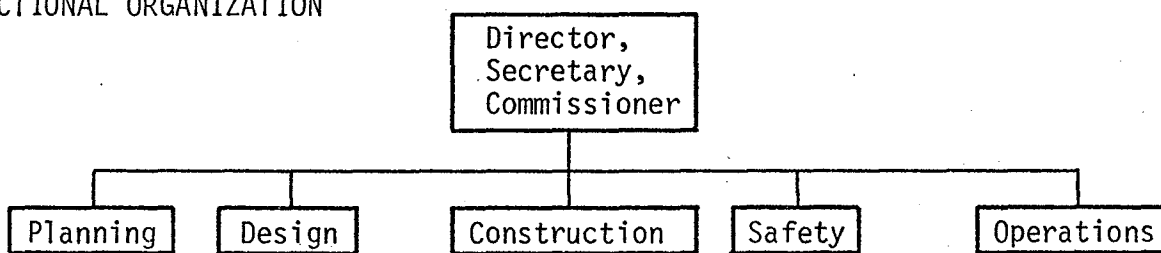
There are three basic organizational arrangements available for the Equal Status Division: (1) modal, (2) functional, (3) mixed modal and functional (see Figure 8 ). The modal and functional designations are made in reference to the scope of responsibility assigned to the operating divisions. The functional designation indicates that the operation divisions are responsible for all modes. For example, one division is in charge of planning and another division is in charge of design for all modes of transportation in use. In modal organizations, each operating division is responsible for a particular transportation mode such as highways or aviation. The mixed approach includes both modal and functional operating divisions with the modal divisions conducting their own planning and the functional planning division providing coordinated planning for all modes.<sup>21</sup>

Since state transportation policy planning and policy implementation have potential value to urban and regional transportation planning, there may be an advantage to including both in an organizational structure. An Office of Policy Planning can be attached to the SDHPT Commission and an Office of Policy Implementation Planning can be attached to the SDHPT state organization. In discussing the optimal location for planning in

MODAL ORGANIZATION



FUNCTIONAL ORGANIZATION



MIXED ORGANIZATION

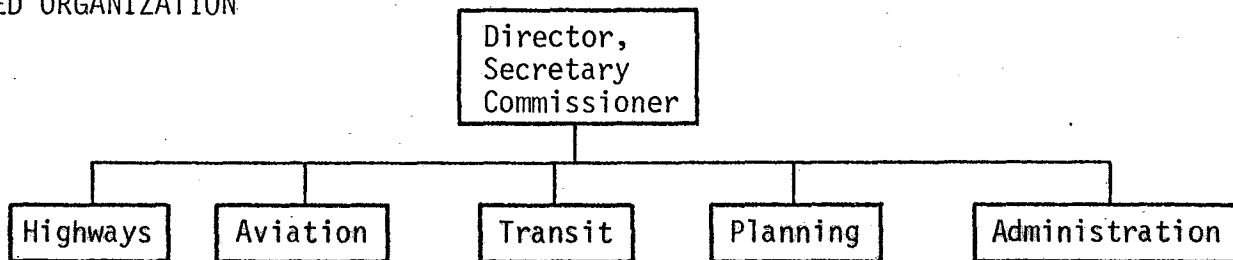


Figure 8. BASIC ORGANIZATIONAL STRUCTURES OF STATE TRANSPORTATION DEPARTMENTS.

Source: Issues in Statewide Transportation Planning, Report of a conference held February 21-24, 1974, at Williamsburg, Virginia, Transportation Research Board, Special Report 146, National Research Council, Washington, D.C., 1974, p. 40.

a state transportation agency, Ashford notes that the Advisory Staff Agency Approach has been recommended in the past. He points out some problems with this arrangement. There appear to be three incorrect assumptions on which those favoring the staff level base their judgement. First, homogeneity no longer exists among the tasks involved in transportation planning. There are significant differences in techniques, methodology, and skill levels between facility planning, systems planning, and policy planning. Even though vertical integration of these planning levels is still necessary, the kinds of expertise needed at each level varies. Secondly, unimodal planning agencies do not deal well with planning needs arising from modal differences. Highway agencies, for example, rely heavily on facilities planning while mass transportation is oriented to policy planning and systems planning. Finally, upper level administrators and planners in state agencies are predominantly highway related and are not likely to take the initiative in mass transportation development. Therefore, the development of the Advisory Staff Agency position in a state department of transportation as a mechanism for the improvement of multimodal transportation has some drawbacks.<sup>22</sup> As an alternative approach that includes policy, facility, and systems planning, Ashford recommends that state departments of transportation adopt transportation planning at the staff level to carry out policy and systems planning, while retaining facilities planning at the level of the equal status division.<sup>23</sup>

#### Summary

The purpose of statewide transportation planning is to guide state, regional, and urban transportation development and implementation with the use of multimodal transportation. As urban population grows proportionately



and in absolute numbers, an increasing amount of transportation planning resources will be directed to urban areas. In recognition of this trend, there is some indication of a growing emphasis on increasing the use of state planning as a facilitator of urban and regional transportation planning processes.

Transportation planning models have been developed that describe alternative planning processes. Viewed as state transportation planning processes, the models exhibit positive and negative aspects for urban and regional transportation planning. The chief negative element is the possibility that the state processes will dominate local planning. The potential benefits include providing a coordinated policy framework for local planning and making expertise and technical data available that urban areas could not otherwise afford.

The state transportation agency organizational structure can make these benefits available by adopting an Advisory Staff Agency approach for policy planning and an Equal Status Division arrangement for developing and providing technical expertise and data.

## Notes

<sup>1</sup>Lester A. Hoel and Owen H. Sauerlender, "Statewide Comprehensive Transportation Planning," Highway Research Record, No. 401 (1972), p. 10.

<sup>2</sup>Creighton, State of the Art, pp. 21-22.

<sup>3</sup>U.S. Department of Commerce, General Population Characteristics, Series PC (1), United States Census of Population, 1970, Texas (Washington, D.C.: U.S. Department of Commerce, 1972).

<sup>4</sup>Transportation Research Board, Issues in Statewide Transportation Planning, pp. 3-4.

<sup>5</sup>Ibid., p. 4.

<sup>6</sup>Creighton, Hamburg, Incorporated, A Work Plan, p. III-17.

<sup>7</sup>Ibid.

<sup>8</sup>Ibid.

<sup>9</sup>Ibid., p. 18.

<sup>10</sup>Ibid.

<sup>11</sup>Ibid.

<sup>12</sup>Ibid.

<sup>13</sup>Ibid., p. 19.

<sup>14</sup>Ibid., p. 20.

<sup>15</sup>Ashford, "The Planning Function"

<sup>16</sup>Ibid., p. 51.

<sup>17</sup>Ibid.

<sup>18</sup>Ibid., pp. 55-7.

<sup>19</sup>Ibid., p. 59.

<sup>20</sup>Ibid.

<sup>21</sup>Transportation Research Board, Issues in Statewide Transportation Planning, pp. 40, 41.

<sup>22</sup>Ashford, "The Planning Function," p. 61.

<sup>23</sup>Ibid., p. 61.

## CHAPTER VII

### ALTERNATIVE URBAN TRANSPORTATION PLANNING STRUCTURES

#### Introduction

It is to be expected that the new MPOS will undergo a period of instability as they attempt to get organized and begin operation. There may be a period of organizational development lasting several years. The SDHPT will need to remain flexible while interorganizational working relationships are established with the various MPO organizations in Texas.

Since MPO designations have been granted to cities, COGS, and SDHPT urban study groups in varying rural and urban settings under differing funding arrangements, the SDHPT will be in a position of having to conduct transportation planning in several kinds of organizational contexts. The MPO designations have precluded SDHPT control of comprehensive urban transportation planning in all but a few instances. Transportation demand projections indicate that additional highway planning and implementation will be needed for both intra-urban and interurban transportation. Therefore, the SDHPT needs an organizational format that allows the districts to be responsive to their own planning needs and to the varied organizational structures that MPOS may undergo as they mature.

Roland Warren provides both a model and a theoretical rationale that are applicable to the SDHPT's interorganizational context. Four organizational typologies are identified: (1) unitary, (2) federative, (3) coalitional, and (4) social choice.<sup>1</sup> These typologies (outlined in Table 1) describe different ways that organizations behave toward each other when two or more are seeking a common goal, addressing the same issue, or, in Warren's terminology, sharing inclusive interests.

The unitary typology is applied to agencies that deal with goals internal to the organization. The organization is designed specifically to accomplish inclusive goals. Authority and decision making processes are highly structured and behavior is expected to be oriented to the needs of the organization hierarchy. Most urban transit authorities fit this description.<sup>2</sup>

The federative typology is applied to situations in which individual organizational units join together formally, establish a staff structure, and pursue common or inclusive goals. Simultaneously, the individual organizations maintain a life of their own apart from the federated structure. Decision making authority is reserved by the individual organizations although limited amounts may be granted to the staff of the federated structure. A moderate amount of consideration for the needs of the federated structure is expected (Warren calls this "collectivity-orientation") from individual organizations as they pursue their own agendas. At times, the individual organizations may agree to a division of labor among themselves that requires altering their normal structure but, unlike unitary organizations, they do not institutionalize the arrangement.<sup>3</sup>

The federative typology is somewhat descriptive of the SDHPT 3C process in urban areas. The cities and the SDHPT join together formally, establish a staff structure, and pursue a common goal. They both maintain other activities on an individual basis, retain control of decision making, and give consideration to a common goal as they pursue their individual activities.

The coalitional typology is applied to situations in which individual organizations group together informally in order to reach inclusive goals. The cooperation among organizations is strictly ad hoc; no formal structure or staff is established. Some minimal division of labor may occur resulting in minor restructuring, but only on a temporary basis. The emphasis of this

typology is that cooperation between groups is informal, brief, and unstructured.<sup>4</sup> The coalitional kind of typology is exemplified by the relationship often existing between the SDHPT and private transit companies.

