

Resource Paper

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This paper is organized in the following manner: existing organization and administrative practices; issues and problems, internal and external; recommendations for improving organization and administrative practices; and recommendations for research programs for improving organization and administrative mechanisms. The author has used publications and papers on statewide transportation planning, various state department of transportation development studies, and a telephone survey conducted in December 1973. This survey was conducted for 23 states that have formed departments of transportation and 4 states that have not. The questions and responses have been summarized in this paper.

EXISTING ORGANIZATION AND ADMINISTRATIVE PRACTICES

Since 1959, 23 states have passed legislation creating comprehensive transportation agencies, most during the past 5 years: Arizona, California, Connecticut, Delaware, Florida, Georgia, Hawaii, Illinois, Kentucky, Maine, Maryland, Massachusetts, Michigan, New Jersey, New York, North Carolina, Ohio, Oregon, Pennsylvania, Rhode Island, South Dakota, Tennessee, and Wisconsin. In addition, 14 states are considering legislation to create departments of transportation: Colorado, Iowa, Kansas, Minnesota, Nevada, New Hampshire, North Dakota, Oklahoma, Texas, Utah, Vermont, Virginia, West Virginia, and Washington.

Ashford (1, p. 49) explains that the pressure on states to create unitary transportation departments is part of an underlying change in governmental philosophy that is motivating extensive reexaminations and restructurings involving all divisions of state government, not only transportation. He further states that the creation of departments of transportation appears to relate to 3 principal areas of philosophical change in government: first, the increasing legislative emphasis on urban needs and urban problems, brought about by relatively recent reapportionment in the state legislatures; second, increased federal activity in the area of social legislation that has engendered a multiplicity of federal programs requiring extensive restructuring of state administrative capability and general state government reorganization; and, third, a movement toward the rationalization of state agencies along functional lines that resemble new federal organization structures (1, pp. 49-50).

Two additional and basic reasons for the creation of state transportation departments are (a) response to the desire to coordinate planning for all modes of transportation in a single state agency and (b) desire to consolidate many of the state boards, commissions, and agencies whose functions overlapped to reduce the complexity of state government and permit more efficient management.

There is substantial variance in authority, responsibility, and organization among the 23 state transportation departments that are now operating or preparing for operation. They include highway departments, aeronautical commissions, transit agencies, highway safety offices, traffic safety enforcement agencies, motor vehicle registration and driver licensing departments, highway patrols, and authorities for bridges, turnpikes, harbors, and tunnels.

The basic objectives of state departments of transportation are as follows (2, pp. 4-5):

1. To create a statewide transportation development plan, set goals for the future, and determine existing conditions;
2. To coordinate and centralize regulation, licensing, and taxation of transportation modes;
3. To coordinate transportation with the economic development of the state;
4. To promote and protect the state land use act;
5. To minimize transportation costs and maximize benefits;
6. To supply a broad framework to which regional, metropolitan, and local trans-

portation needs can be related;

7. To facilitate the supply of federal and state aid to those areas that will benefit the state as a whole;

8. To coordinate and implement the National Transportation Plan with the state transportation planning program; and

9. To ensure the consideration of social, economic, and environmental impacts of transportation.

Organization of State Departments of Transportation

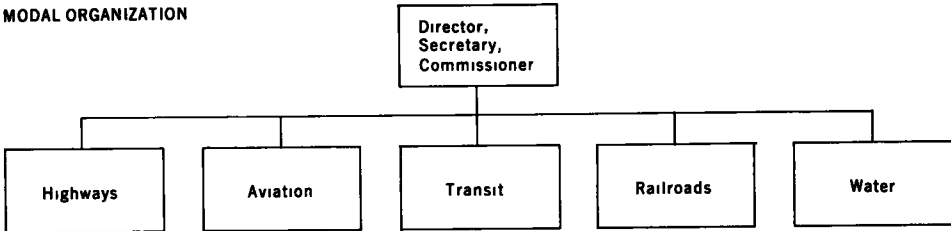
Each transportation department is headed by a chief executive officer whose powers vary by state. The title is secretary of transportation in 11 states, director in 5 states, and commissioner in 5 states.

Each department has staff divisions to establish procedures and advise the chief executive officer in policy formulation and operating divisions to implement policies and programs. The organization can be classified as modal, functional, or mixed modal and functional according to the respective responsibilities of the operating divisions. (Modal is sometimes referred to as "high modal," and functional is sometimes referred to as "low modal".) Figure 1 shows the organizational structures.

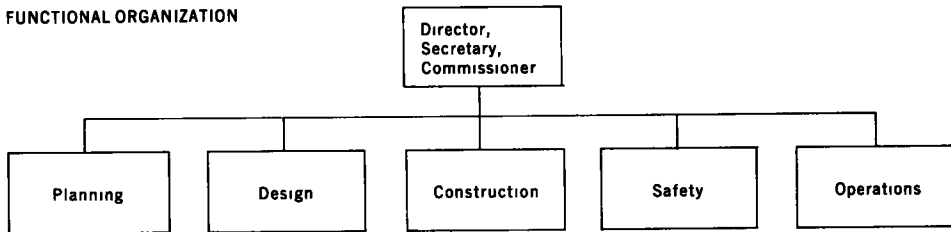
In a functional organization, the operating divisions are responsible for a specific function for all modes. Typical examples of such responsibility are divisions of plan-

Figure 1. Basic organizational structures of state transportation departments.

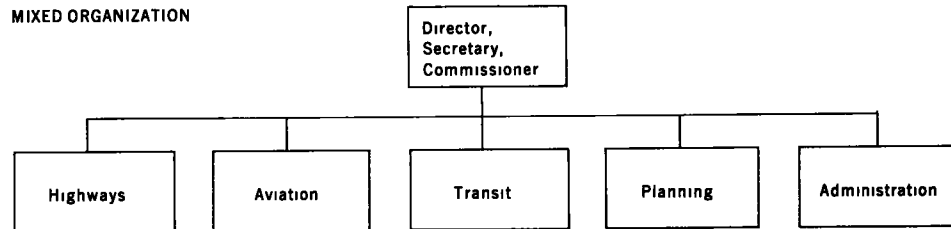
MODAL ORGANIZATION



FUNCTIONAL ORGANIZATION



MIXED ORGANIZATION



ning, design, construction, and safety, each of which is responsible for all modes of transportation. Only 2 states, New Jersey and New York, are classified as functional, although several states are studying reorganizations along a functional line.

In modal organization, operating divisions are responsible for a specific transportation mode such as highways, aviation, transit, railroads, and water. Most duties and powers are performed under each modal division. The planning function is in a staff advisory capacity or in a modal division or in both. Nine states have a modal form of organization.

A mixed organization includes both modal and functional divisions on the operating level. Ten states have a mixed modal and functional organization. Planning for all modes is conducted at the level of the modal operating administrations as a rule.

Organization and Classification of Transportation Planning

Ashford (1, p. 51) suggests that, in the transportation department, planning can be placed in either an equal-status division or an advisory staff agency. There are exceptions to this, of course; Wisconsin has a special staff advisory unit on policy planning in addition to an equal-status division of planning.

Planning is placed in an equal-status division in the functional or mixed organization. The planning division head reports to the chief executive officer in the same way as heads of other line divisions such as highways, aviation, or transit. Placing the planning group in a position equivalent to the line or operating divisions appears to create a strong tendency for line-oriented rather than policy-oriented planning (1, p. 51).

The second type of organizational framework is placing planning in a staff agency that advises the chief executive through administrative channels that differ distinctly from those of the line or operating divisions. The result is that planning focuses more on policy planning (1, p. 52). The advisory planning staff agency is suited to the modal form of organization, but this is not to say that, given proper administrative procedures, policy-oriented planning cannot occur in the functional or mixed form of organization.

The requirements of planning range from goal formulation to detailed physical and environmental planning. Ashford (1, pp. 56-60) classifies planning as policy planning, line or system planning, and project planning and planning research.

Policy Planning

Policy planning leads to coordinated policy decisions that lead to the achievement of a defined set of goals and objectives. Ashford indicates that state departments of transportation can be expected, by the adoption of proper policies, to achieve the following major objectives:

1. Creation of a statewide transportation development plan, setting of goals, and determination of existing conditions (through budgetary and administrative planning procedures, mutually supporting transportation and general state planning goals can bring about resource reallocation);
2. Coordination and centralization of the chief administrative methods of promotion and control, i.e., regulation, licensing, and taxation;
3. Coordination of transportation with economic development by means of aligning transportation policies with those of the principal public instrument of state economic development, the general state plan;
4. Use of policy coordination to recognize the strong interdependence between accessibility and land use (the transportation plan, with other state planning policies, can be used as a prime determinant of land use change);
5. Minimization of statewide transportation costs and maximization of benefits within the context of available state funding (state transportation resources can be assigned to modes according to policies that maximize the impact of investment, subject to provisions of universal minimum acceptable levels of service);

6. Establishment of policy concerning modal investment and networks as they relate to the statewide transportation plan and the general state plan so that the various regional, metropolitan, and local agencies can be provided with a broad framework to which they can relate (under those circumstances, statewide planning is directed from the "top down," and general state goals become feasible);

7. Establishment of policy to supply federal and state transportation funding on a basis that sets overall state benefits above local considerations (areas that might otherwise exhibit minimal transportation needs can receive transportation investments under conditions that indicate that sufficient benefits will accrue to the state as a whole); and

8. Establishment of policy that leads to a more integrated state approach to the 1972 National Transportation Needs Plan and the Evaluation of Urban Transportation Planning Study and to forthcoming federal activity (in turn, federal policy decisions will be more easily made and can be expected to be more productive after the inclusion of state-level inputs).