The final category is the social choice typology in which autonomous behavior or free market activity is applied by individual organizations that relate strictly to issues of internal importance. Inclusive goals are not recognized. Even though other organizations are also addressing the same issue, there is no particular effort to establish common goals. No attempts are made to establish cooperative efforts or to coordinate decision making. The organizations represented at this level may be federative or coalitional rather than unitary. The social choice typology may be descriptive of the activity that occurs when several federative and coalitional groups are independently focusing their efforts on the same issue. Within each organizational framework, there can be a great deal of coordination and well-developed goals but little recognition of other organizations' activities relative to the issue.<sup>5</sup>

Table 1. Kinds of Organizational Typologies

| Dimension                                    | Type of Context  |   |  |  |
|--|--|---|--|--|
|  | Unitary  | Federative  | Coalitional  | Social Choice  |
| Relation of units to an inclusive goal       | Units organized for achievement of inclusive goals                   | Units with disparate goals, but some formal organization for inclusive goals                      | Units with disparate goals, but informal collaboration for inclusive goals                         | No inclusive goals   |
| Locus of inclusive decision making           | At top of inclusive structure  | At top of inclusive structure, subject to unit ratification                                       | In interaction of units without a formal inclusive structure                                       | Within units   |
| Locus of authority                           | At top of hierarchy of inclusive structure                           | Primarily at unit level   | Exclusively at unit level  | Exclusively at unit level  |
| Structural provision for division of labor   | Units structured for division of labor within inclusive organization | Units structured autonomously, may agree to a division of labor, which may affect their structure | Units structured autonomously, may agree to <u>ad hoc</u> division of labor, without restructuring | No formally structured division of labor within an inclusive context |
| Commitment to a leadership subsystem         | Norms of high commitment   | Norms of moderate commitment  | Commitment only to unit leaders  | Commitment only to unit leaders                                      |
| Prescribed collectivity-orientation of units | High   | Moderate  | Minimal  | Little or none   |

Source: Roland L. Warren, "The Interorganizational Field as a Focus for Investigation," Administrative Science Quarterly, 12, (December, 1967), p. 406.

## Alternative Forms of Organizational Structure

There are two levels of interorganizational relationships affecting the SDHPT that relate to the above model. One is the organizational structures of the designated MPOS and the other is the organizational response to be adopted by the SDHPT in order to interact well with each kind of MPO structure.

At the level of statewide transportation planning, the SDHPT is a unitary planning organization. The divisions are organized to accomplish the inclusive goals of providing facilities for private and public transportation. The hierarchical arrangement is top down and the division of labor is internal to the structure. Finally, there is a high commitment to the hierarchical leadership system and goals are strongly oriented to the needs of the organization. Use of the unitary organizational approach is not feasible for the SDHPT for local transportation planning at the urban level in those majority of cases where the SDHPT is not the designated MPO. It will be necessary to participate in interorganizational approaches with MPOS using urban transportation planning as the inclusive goal.

The choice among interorganizational approaches will be determined partially by the kind of contextual planning structure established by the MPOS. In order to maintain the same organizational structure for all SDHPT districts while being able to adjust to varying organizational requirements imposed by MPOS, a two tier organizational approach is recommended. Chapters I, II, and V of this report argue for maintaining the SDHPT 3C planning process in essentially its present form. As noted in Chapter I, the 3C process organization is easily adaptable to multimodal and MPO transportation planning. Chapter II cites evidence that local political officials like the decentralized organizational structure and emphasis on public involvement. Chapter V

describes how the 3C process satisfies many of the criteria considered desirable for urban transportation planning. Because the 3C planning process has already been established, adjustments to its structure should not be as disruptive to the ongoing planning process as would a complete reorganization. The basic SDHPT planning routine can continue as it has in the past up to the point when SDHPT plans need to be integrated with MPO plans.

When SDHPT planning and MPO planning are ready to be integrated, either at the beginning or end of their respective planning processes, the SDHPT will be involved in an interorganizational activity and the second organizational tier may be needed. Unlike the 3C process organization, this tier is not a fixed, detailed structure. At this point in the planning process, the SDHPT will need to adapt to varying MPO organizational structures and planning processes. As previously described, these may be unitary, federative, coalitional, or social choice arrangements. Each kind of structure will influence the SDHPT's planning involvement differently.

#### Unitary Planning Structure

If an MPO, either COG or city, implements its urban transportation planning by establishing a unitary planning process (see Figure 9), the SDHPT can expect to be dealing with a strong, unified organization. Since unitary arrangements are characterized as being organized to achieve goals internal to the organization, using a hierarchical structure with top down decision making processes, it is probably that the SDHPT will not be able to have as much input into the planning process as it would like. Rather, the SDHPT will submit its work to the MPO which will unilaterally integrate the plan into its own comprehensive urban transportation planning process.



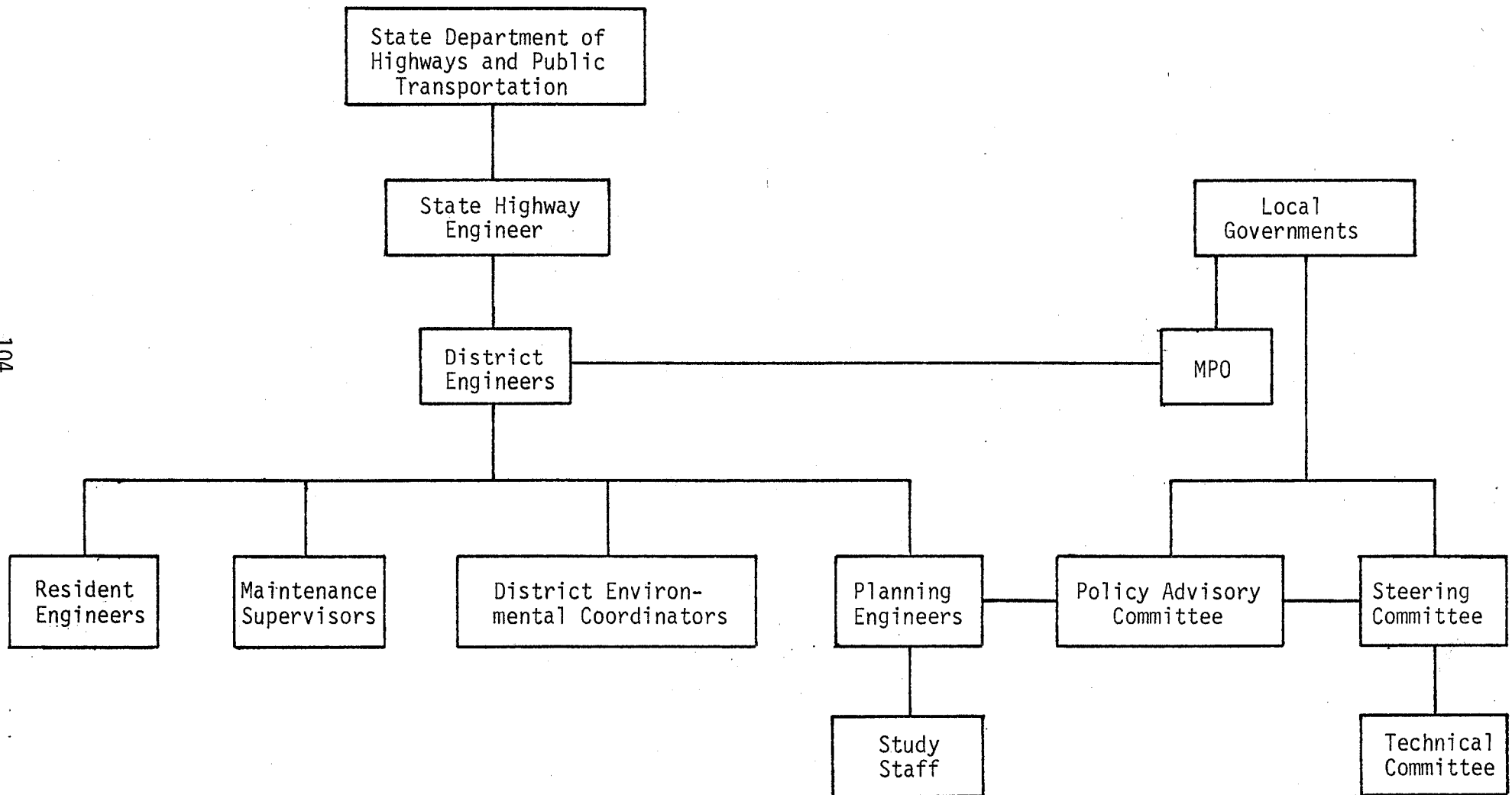


Figure 9. Unitary Planning Organization

The SDHPT's effort to maintain control of its planning may be obstructed in the above situation. Assuming that the MPO maintains a strong unitary posture, the SDHPT may want to adjust its organizational structure somewhat in order to achieve better input. One alternative organizational structure is shown in Figure 10. In this arrangement, the local governments agree to assign the MPO the responsibility for Policy Advisory Committee and Steering Committee functions. As a result, the planning engineer and the study staff interact with MPO representatives on the Policy Advisory Committee and the Steering Committee on a routine basis. While the MPO is still a unitary organization, the work done at the policy advisory committee and steering committee level is on a federative organizational basis. This provides the SDHPT the opportunity to develop a working relationship with the MPO and to foster a cooperative planning process.

A second alternative organizational structure is shown in Figure 11. In this approach, local government maintains a direct involvement in the Policy Advisory and Steering Committees and an advisory relationship is established with the MPO. This alternative is appropriate in areas where local government does not want to delegate its direct involvement in the SDHPT 3C process. Achieving this arrangement is less complicated than the first alternative since the MPO is the only organization that would need to approve it. The first alternative could only be established by obtaining the consent of all participating local governments. The advisory relationship is essentially the same strategy described in the first alternative. The presence of MPO personnel on the Policy Advisory and Steering Committees provides a mechanism for obtaining input into the urban transportation planning process.