Line-Level or System Planning

The following are the principal line-level tasks:

1. Collection of data for the determination of modal needs and demands and design of data recording and retrieval systems for that purpose;
2. Overall statewide system planning for a multimodal network, including terminal consideration;
3. Design of the physical integration of networks and the modal balance that is responsive to the demonstrated needs, demands, and resources;
4. Design of unimodal networks that are viable and can operate at optimal conditions separately from other modes;
5. Technical assistance to urban transportation studies and local transportation studies involved with 701 planning to ensure adequate technical quality, compliance with federal and state requirements, and conformity with the needs of interregional movements;
6. Public transportation studies at both the local and the regional level; and
7. Environmental impact analysis of systems.

Project Planning and Planning Research

To tailor transportation facilities to the needs and demands of the public now requires an unprecedented number of design procedures that involve activities normally carried out by planners. Typically, the following are among the areas of detailed planning involved:

1. Scaling individual facilities to demand considerations, which requires coordination between designer and planner to ensure that the scale of the facility reflects the true scale of the demand;
2. Assessing the environmental impact of individual facilities on small areas and communities; and
3. Integrating the planning requirements associated with overall corridor planning for individual transportation facilities in both urban and rural areas.

Planning-oriented research has become an area to which state transportation planners must increasingly give attention. Extensive basic and applied research is required in the area of personal transportation before investment in new modes and technology can be justified. Both the Office of High-Speed Transportation and the Urban Mass Transportation Administration have engaged in extensive research and demonstration programs. The UMTA research program involves widely divergent areas such

as transportation planning and decision-making; economics; marketing and information; social, psychological, environmental, legal, political, and governmental concerns; technology; management; training; and personnel. Line-oriented equal-status divisions have been least responsive to research needs for the minor modes. Consequently, much of the work in this area has been initiated by universities, private enterprise, and research institutions.

EXISTING STATEWIDE TRANSPORTATION PLANNING EFFORTS

A telephone questionnaire was conducted by Dalton·Dalton·Little·Newport in December 1973. A number of questions were addressed to key planning professionals in 27 states, including the 23 that have transportation departments. Responses to selected questions by the 23 states are presented.

<u>Question</u>	<u>Response</u>	<u>Number Responding</u>
1. At what organizational level is transportation systems planning accomplished?	Staff advisory unit level	8
	Equal-status line-level division	6
	Modal division level	1
	Staff advisory unit level with input by the modal divisions	2
	Equal-status line-level division with input from the district or regional offices	4
	Staff and equal-status line levels	1
	Line level with input from the modal divisions	1
2. Are planning functions performed for corridors? By what unit in the organization?	Yes, by system planning unit	14
	Yes, by modal divisions	2
	Yes, by district or regional offices	2
	Yes, by system planning unit and district or regional offices	2
	Yes, by modal division assisted in some cases by system planning unit	1
	No	1
3. Are planning functions performed for projects? By what unit in the organization?	No response	1
	Yes, by central office	7
	Yes, by modal divisions	7
	Yes, by district or regional offices	3
	Yes, by modal divisions and central office	2
	Yes, by districts and central office	3
4. Have changes occurred in the transportation department since it was established?	Added modal divisions, changed organization to mixed and functional types, and placed more emphasis on public transportation	10
	None yet	13
	May shift system planning function from central office to region	4
	May change planning unit functions	7
5. Who is responsible for capital improvement programming?	Central office planning unit or programming unit or both	10
	Modal divisions	4
	Fiscal section	1
	Regional offices	1
	Central office planning unit or programming unit or both and fiscal section	2
	Central office planning unit or programming unit or both and modal divisions	3
	Central office planning unit or programming unit, or both modal administrations, and fiscal section	1
No response	1	
6. Who is responsible for capital budgeting?	Central office staff unit	11
	Modal divisions	1
	Fiscal section	4
	Regional offices	1
	Central office staff unit and modal divisions	1
	Central office staff unit and fiscal section	2
	Modal division and fiscal unit	1
	Central office staff unit, modal divisions, and fiscal section	1
	No response	1

Question	Response	Number Responding
7. Does the transportation department have all the comprehensive skills necessary for planning?	Yes No No response	8 14 1
8. What is the type of planning to which your Action Plan applies?	Statewide system planning and urban transportation planning levels for all modes Statewide system planning and urban transportation planning levels for highways only Statewide system level for all modes All modes in system planning Highway-related planning only Urban transportation planning level for all modes Statewide system planning and urban transportation planning level Statewide system planning level for highways	6 6 2 3 3 1 1 1
9. Is the Action Plan applied at the statewide level, or are there individual implementation plans for each district or region?	Individual implementation plans for various districts or regions in the state Administered statewide No response	7 15 1
10. Does your state have a statewide transportation plan or planning effort under way?	Completed plan Planning effort under way Planning efforts not yet started	5 11 7
11. Will the planning process be continuing?	Yes No response	18 5
12. Will the plan be periodically updated?	Yes, in cycles varying from 1 to 10 years No No response	15 2 6
13. What elements does or will the state plan address?	Urban person travel, urban goods movement, intercity person travel, intercity goods movement, and rural and other small urban areas The above excluding urban goods movement The above excluding rural and small urban The above excluding urban and intercity goods movement The above excluding urban goods and rural and small urban Urban and rural and small urban person travel Urban person travel only No response	10 2 1 2 1 2 1 4
14. What modes or traveled way are or will be covered by your statewide transportation planning effort?	Highways Urban public transit Aviation Railroads Intercity public transit Ports Water transportation Terminals Pipelines Trucking Other modes including bicycle paths, pedestrian trails and paths, rural public transit, car pooling, and park-and-ride at freeway interchanges All modes	20 19 18 16 15 14 13 10 9 9 8 6
15. Have you established or will you establish a policy committee for statewide transportation planning?	Yes, membership includes both department and other state officials Yes, membership limited to department officials No, except transportation board or commission No response Governor's office has direct input to the policy committee Legislature has input to policy committee	7 4 7 5 9 6
16. Have you established or will you establish a technical advisory committee for statewide transportation planning?	Yes No No response	11 8 4
17. Do you have or will you have a citizen advisory committee for the overall statewide planning process or any modal elements?	Yes No No response	6 13 4

<u>Question</u>	<u>Response</u>	<u>Number Responding</u>
18. Have there been or will there be other types of citizen input in the planning effort?	Yes	8
	No	6
	No response	9
19. Have you formed or will you form modal advisory groups to aid the planning effort?	Yes	8
20. What external relations exist with other agencies in transportation planning?	Coordination with planning, environmental, economic development, natural resource, fiscal, or other state agency, or local or regional agency in land use, fiscal, or resource planning that relates to transportation planning effort	15
	No coordination effort	7
	No response	1
21. How has state planning effort been or is anticipated to be funded?	Federal	
	FHWA, FAA, and UMTA (mostly at urban level)	10
	FHWA and UMTA	1
	FHWA and FAA	2
	FAA only	1
	FHWA only	3
	No federal funding	1
	State	
	Transportation revenue sources only	7
	General fund sources only	2
General fund and user revenue sources	5	
No state funding	4	
No response	5	
22. Has a short-range plan been produced, or will one be produced?	Yes	18
	No response	5
23. Is the short-range plan or will it be in the form of a transportation capital improvement program?	Yes	15
	No	3
	No response	5
24. Has a long-range transportation plan been produced, or will one be produced?	Yes	16
	No response	7
25. What is the nature of the plan?	Produces either system or systems recommendation by mode	7
	Presents policies, programs, and systems alternatives with or without recommendations	9
	No response	7
26. Does or will the plan include an implementation schedule?	Yes	10
	No	5
	No response	8
27. Does or will the plan recommend new funding?	Yes	8
	No	6
	No response	9
28. Does or will the plan recommend legislative changes for implementation?	Yes	8
	Do not yet know	6
	No	4
	No response	5
29. Has the plan or planning effort affected any changes?	Yes	12
	Not yet or no response	11

Question 1 did not address the level at which policy planning is performed. After a review of state transportation department organization charts and various other material submitted by states, the author surmised the following for 19 states:

<u>Level</u>	<u>Number</u>
Separate staff advisory unit outside the administrative direction of the planning division administrator	1
Division of planning and a separate division to carry out the function	7
Planning division, but no separate staff unit was created	2
Not performed at all	9

Responses to question 7 indicated that the following disciplines were in demand: environmentalists, economists, sociologists, and biologists. Furthermore, responses indicated that other disciplinary skills were available from other state agencies and that the various transportation departments have retained consultants and university people to supplement existing staff.

None of the states responded to question 20 by indicating that a total statewide development planning program was under way, i.e., a comprehensive development plan that included overall state goals and objectives and was a coordinated multistate agency plan for development, transportation, recreation, statewide facilities, and the like. This may be due to the way the question was asked, for the author is aware that in Rhode Island the planning division in the transportation department assists the state planning agency in preparation of transportation elements of the long-range state guide plan.