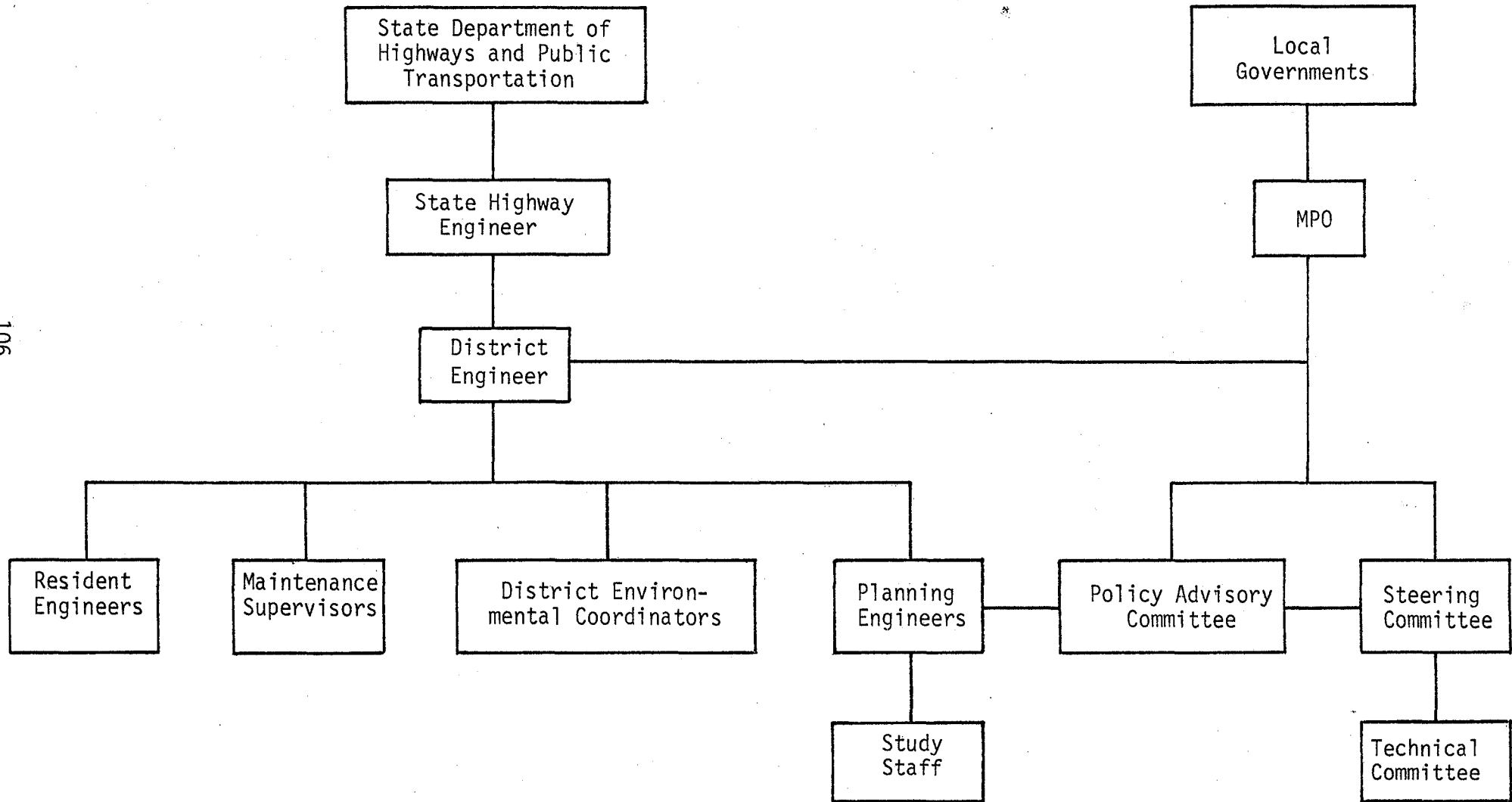


Figure 10. First Alternative Unitary Planning Organization

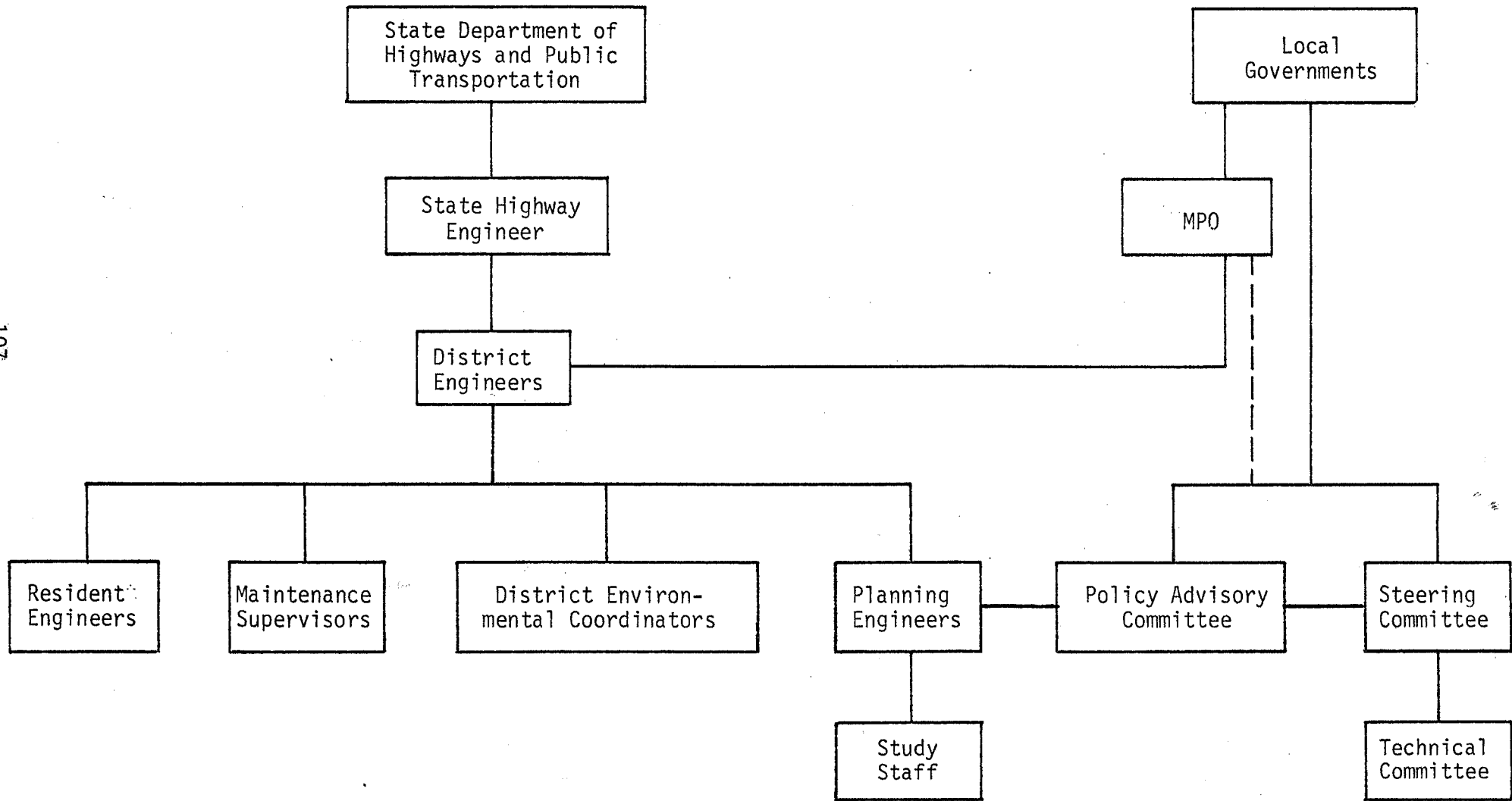


Figure 11. Second Alternative Unitary Planning Organization

## Federative Planning Structure

If the SDHPT finds itself involved in a federative organizational structure (see Figure 12), it can expect to interact with a group that is consensus oriented. Because major changes may be threatening to cooperating organizations, consensus groups tend to avoid change. This tendency puts the SDHPT in a good position for maintaining their plans intact as the plans are integrated into the urban transportation planning process.

A federative organizational structure composed of the SDHPT and the MPO will not occur formally because only the MPOs are delegated the authority of coordinating and administering the urban planning process and only the MPO's have authority for developing short and long range urban transportation planning. Since full authority is placed with the MPO, they must also take full responsibility. The MPOs cannot establish an official federative organizational approach and thereby share the responsibility.

The MPOs, however, can have SDHPT personnel as members. A de facto federative organizational approach is possible by assignment of an urban planning engineer and an urban study staff to the MPO to conduct urban highway transportation planning and to integrate that planning into the comprehensive urban transportation plan (see Figure 13). This has the dual advantage of providing the MPO with in-house planning expertise in the dominant transportation mode and of providing the SDHPT with involvement in the urban transportation planning process. As can be seen in Figure 13, the local governments are still directly involved in SDHPT systems planning through the Policy Advisory and Steering Committees.

This organizational approach will also work if local government wants to delegate responsibility to the MPO's for all transportation planning (see