Changes mentioned in responses to question 29 included the following: response is now made to urban transit needs, commuter rail, small urban area transportation needs; a basis exists for resource allocation; financial recommendations are made; interdepartmental coordination is better; regional area is strengthened as decentralization occurred; recommendations are less political and more rational; plan has effected better decision-making; capital improvement program is being carried out; short-range resources have been defined and capital improvement program is more realistic; and chief executive receives policy direction.

ISSUES AND PROBLEMS

The purpose of this section is to define issues, explore the questions that must be considered in issue resolution, and relate existing practices that may give direction toward that end.

Subclassifications chosen for internal issues and problems in statewide transportation planning include implementation of plan funds for the statewide transportation planning program, regional versus centralized approaches, position and structure of the planning function, characteristics of the planning division, federal direction, and internal direction of the transportation department.

Subclassifications for external issues and problems relate to implementation, coordination with other planning groups, coordination with citizen groups, coordination with the private transportation sector, federal involvement and direction, goal setting, and total state development plan concept.

Internal Issues and Problems

Implementation

The issues with regard to the role of the planning unit in promoting the results of the planning effort are as follows:

1. To what degree should the planning unit participate in promoting the plan to the transportation department executive officer? To the state administration? To the legislature? In a hearing process to the citizenry and regional and local public officials? In mustering other state departmental support? In preparing summary plan reports and brochures?
2. Should the planning unit recommend policy, technical, or citizen committees to direct and advise the planning effort or to frame alternatives early in the planning process? Should the state Action Plan provide for this coordinating mechanism?
3. Should the transportation department contain a public affairs, citizen involvement, or public relations division to aid in the plan approval process, or should the planning unit contain this expertise?

The issues with regard to the role of the planning unit in capital programming and capital budgeting are as follows:

1. Should the planning unit develop goals and objectives and the related priority-selection criteria that can aid in programming and budgeting?
2. After the statewide planning effort, should the various modal divisions prepare a list of permanent improvement needs that can serve as a catalog of improvements for programming? Should this be developed as part of the planning effort with the full involvement of the modal divisions?
3. Should the planning unit work closely with the fiscal and modal divisions in capital programming and budgeting? What should be the role of each? Should the fiscal division undertake long- and short-range financial planning and projection, the planning unit prepare priority selection criteria and communicate basic plan recommendations, and the modal divisions supply lists of permanent improvement needs for ranking by the planning unit? What should be district or regional involvement? Should either the planning unit, fiscal division, modal division, or districts have sole authority for capital programming or budgeting?

The role of the planning unit in carrying out the state Action Plan at the system and corridor levels and in the location, design, and construction phases of transportation development is as follows:

1. How should the planning unit, modal divisions, and regions or districts be involved?
2. Should there be an Action Plan for each district or region of the state, and should this set the direction for the structuring of the statewide transportation planning effort, i.e., regional versus centralized approach?
3. Should the U.S. Department of Transportation establish or direct all states to develop multimodal action plans from planning at the system level through construction? Should the U.S. Department of Transportation, as part of this directive, standardize procedures for preparing environmental impact statements and conducting public hearings for all modes in support of statewide intermodal planning?
4. Should the states publish 5- to 7-year capital improvement programs to provide all units of government with an expression of statewide transportation development intent so that local financial resource planning and priorities can be established to ensure facility implementation?
5. Do different federal funding ratios for different modes of transportation bias the results of multimodal transportation plan recommendations and thwart intermodal development? Do state revenue earmarking and modal participation have the same effect? Should these considerations be studied by a policy planning staff unit and direction be supplied to system planning efforts? Should the federal government establish single matching ratios for all forms of transportation improvement?

Funding for the Statewide Transportation Planning Program

1. Should federal funding be available for all forms of transportation in statewide systems planning (e.g., highways, rail, transit, aviation, waterways, and pipelines) for all elements of the program (e.g., urban, intercity, and rural person and goods movement)?
2. Should planning for certain modes or travel ways be supported totally by state resources?
3. Does lack of federal planning funds for facilities such as railroads and ports cause planning efforts to be less than multimodal?
4. Is earmarked funding at the state level producing the same effect? Should planning funds, regardless of the source, be applied to a complete examination of all modes that move people and goods throughout the state?

Regional Versus Centralized Approaches

1. Do the structuring of the state Action Plan and the regional or statewide implementation set direction for a centralized or regional transportation planning effort?
2. Can a properly organized regional effort and the interaction mechanism established produce results that stand a better chance of implementation because of the individuated nature of the approach? Would the process be more participatory than a centralized effort? Would it offer a better opportunity not only for district involvement but also for existing urban transportation planning process input?
3. Should intercity person and goods movement and rural plan elements be addressed on a centralized statewide basis and urban person and goods movement on a regional basis? When should these come together for coordination of alternatives and recommendations?
4. Should the approach and organizational structure of other state agencies provide direction for the structuring of the statewide transportation planning process?
5. Should the size of a state and its number of urbanized areas dictate whether the approach is regional or centralized?
6. In a regional approach, should the regional or district offices have the same organizational structure or professional disciplines as the central office? Should policy planning be carried on by the central office only, and system planning and facility planning be carried on by regions or districts with direction and advice from the central office? Would there be a difficulty in securing the required technical expertise at the regional level?
7. What type of organizational structure should be formed for policy, technical, and citizen committees? Would representatives of each of these committees at the regional level constitute statewide policy, technical, and citizen committees?
8. Would goals and objectives be developed for each region and blended into a statewide goal and objective statement?
9. Should the central office planning unit establish guidelines for the statewide effort so that all regions move consistently and uniformly in the event of a regional approach? Would this ensure that planning results could be combined? What intersection must occur between the central office and districts to ensure comprehensiveness and timing of effort?
10. Should a regional approach be organized in such a way as to effect a blending of transportation and land use planning?

Position and Structure of the Planning Process

1. Should multimodal systems planning be established as a separate staff advisory unit? Would the lines of administrative communication between the chief executive and this unit be different from those between the chief executive and the modal or operating divisions? Should they be? Would this offer greater potential for policy planning?
2. Should multimodal systems planning be established as an equal-status line division? Would this offer a structure that neglects or provides for cursory examination of policy planning considerations? Are those modal divisions with the most resources likely to control policy development and thwart intermodal development?
3. Should modal system planning be the responsibility of the various modal administrations? Should there be a staff advisory unit to blend these efforts into a multimodal plan?
4. Should policy planning, system planning, and facility planning be accomplished by the same planning unit regardless of its status as an advisory, equal-status, or modal unit?
5. Should policy planning, system planning, and facility (project) planning and research be considered different functions and be distributed throughout the organization? Should policy planning for all modes be in a staff unit, system planning for all modes be in a line unit, and project planning and modal technology research be in modal or operating units? What administrative procedures are required to coordinate these

functions at the various levels?

6. Are there modes whose planning needs support this type of structuring? Do highways and aviation need system planning, and transit, railroads, and waterways need policy planning (especially those private modes that impact the state transportation system)? Can policy, system, and facility planning be applied at the same scale for all modes in one staff division?

7. Can one structural form be recommended for all states?

8. Should there be an environmental unit or research unit or both to ensure that environmental requirements are met in system and facility planning, or should these disciplines be located in the system or facility planning units? Should research be a function carried on in each of the modal divisions? How can this research be brought to bear on planning multimodal systems?

9. Should administrative procedures ensure that all levels of planning are coordinated or have input into the statewide transportation planning effort?

10. What kind of organizational unit should concern itself with problems like the current energy shortage?

11. What steps can be taken to instill modal development?

Characteristics of the Planning Division

1. What kinds of disciplines are required for policy planning?

2. What kinds of disciplines are required for system planning?

3. What kinds of disciplines are required in facility planning?

4. Are present transportation departments overstuffed with highway specialists?

Is there a need for more transportation generalists and modal specialists to ensure integrity of multimodal approach? Should retraining educational functions be provided at the state or federal levels?

Federal Direction

1. Should the federal government publish directives or guidelines that relate to organization and program content for statewide transportation planning as was done for urban transportation planning?

2. Should these guidelines be developed by all the federal administrations so that planning specifications are uniform?

3. Should the Intermodal Planning Groups in each federal region address statewide transportation planning as another step in ensuring coordinated statewide and urban transportation planning efforts?

Internal Direction of the Transportation Department

1. Should a policy committee be formed by pulling together representatives from existing boards or commissions that set policy under separate modal administrations?

2. Should attempts be made in the formulation of a state transportation department to combine these separate boards or commissions in one transportation board or commission?

3. Should each modal agency that has responsibility for developing internal plans and programs subject these plans and programs to a review by all other modal agencies?

4. Should the transportation department have a chief administrative officer who is responsible for ensuring that vertical coordination exists among construction, design, and facility, system, and policy planning?

External Issues and Problems

Implementation

1. To what degree should external interests be involved in promoting the implementation of the plan, assisting in the passage of necessary legislation, assisting in the adoption of necessary funding mechanisms, or assisting in the adoption of new revenue sources that may require voter approval?
2. Would plan implementation be easier if the planning unit worked with external groups like the other state, regional, and local agencies; citizen groups; special interest or lobbying groups; and representatives of the private sector who provide transportation services?
3. Should the legislature be involved in a special legislative subcommittee for the statewide transportation planning effort? Would this develop ownership in plan results? Would a regional approach toward plan development have more of an impact on the legislative subcommittee?
4. Should the plan have an extensive review by other agencies? How much time should be given for this review?
5. Should parts of the external organizational structure be maintained after the initial planning effort to assist or advise on priority programming or capital budgeting?