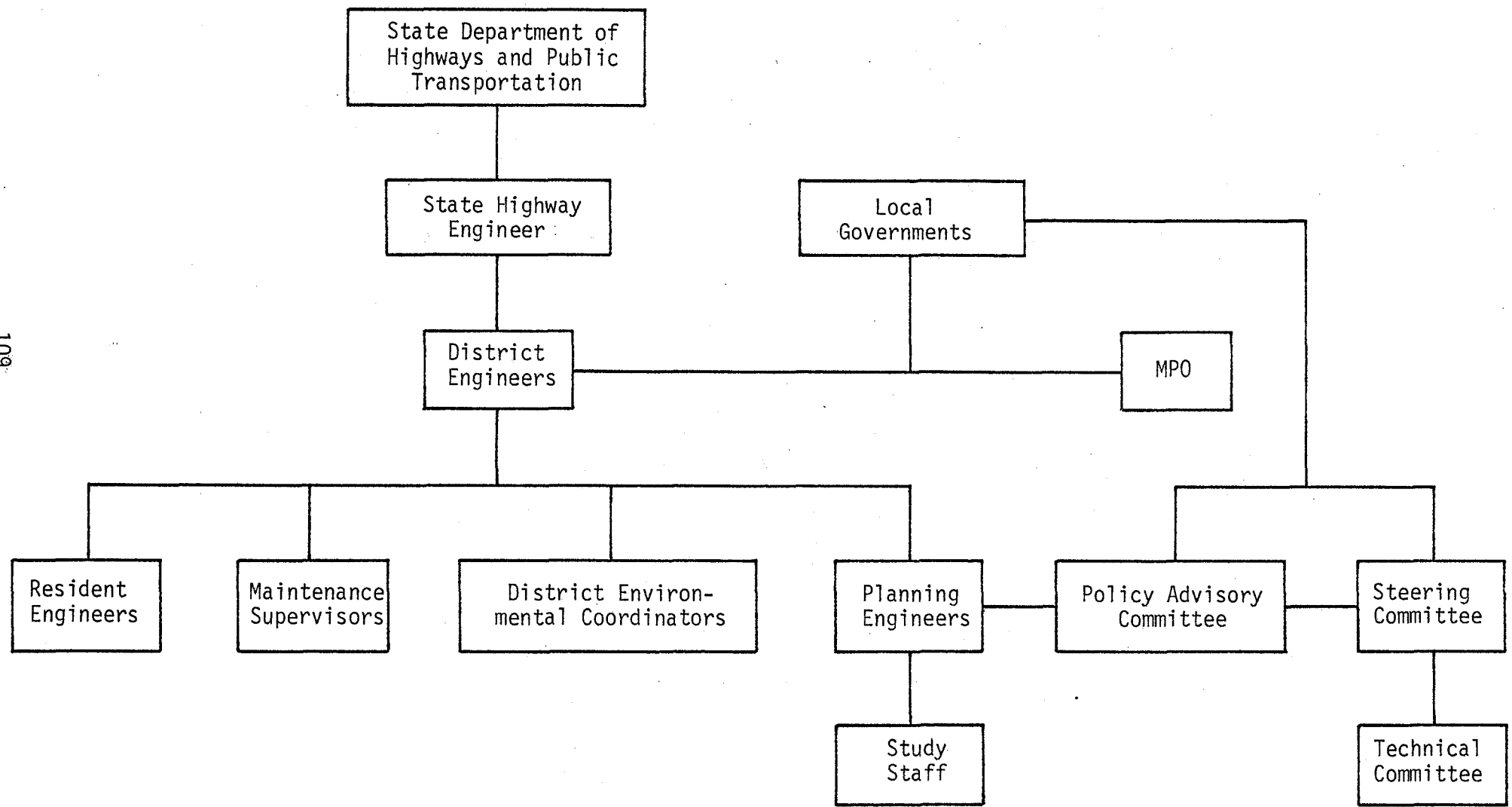


Figure 12, Federative Planning Organization

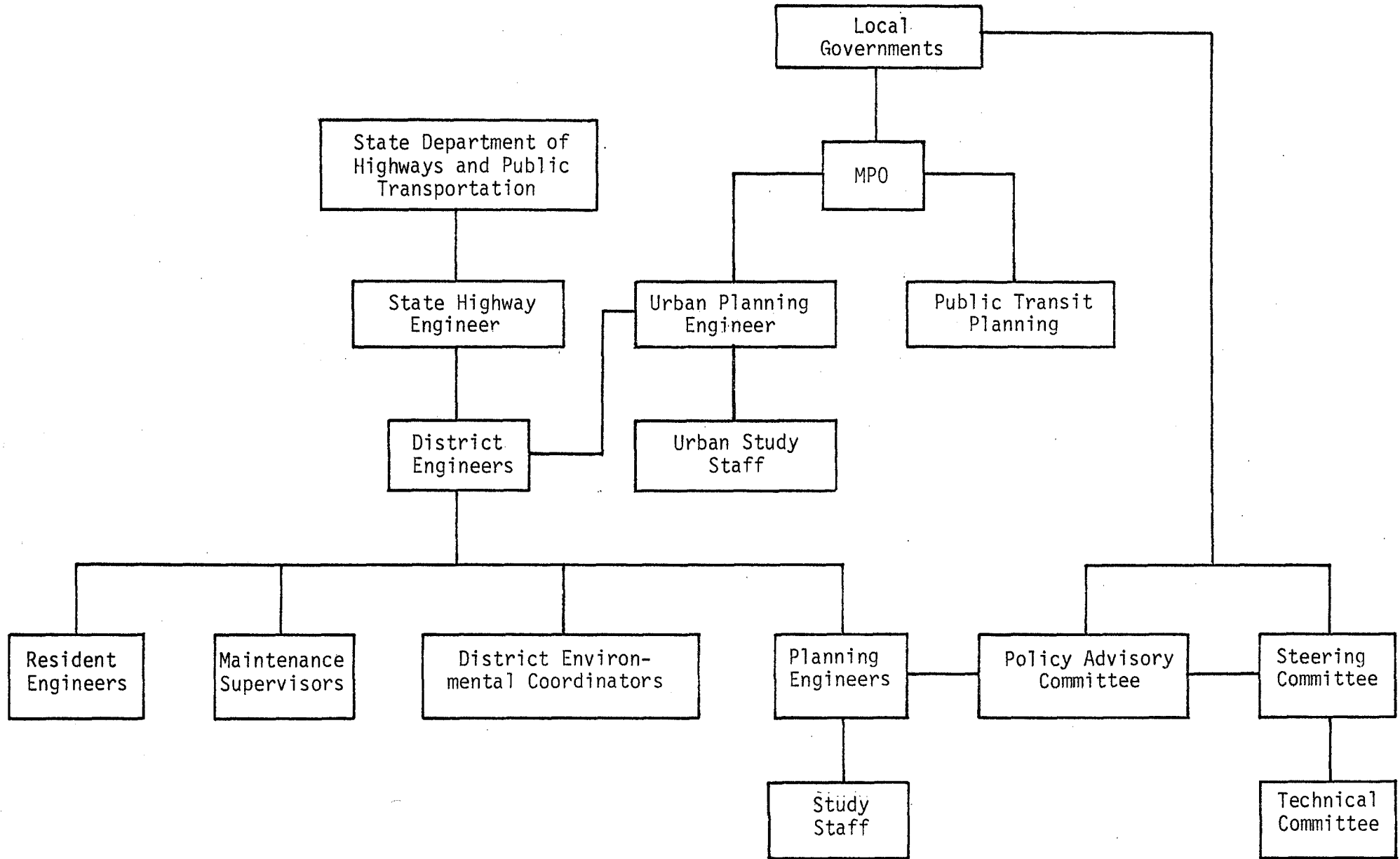


Figure 13... First Alternative Federative Planning Organization

Figure 14). Actually, the second alternative increases the amount of SDHPT planning involvement and increases the degree of planning comprehensiveness for a given geographical area. As in the first alternative, the SDHPT is directly involved in the urban transportation planning process. In addition, because of the participation of the MPO in the policy advisory and steering committees, input regarding SDHPT system planning and its relationship to urban transportation planning is facilitated.

A third alternative federative organizational structure is shown in Figure 15. If delegation of an urban planning engineer and an urban study staff to the MPO is undesirable, the SDHPT district engineer and the MPO administrator can maintain a federative working relationship by establishing a formal review committee. The committee is composed of SDHPT and MPO planners and is responsible for reviewing and coordinating transportation plans. If a dispute arises in committee, the problem is presented to the district engineer and MPO administrator for resolution. In keeping with the legislation, the MPO is final arbitrator of and maintains responsibility for transportation plan development in urban areas.

#### Coalitional Planning Structure

There may be some MPOS which do not choose to associate formally with other transportation planning groups, preferring to maintain an informal working relationship. The MPOS can satisfy their legislative responsibility by reviewing transportation plans through a coalitional planning structure as shown in Figure 16. Because of the direct connection to local governments, this organizational arrangement allows the SDHPT an autonomy not available in the previously mentioned models. When the MPO adopts a coalitional



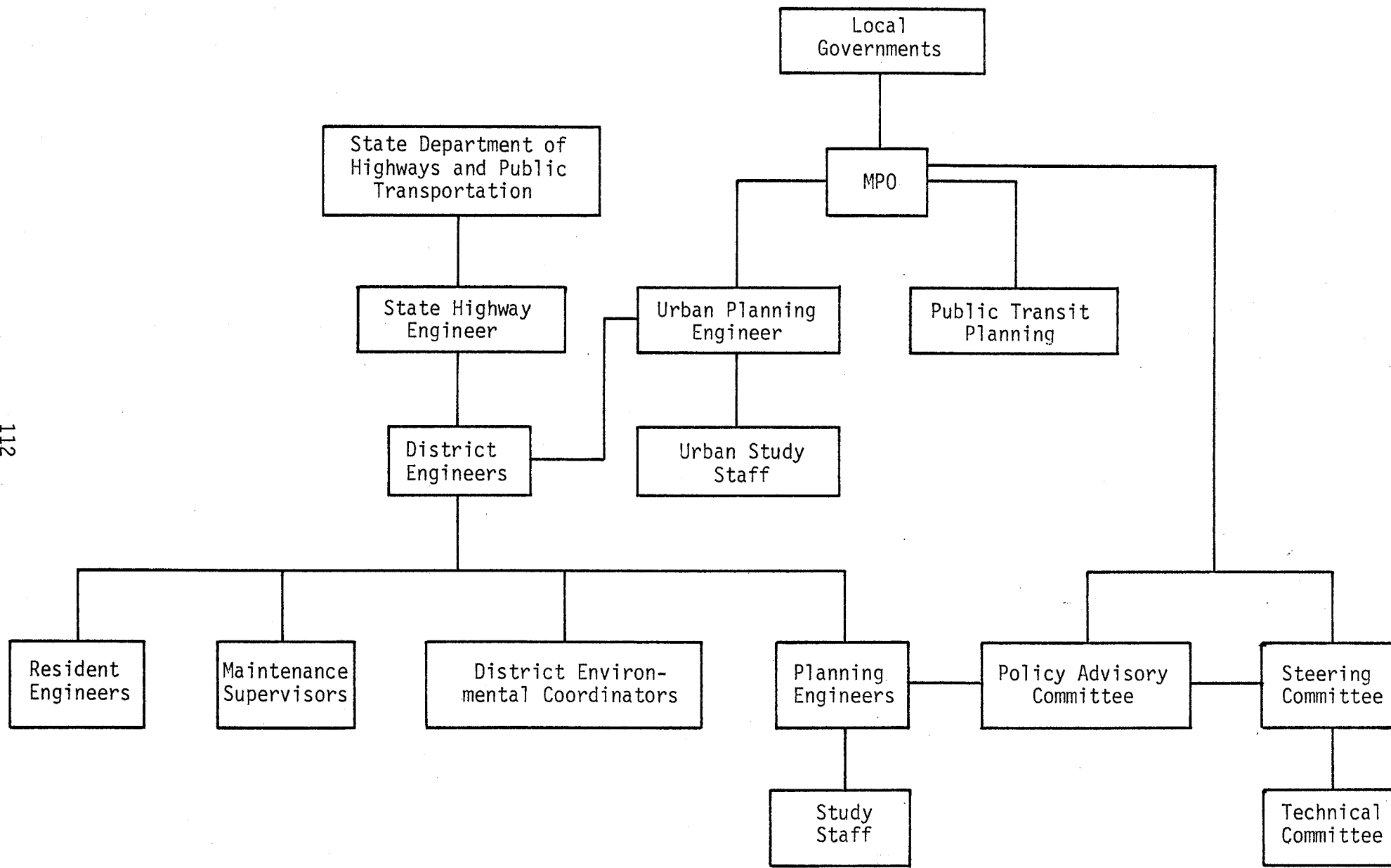


Figure 14. Second Alternative Federative Planning Organization

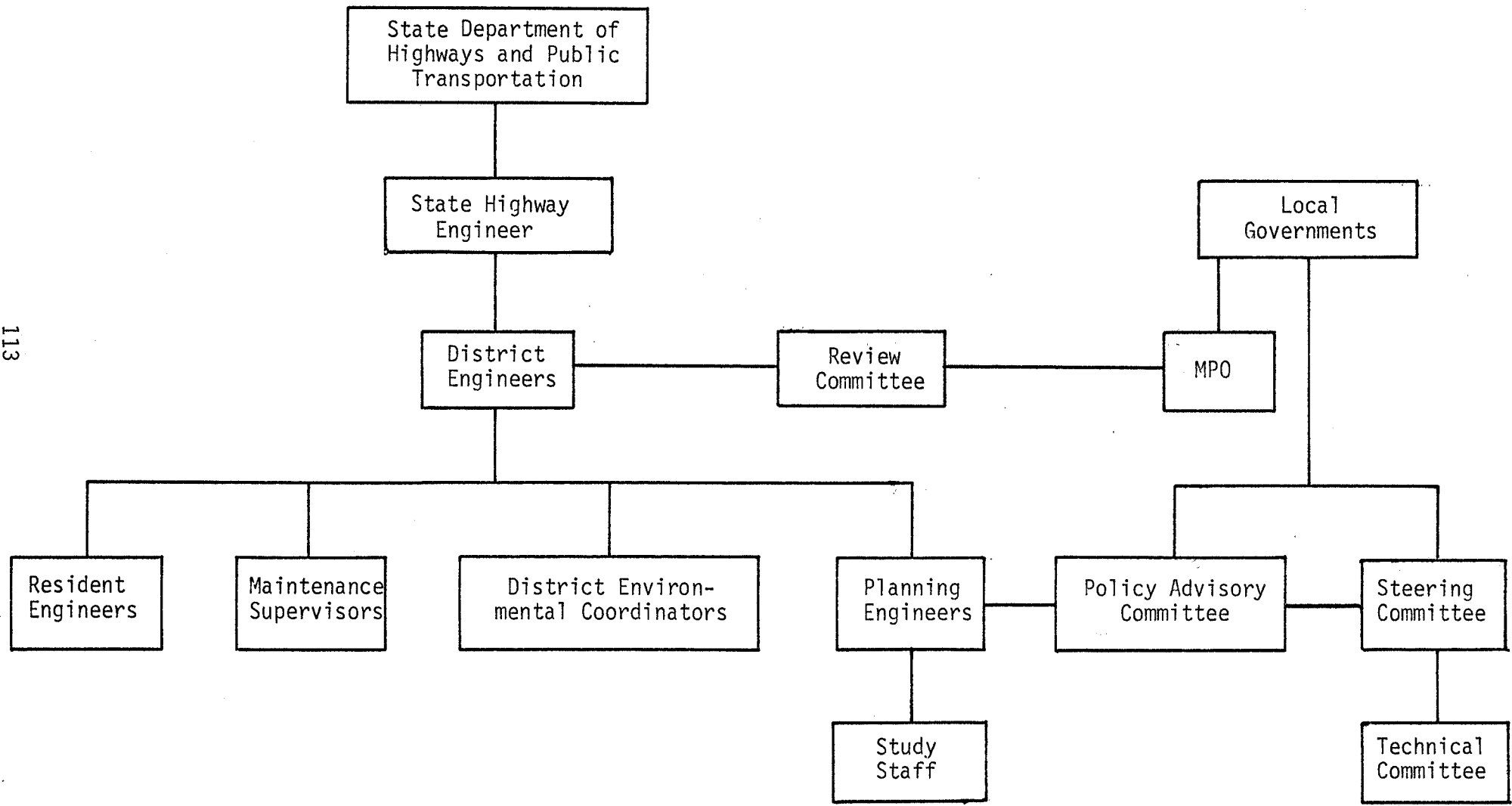


Figure 15. Third Alternative Federative Planning Organization

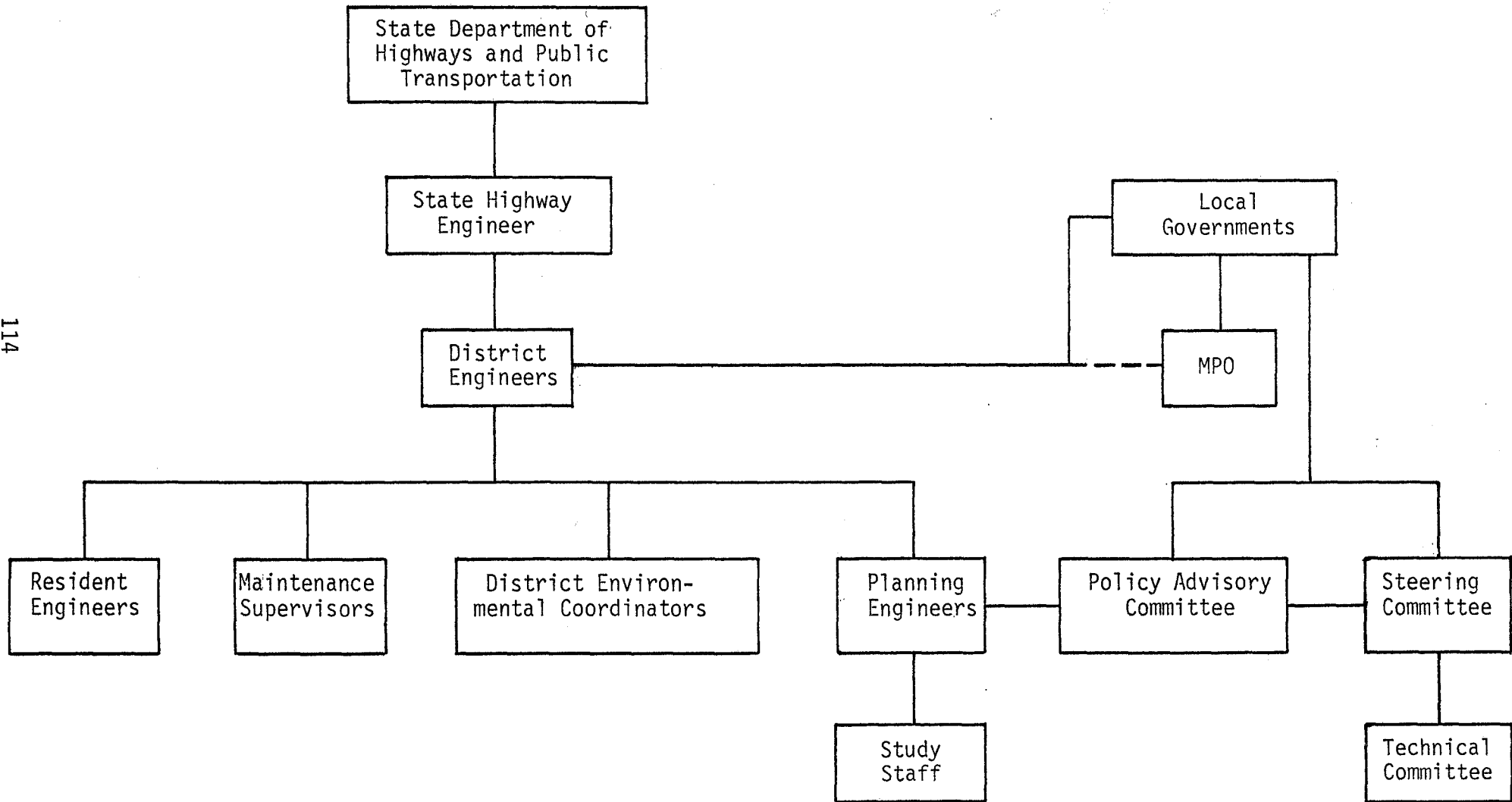


Figure 16. Coalitional Planning Organization

planning process, care must be taken to insure that the divided planning activities of the SDHPT and the MPO are coordinated by somebody at some point.

The SDHPT can establish a liaison unit that is responsible for fostering coordination of transportation planning between the MPO and the SDHPT. Officially, the unit would not be connected to the MPO but would respond to MPO initiatives for informal collaboration on transportation planning (see Figure 17). The liaison unit can be authorized to conduct all urban transportation planning responsibility with local governments and MPOS as indicated in the above referenced chart. If the SDHPT prefers to maintain direct contact between the district engineer and local governments, the liaison unit can be positioned as indicated in Figure 18. In either arrangement, no formal involvement is required or expected from the MPO. Both arrangements are also usable in the event that an MPO is placed between the local governments and the Policy Advisory and Steering Committees in the organizational hierarchy.

#### Social Choice Planning Structure

The social choice planning structure is shown in Figure 19. This arrangement is characterized by a lack of inclusive goals and interorganizational activity. The SDHPT may become involved in this kind of situation when an MPO is inactive. The problem for the SDHPT will be that of continuing to conduct and implement urban highway planning without the involvement of the MPO.

Reverting to the original approach of having the SDHPT 3C planners conduct both their own transportation planning and urban 3C planning through the policy advisory and steering committees is an answer to the problem (see Figure 20). This approach helps local governments maintain involvement in integrating the