Coordination With Other Planning Groups

1. Should relations with other state, regional, or local planning agencies be formal or informal in plan development? Should there be a written agreement with other state agencies to indicate responsibilities in developing the statewide transportation plan?
2. Should other state agencies review the plan, alternatives, and recommendations before the plan is selected and adopted?
3. Should the state administration direct that a state development plan be produced, in which transportation is one element, and that all affected state agencies assist in its development?
4. Should the work program of the urban transportation planning groups (regional and local agencies) be expanded to include elements such as goods movement, railroad rationalization and efficiency, and terminals? Should the state or the federal government, through its planning guidelines, direct this modification?
5. Should there be a statewide policy and technical committee composed of transportation officials and representatives of other state agencies, including finance and public service or utility commissions that have regulatory responsibility, and regional transportation comprehensive planning agencies?
6. Should agencies of the federal government be involved at the technical committee level? Should they sit at the policy level in an ex officio capacity?

Coordination With Citizen Groups

1. Should a citizen group be established during the planning effort to advise on plan development, formulation of alternatives, goal ranking, and plan selection? Could the state Action Plan provide for this involvement mechanism and set the areal structure?
2. Should citizen groups include users and suppliers of transportation service for both person travel and goods movement, lobbyists, and special interest groups?
3. Should public hearings or other information meetings be held in various parts of the state early in the planning process to receive recommendations to guide the planning effort?

Coordination With the Private Transportation Sector

1. What relations should be developed with the private transportation sector for both person and goods movement?
2. Should professionals representing the planning interests of these groups be involved in the technical effort?
3. Should these groups be represented on separate modal advisory committees?
4. Should the state public utility or service commission responsible for regulation of common carriers be on modal advisory committees?

Federal Involvement and Direction

1. How should the federal government be represented on statewide transportation planning committees?
2. How would federal transportation revenue sharing proposals affect the role of state transportation planning units?
3. How would federal reorganization proposals affect state transportation planning activities?

Goal Setting

1. Should the committees assist in establishing goals and objectives?
2. Should the setting of state transportation goals involve other state agencies?
3. To be sure that the interests of communities, regions, and users and suppliers of transportation are served, should they be involved in establishing goals, objectives, performance measures, and evaluation criteria?
4. Are goal statements too vague to be employed in the planning process? Will objective and performance measures reduce vagueness?

Total State Development Plan Concept

1. In addition to transportation, what elements should a total statewide development plan address?
2. As transportation department issues infringe on issues of other state agencies and vice versa, is a total statewide development plan necessary to ensure comprehensiveness of effort?
3. Would goals and objectives developed under this concept call for the total coordination and involvement of all state interests in plan development?
4. Would this approach link land use and travel demand considerations, provide for comprehensive analysis of transportation problems such as rural public transportation, bicycle trails, pedestrian trails and paths, rail abandonment proposals, regulatory practices of goods and person movement modes, and use of state school buses?
5. Would this concept provide direction to state resource allocation?
6. Can comprehensive planning be carried out effectively at the state level?

RECOMMENDATIONS FOR IMPROVEMENT

Internal

Implementation

1. There should be on the chief executive officer's staff a planning unit that aids in

establishing and executing policy for the department and is primarily responsible for the developing plans and programs. The unit should house or direct those department-wide activities related to planning that permeate the department, encourage the implementation of the systems plan, and participate in all activities that aid in the implementation of the plan.

2. The staff-level planning unit should work with any other state planning units and with policy, technical, advisory, and citizen committees.

3. The planning unit should develop priority-selection criteria and rank improvements in capital programming and budgeting. It should work closely with the fiscal unit in long- and short-range financial planning and with the modal divisions or subdivisions in cataloging permanent improvement needs.

4. The U.S. Department of Transportation should establish requirements for the states to develop a uniform action plan for all modes and to develop a statewide unified work program.

5. The planning unit should be heavily involved in the system planning level, share responsibility for location or corridor planning, have some involvement in design, have minimal responsibility in construction and operation, and have some input into regulation of transportation.

6. State transportation capital program of 5 to 7 years should be distributed to external agencies and be part of a statewide capital improvement program.

7. Federal transportation funding programs should encourage a balanced transportation system and not favor certain modes.

Funds for the Statewide Transportation Planning Program

Both state and federal planning funds for system planning should be provided from a fund that offers no earmarking so that multimodal planning is encouraged. The U.S. Department of Transportation should take the lead in this revision by providing planning money from other than the modal administrations and requiring matching money in the same manner.

Regional Versus Centralized Approaches

Flexibility needs to be encouraged so states can use techniques best suited to their size differences. State action plans should reflect this approach, and every attempt should be made to carry this strategy through all phases and levels of planning.