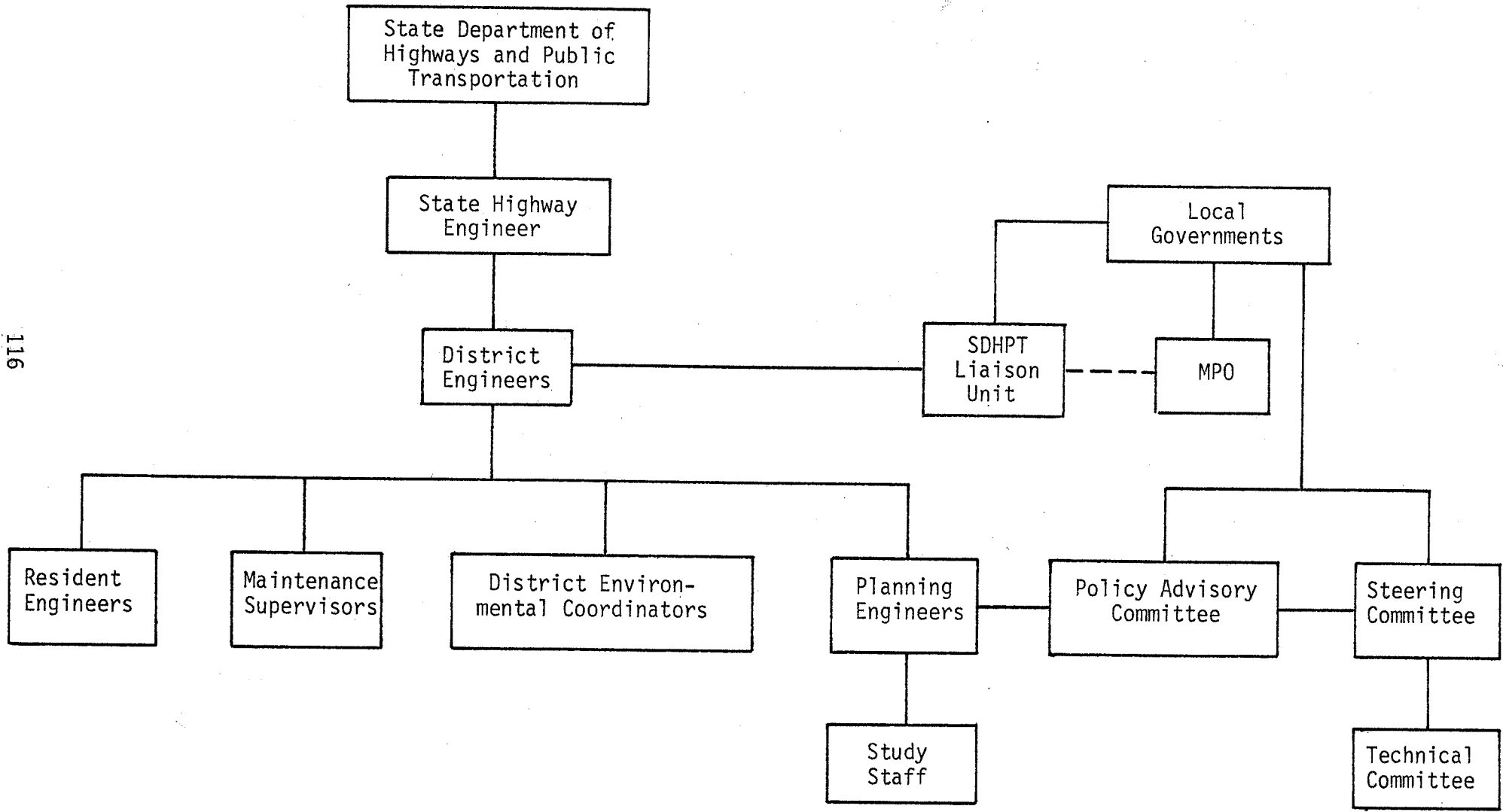


Figure 17. First Alternative Coalitional Planning Organization

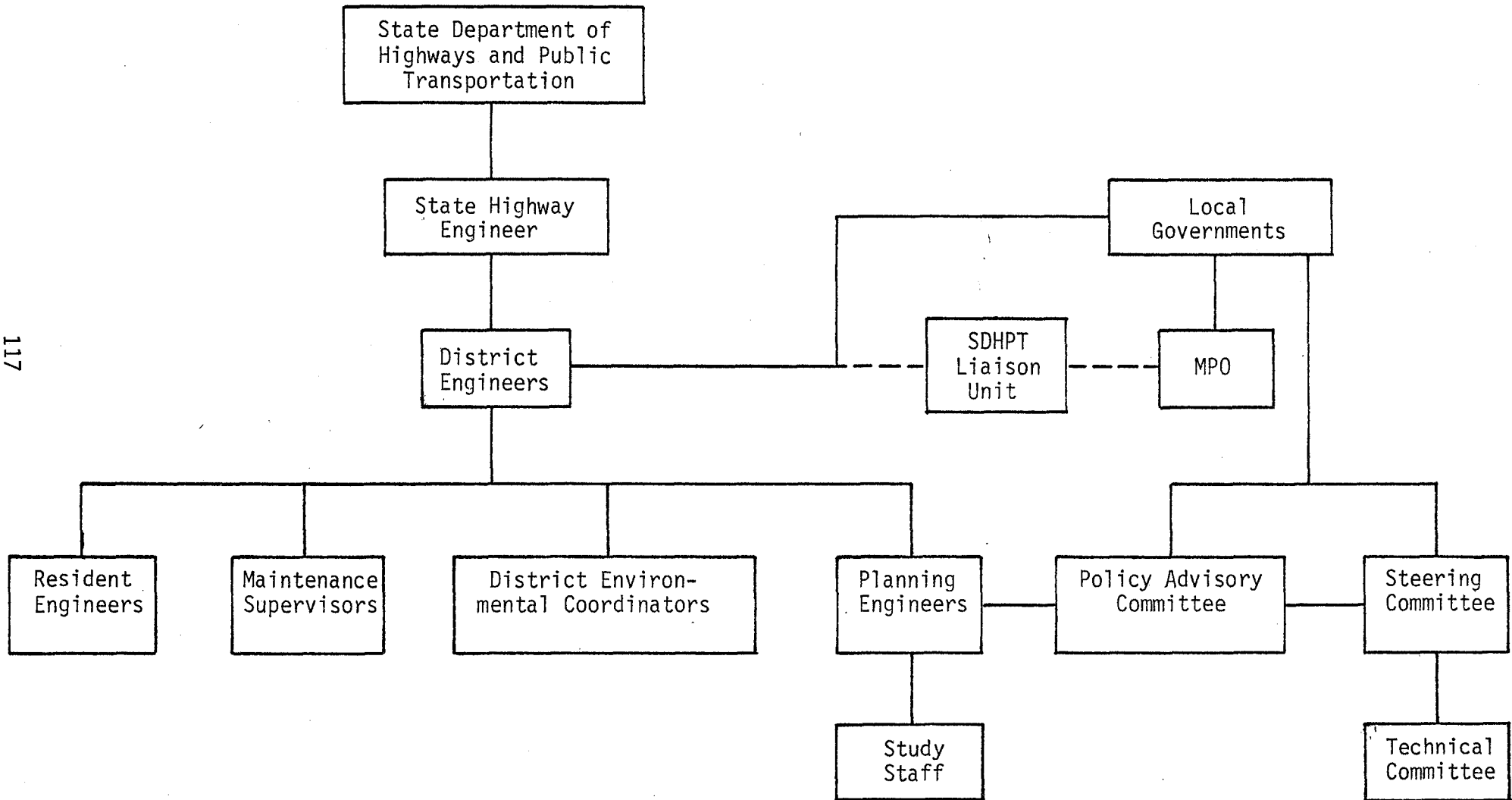


Figure 18. Second Alternative Coalitional Planning Organization

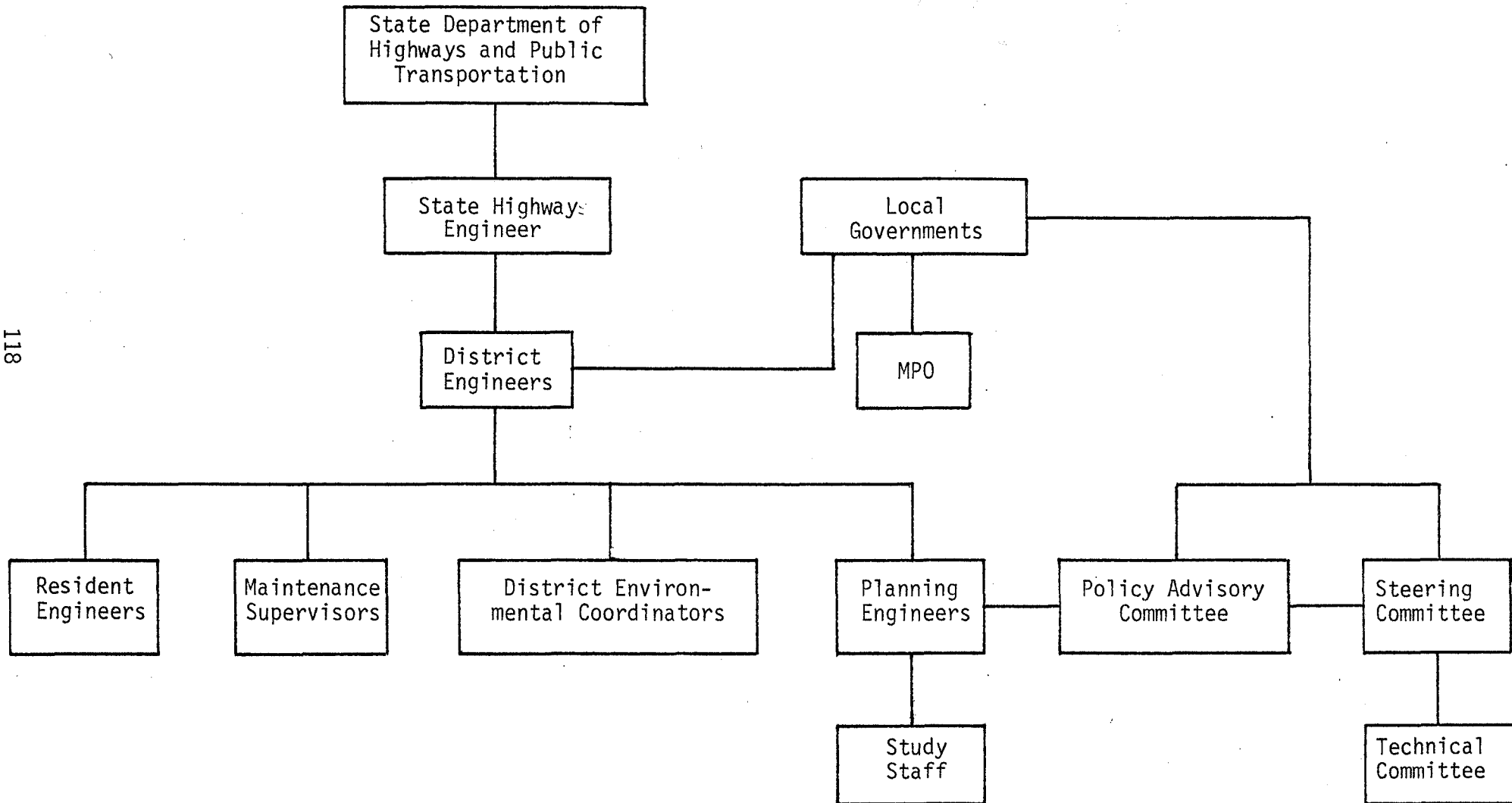


Figure 19. Social Choice Planning Organization

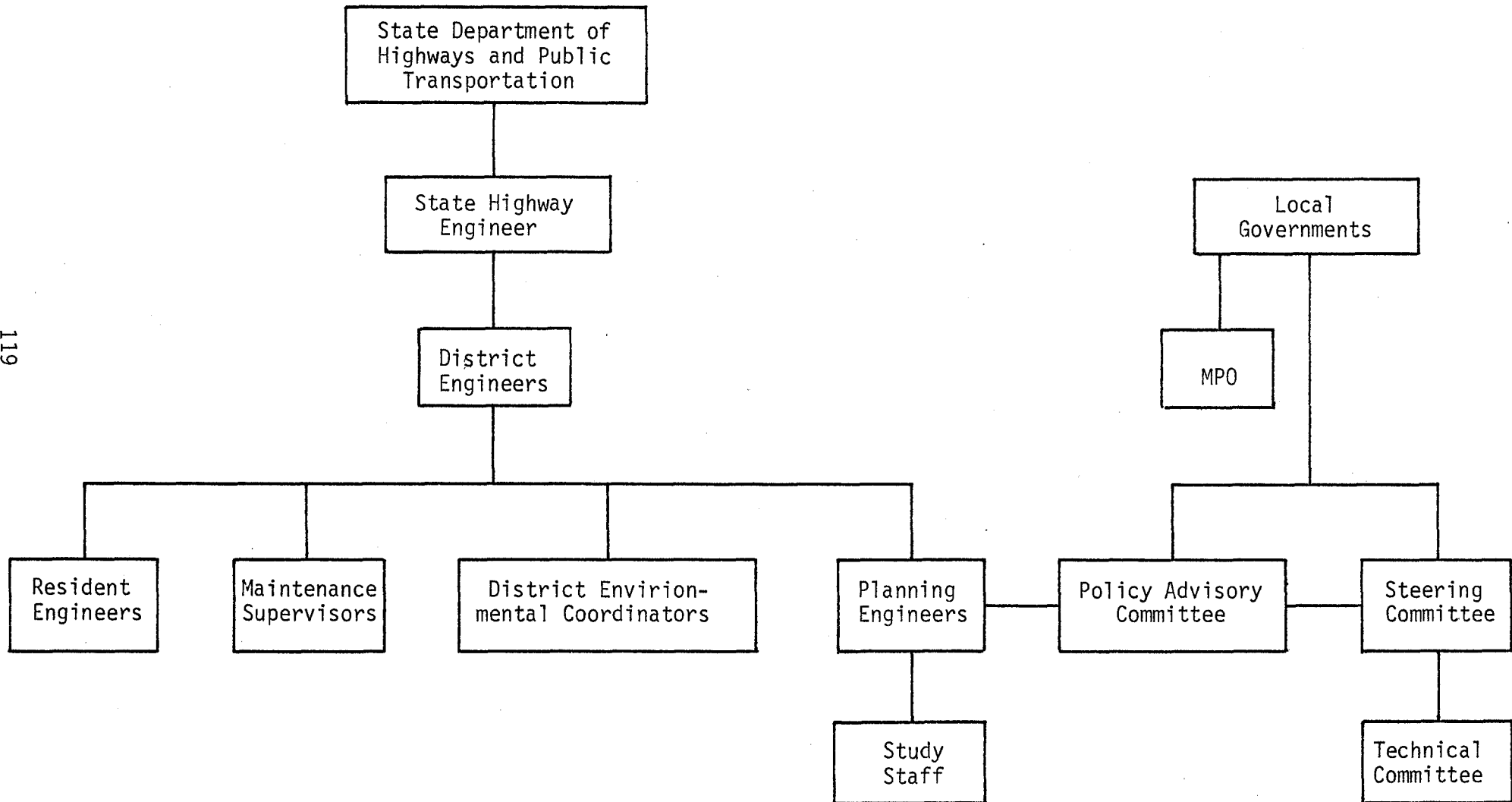


Figure 20. First Alternative Social Choice Planning Organization



SDHPT 3C process and the urban transportation planning process through their representatives on the Policy Advisory and Steering Committees.