Position and Structure of the Planning Function

1. Policy planning should be carried on by a separate staff advisory unit.

2. Systems planning may be accomplished by a line or staff unit, but the staff unit is preferred.

3. Project planning should be carried on by modal divisions in a mixed or modal organization and by operating divisions in a functional organization.

4. Recognition of different planning requirements for less developed modes should be taken into consideration when planning units are established.

Characteristics of the Planning Division

In general, there should be modal specialists on the planning staff.

Federal Direction

The federal government should publish flexible planning guidelines that states can apply in organizing statewide transportation planning. Federal procedures for planning and implementation should be standardized for all modes.

Internal Direction

Every attempt should be made in the organization of state transportation departments to combine previously separate boards and commissions into one policy advisory unit. In any event, a policy committee with representatives of each pertinent board or authority should assist the chief executive officer in directing the planning effort. Interagency or division review of plans and programs should be mandated by the chief executive officer.

External

Implementation

There should be a statewide development plan that coordinates and involves all state agencies and departments in goal setting, plan preparation, plan selection, and plan implementation. There should be a policy committee composed of the chief executive officers of each department, the governor's office, and, perhaps, legislators. Great care should be taken to consider the mechanisms necessary for implementation early in the planning process.

Coordination With Other Planning Groups

There should be a technical advisory committee formed with subcommittees on all elements of the plan including one on transportation.

Coordination With Groups

A citizen committee should be established for the planning effort with a central committee for statewide approach or regional committees for a regional approach (representatives from each region would form a statewide committee). The committee should include representatives from all special interest groups and be formed before any planning effort or technical work begins.

Coordination With the Private Transportation Sector

There should be advisory groups for each mode to permit the interests, views, and recommendations from those elements to be considered.

Federal Involvement and Direction

The federal government should be represented at all levels in the planning organizational structure. A special intermodal planning group subcommittee is recommended for federal participation. The federal government should ensure continuity of direction in any federal reorganization.

Goal Setting

All committees should take part in establishing statewide development goals, including transportation goals.

Total State Development Plan Concept

A total statewide development plan concept best allows a state to move in unity and with full coordination of health, education, welfare, transportation, recreation, and other statewide systems, facilities, and policies.

SUMMARY

About organizing for statewide transportation planning, Ashford (1, pp. 61-62) says:

It would seem that neither the policy level nor the facility and research planning level can be omitted if the principal goal of improved resource allocation combined with technical innovation and environmental improvement is to be attained. Under these circumstances it would appear that state departments of transportation should move towards transportation planning at the staff level to carry out both advisory and operational planning, while retaining, certainly for the foreseeable future, a level of planning at the level of the equal status divisions to insure sufficient innovation and attention to the needs of the more neglected modes.

A dual level of planning of this type is already in effect in Wisconsin, where policy planning is located in the Office of the Secretary and operational planning is carried out by the Division of Planning as an equal status division. With such a two-tier structure, the advisory staff level can insure that the operational planning division devotes sufficient attention to modal research and modal innovation. As DOTs mature, it is likely that they will move to a planning organization structure that more closely resembles the Wisconsin form and what has been described as a "second generation DOT." As the degree to which the newly created state departments of transportation reach the goal of balanced transportation investment depends greatly on the efficacy of transportation planning, care must be taken to tailor the organizational structure to the wide range of planning considerations.

In the telephone survey, the following comments were received regarding the best type of organization for statewide transportation planning: All states are different, and no form is best; modal specialists are needed in system planning; planning head should enjoy deputy or assistant director status; staff-level unit is needed for policy planning, and a line-level unit is needed for systems planning; functional organization is preferable; regional planning staffs should report to the central planning office staff administrator; planning should be responsive to the chief executive office; planning should be a policy staff function and not report to modal administrators; planning division should be responsible for multimodal planning; fiscal policy formulation and planning should be under one administrative officer; and regional approach that ties regional plans together is preferable.

The following methods are recommended for determining how to organize to carry out a statewide transportation planning program:

1. Establish a fixed planning program that is fully multimodal and includes policy and system planning and then determine the best structure to accomplish the program;
2. Use a fixed planning program model to examine a number of transportation department organizational structures that locate planning at various levels in the structure and determine how each organization would execute the planning program;
3. Analyze transportation department organizational structures that locate planning at various levels in the organization and determine what system planning these organizations could effectively carry out;
4. Compare the results of the above 3 methods;
5. Prepare a paper on the successes and failures of present systems planning efforts and the relations of such efforts to organizational structure;
6. Continue research into the advantages and disadvantages of regional versus statewide planning approaches; and
7. Establish national goals and objectives for interagency involvement to accomplish systems planning.

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