In order to provide the comprehensive and multimodal functions expected of the MPO, it might be desirable to temporarily assign those responsibilities to the Steering Committee as indicated in Figure 21. By restructuring the organization through the use of an existing committee, less disruption in the form of hiring new people, establishing new organizational units, and developing new operating procedures occurs. It is easier to return to the original structure when the MPO becomes functional again. Because there will not be a need to disband units or dismiss personnel, members of the Steering Committee will be available to provide input to MPO personnel as the transition is made.

#### Conclusion

As is the case with all models, the unitary, the federative, the coalitional, and the social choice characterizations are approximations to reality and represent points on a continuum. Organizational structures adopted by MPOS will fall somewhere along the continuum between the points described by the models. Those that fall closer to the middle, between two points, will require an SDHPT organizational response that is a modified version of the structures described above.

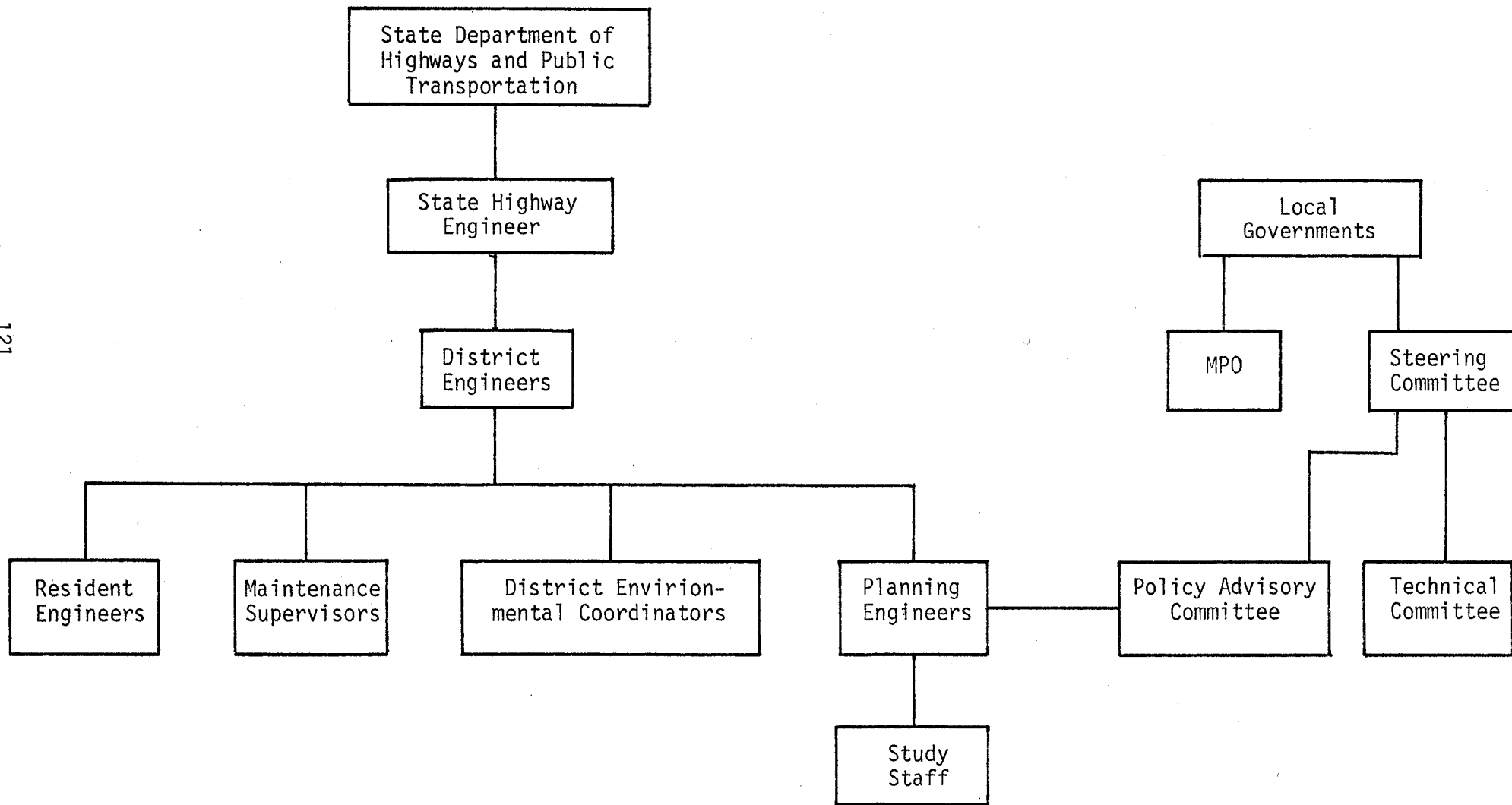


Figure 21. Second Alternative Social Choice Planning Organization

Notes

<sup>1</sup>Roland L. Warren, "The Interorganizational Field as a Focus for Investigation," *Administrative Science Quarterly*, 12, (December, 1967), pp. 396-419.

<sup>2</sup>Ibid., p. 404.

<sup>3</sup>Ibid.

<sup>4</sup>Ibid., pp. 404-405.

<sup>5</sup>Ibid., p. 405.

<sup>6</sup>Ibid., p. 407.

<sup>7</sup>Ibid., p. 406.

## CHAPTER VIII

### SUMMARY

#### Introduction

Increasing demands and requirements for coordinated transportation planning have placed state highway departments in the position of developing new organizational structures to provide multimodal transportation planning. Because of varying economic, social, and physical conditions, it is desirable that each state develop organizational approaches best suited to its particular needs. Since these varying conditions also exist within a state, it would be desirable to develop several alternative organizational approaches that could be flexibly applied.

The new cooperative guidelines established by the Federal Highway Administration (FHWA) and the Urban Mass Transportation Administration (UMTA) indicate that an increased emphasis is going to be placed in particular on coordinated, multimodal urban transportation planning.<sup>1</sup> The process is to be coordinated and administered by metropolitan planning organizations (MPOS) which have full responsibility for developing short and long range urban transportation planning. The Governor has designated the following MPO status in Texas: two SDHPT 3C urban study groups, nine cities, and eleven councils of government.

The MPOS represent additional layers of government for the SDHPT to deal with. This situation is mitigated somewhat by the fact that non-SDHPT MPOS are either city governments or COGS and are composed of elected officials and/or their designees. Since the SDHPT 3C policy advisory committees and steering committees have representation by the same officials,

planning decisions made during the SDHPT 3C planning process should be consistent with urban 3C planning decisions and MPO coordination activities.

Because the new rules and regulations of the FHWA and UMTA and the MPO designations of the Governor are so recent, it is difficult to know how everything will be organized. However, it is certain that implementation of a statewide multimodal transportation plan and urban 3C planning processes will require an urban multimodal planning approach that is conducted with an increased degree of cooperation between participating government jurisdictions and agencies. Since there has been little experience with urban multimodal transportation planning in Texas, new forms of planning organization will be needed.

#### Attitudes and Objectives of Local Texas Officials

The attitudes and objectives of local Texas officials, as provided in testimony given at the 1974 Interagency Transportation Council (ITC) hearings, give evidence of local support for a decentralized transportation planning structure with emphasis on local involvement.<sup>2</sup> The majority of those testifying preferred that a state multimodal coordinating mechanism or planning body be established and that the state provide coordination and technical assistance to urban areas desiring mass transit. All of the representatives, moreover, favored participation from local officials and citizens as well as officials of the state and county governments; in a coordinated effort to educate, conduct research, and study solutions; define and delegate responsibility; and provide specific funding.

## Transportation Goals

Goals are an important consideration when selecting or developing alternative organizational forms. Since a public organization does not have the marketplace to guide its decision making, it is important that goals be specified before commitment to a specific organizational arrangement or course of action is taken. The Federal Department of Transportation has formal operating goals that include: promoting economic efficiency; preserving and improving aesthetic, environmental, and social conditions; maximizing safety; and supporting other national goals and objectives.<sup>3</sup> An indication of future federal transportation goals can be obtained by examining the 1974 National Transportation Study (NTS).<sup>4</sup> A major emphasis of the study is to support the further development of coordinated, multimodal transportation planning. In support of this goal, the NTS intends to: develop a quantification process that will make transportation system evaluation possible; promote the use of planning grants to produce comprehensive transportation plans; encourage development of plans that reflect state and local long and intermediate range goals; and support the concept of funding intermediate range priority projects.

In recognition of federal goals and other pressures, state transportation planning goals are changing. The Council of State Governments recommends a series of goals that states may choose to pursue.<sup>5</sup> Essentially, these goals attempt to achieve a centralization of planning responsibilities, coordination of transportation planning with other state planning tasks, and development of state planning policy guidelines for use in guiding urban planning and interacting with federal planning efforts.

Transportation planning also affects the social, economic, and physical goals of individuals. Past resistance to SDHPT projects indicates that

transportation planners have not given enough attention to personal goals. Planning organizations should provide for more citizen input in an effort to address the problem.

In summation, planning organizations should develop administrative policy that will facilitate comprehensive transportation planning. Basically, this would entail adoption of goals that are reflective of a comprehensive transportation orientation and delegation of the necessary power to planners to conduct multimodal transportation planning with the use of citizen input.

### Issues in State and Local Transportation Planning

State government has a vested interest and a legislative mandate to maintain the general welfare, but has lost some of its authority in the area of transportation planning and implementation. Some of this authority is delegated to local government by the states and a further transfer of authority took place when passage of the Cities Enabling Act permitted cities to negotiate directly with the federal government without substantive state involvement. Still, state government is the strongest level of government below the federal level and has the capability of exercising executive powers; therefore, it may be the best location for comprehensive transportation policy planning.

Autonomy is highly valued and resistance to consolidated planning efforts is strong at the local transportation planning level. There is a simultaneous attraction to broader based planning organizations in order to reduce the relative power of state and federal government. This internal conflict among local planning bodies has not yet been solved. More time will be needed to determine the direction that local officials prefer. Some guidance may be provided by state policy planning efforts.

State transportation planning is a function that should be attached to or in direct communication with the state's highest level transportation planning organization. The policy planning group should have a full complement of analytical techniques and professional expertise. Policy planners have several roles to fulfill. Their roles include: determining whether problems are policy or design related; coordinating, negotiating, and being a catalyst for alternative solutions; innovating and initiating new policies; and interpreting information and analytical findings. Finally, policy planners should encourage the development of legislation that supports their goals.<sup>6</sup>

#### Urban Transportation Planning Organization

Qualitative research has indicated that cooperative transportation planning efforts are difficult because of the large, unwieldy boards resulting from providing representation for every political jurisdiction involved in the process.<sup>7</sup> This problem probably varies with the size and number of jurisdictions involved. The need to consider all points of view and attempt to resolve conflicts before the project stage is reached suggests that unwieldy board size may be an acceptable price to pay until a better form of representation is devised.

A study of Wisconsin highway system planning produced some suggestions worth consideration in improving multimodal transportation organization approaches: 1) making adequate technical expertise available to local planning efforts improves the quality and practicality of local plans; 2) as the amount of multimodal planning increases, it is helpful for personnel experienced in public transit and multimodal planning to be available for planning efforts; 3) the availability of a state transportation plan is



important for providing a framework for urban transportation planning and for directing urban growth.<sup>8</sup>

The Wisconsin study discovered that planning commissions receive good support from city councils. This arrangement may hold advantages for urban planning in Texas. Support for such an arrangement is contained in a report by Mitchell which advocates that transportation planning be directly connected to city government in order to increase the probability of implementation. Further recommendations by Mitchell include planning on a continuing basis, increasing citizen participation, and increasing local control of planning.

As mentioned earlier, state and urban transportation planning were fragmented somewhat by federal legislation which required a 3C planning process by the state while simultaneously providing direct funding assistance to cities for public transportation projects. Further fragmentation occurs when relevant city agencies are left out of the planning process. The SDHPT 3C process makes involvement of these officials optional. It may be helpful to require their participation in view of the detailed knowledge they have of their cities.

The SDHPT, through its 3C planning process, has provided desirable planning characteristics. Some adjustments will be helpful for orienting the process to a multimodal system planning approach. Adding expertise in multimodal planning is one adjustment that can be helpful.

#### State Transportation Planning Processes and Organization

The purpose of statewide transportation planning is to guide state, regional, and urban transportation development and implementation with the use of multimodal transportation. As urban population grows proportionately

and in absolute numbers, an increasing amount of transportation planning resources will be directed to urban areas. In recognition of this trend, there is some indication of a growing emphasis on increasing the use of state planning as a facilitator of urban and regional transportation planning processes.

Creighton, Hamburg, Incorporated have developed transportation planning models that describe alternative planning processes.<sup>9</sup> Viewed as state transportation planning processes, the models exhibit positive and negative aspects for urban and regional transportation planning. The chief negative element is the possibility that the state processes will dominate local planning. The potential benefits include a coordinated policy framework for local planning and making expertise and technical data available that urban areas could not otherwise afford. The state transportation agency organizational structure can make these benefits available by adopting an advisory staff agency approach for policy planning and an equal status division arrangement for developing and providing technical expertise and data (see Chapter VI).

#### Alternative Urban Transportation Planning Structures

The legislative mandate to integrate SDHPT 3C processes with the urban 3C planning processes to be implemented by the newly designated MPOS will require some organizational adjustments on the part of the SDHPT. Since projections indicate that people and goods movement will increase in both urban areas and in intrastate travel,<sup>10</sup> the SDHPT will need to be prepared to work within the new MPO structures, while maintaining their own planning processes.

Warren provides both a model and a theoretical rationale that are responsive to the SDHPT's situation.<sup>11</sup> Four organizational typologies are identified: (1) unitary, (2) federative, (3) coalitional, and (4) social choice. These typologies describe different ways that organizations behave toward each other when two or more are seeking a common goal or are addressing the same issue.

In order to maintain the advantages of its own 3C planning process and interface well with different kinds of MPO organizational structures, the SDHPT may choose to use a two tier approach. While conducting SDHPT related planning, the normal 3C organizational approach can be used. When SDHPT plans are to be coordinated with other MPO related transportation plans, a second tier of organizational approaches may be preferred. These may be unitary, federative, coalitional, or social choice arrangements, depending on the organizational posture taken by the relevant MPO.

If an MPO implements its responsibility by establishing a unitary planning process, the SDHPT can expect to be dealing with a strong, unified organization. Since unitary arrangements are characterized as being organized to achieve goals internal to the organization, using a hierarchical structure with top down decision making processes, it is probable that the SDHPT will not be able to have as much input into the planning process as it would like. The SDHPT may want to adjust its organizational structure somewhat in order to achieve better input.

One alternative arrangement is to have the local governments assign the MPO the responsibility for policy advisory and steering committee functions. As a result, the planning engineer and the study staff interact with MPO representatives on the Policy Advisory Committee and the Steering Committee on a routine basis. While the MPO is still a unitary organization, the work

done at the policy advisory and steering committee levels is done cooperatively. If local governments decline to delegate their SDHPT 3C planning responsibilities, the MPO can maintain an advisory relationship with the Policy Advisory and Steering Committees. In this manner MPO personnel and SDHPT personnel still have a mechanism for interacting.

If the SDHPT finds itself involved in a federative organizational structure, it can expect to interact with a group that is consensus oriented. Because major changes may be threatening to cooperating organizations, consensus groups tend to avoid change. This tendency puts the SDHPT in a good position for maintaining their plans intact as the plans are integrated into the urban transportation planning process.

A federative organizational approach is established by assigning an urban planning engineer and an urban study staff to the MPO to conduct urban highway transportation planning and to integrate that planning into the comprehensive urban transportation plan. This has the dual advantage of providing the MPO with in-house planning expertise in the dominant transportation mode and of providing the SDHPT with involvement in the urban transportation planning process. If delegation of an urban planning engineer and an urban study staff to the MPO is undesirable, the SDHPT district engineer and the MPO administrator can maintain a federative working relationship by establishing a formal review committee. The committee is composed of SDHPT and MPO planners and is responsible for reviewing and coordinating transportation plans. If a dispute arises in committee, the problem is presented to the district engineer and MPO administrator for resolution. In keeping with the legislation, the MPO is final arbitrator of and maintains responsibility for transportation plan development in urban areas.

There may be some MPOS which choose not to associate formally with other transportation planning groups. The MPOS can satisfy their legislative responsibility by reviewing transportation plans on an informal, non-structured basis. In order to encourage a working relationship and planning coordination with such MPOS, the SDHPT can establish a liaison unit that is responsible for responding to MPO initiatives for informal collaboration on transportation planning. The liaison unit can either be authorized by the SDHPT to conduct all urban transportation planning responsibility with local governments and MPOS or be placed in an advisory relationship between the SDHPT and the MPO. In either case, no formal involvement is required or expected from the MPO.

In some instances, the MPO may become inactive and place the SDHPT in a social choice planning situation which is characterized by a lack of inter-organizational activity. The problem for the SDHPT will be that of continuing to conduct and implement urban highway planning without the involvement of the MPO. Reverting to the original approach of having the SDHPT 3C planners conduct both their own transportation planning and urban 3C planning through the Policy Advisory and Steering Committees is one approach. Local governments can maintain involvement through their representatives on the Policy Advisory and Steering Committees.

In order to provide the comprehensive and multi-modal functions expected of the MPO, it might be desirable to temporarily assign MPO responsibilities to the Steering Committee (shown in Figure 21). By restructuring the organization through the use of an existing committee, less disruption in the form of hiring new people, establishing new organizational units, and developing new operating procedures occurs. Also, it is easier to return to the original structure when the MPO becomes functional.

As is the case with all models, the unitary, the federative, the coalitional, and the social choice characterizations are approximations to reality and represent points on a continuum. Organizational structures adopted by MPOS will fall somewhere along the continuum between the points described by the models. Those that fall nearer one point than another will be easily categorized. Those that fall closer to the middle, between two points, will require an SDHPT organizational response that is a modified version of the structures described above.

## Notes

<sup>1</sup>Federal Register, Department of Transportation, Federal Highway Administration, Urban Mass Transportation Administration, Transportation Improvement Program, September 17, 1975.

<sup>2</sup>Interagency Transportation Council, Hearings on Transportation Needs and Priorities in Texas Cities, August, 1974, prepared by the Division of Planning Coordination, Office of the Governor, Austin, Texas.

<sup>3</sup>Grant Miller Davis, The Department of Transportation (Lexington, Massachusetts: Heath Lexington Books, 1970), pp. 156-157.

<sup>4</sup>U.S. Department of Transportation, 1974 National Transportation Study (Washington, D.C.: U.S. Department of Transportation, May, 1972).

<sup>5</sup>Norman Ashford, "The Planning Function in State Departments of Transportation," Traffic Quarterly and Independent Journal for Better Traffic, XXVII, No. 1 (January, 1973).

<sup>6</sup>Transportation Research Board, Special Report No. 146, Issues in Statewide Transportation Planning (Washington, D.C.: National Research Council, 1974).

<sup>7</sup>Ralph Gakenheimer, G. M. Croan, D. S. Greenbaum, W. W. Hill, J. O. Litten, and P. Messeri, "Regional Transportation Planning Experience in the United States: A Critical Review of Selected Cases" in Perspectives on Regional Transportation Planning, Ed. by Joseph S. Desalvo (Lexington, Massachusetts: Lexington Books, D. C. Heath and Company, 1973).

<sup>8</sup>K. W. Bauer, "A Method for Attaining Realistic Local Highway System Plans," Highway Research Board Bulletin, No. 326 (1962).

<sup>9</sup>Creighton, Hamburg, Incorporated, A Work Plan for Statewide Transportation Planning Volume I, prepared for the Commonwealth of Pennsylvania Department of Transportation, Milton S. Shapp, Governor, Jacob Kassab, Secretary, Department of Transportation (Delmar, New York: Creighton, Hamburg, Incorporated, June, 1973).

<sup>10</sup>Ron Holder, Fuel Conservation Measures: The Transportation Sector, Volumes I and II, prepared for Governor's Energy Advisory Council (College Station, Texas: Texas Transportation Institute, Texas A&M University, 1974).

<sup>11</sup>Roland L. Warren, "The Interorganizational Field as a Focus for Investigation," Administrative Science Quarterly, 12, (December, 1967).

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