

# A FRAMEWORK FOR SYSTEM PLANNING PROCESS DESCRIPTION

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In response to increasing process-oriented federal directions, such as the FHWA process guidelines, this paper proposes a definition of system planning in process terms. System planning is the collection of planning institutions, funding sources, and programming procedures that interact with society continuously to produce transportation policy and investment decisions over time. The paper then presents a framework for describing the system planning process, which operationalizes this definition. The paper concludes with a description of the system planning process in California in terms of this framework.

●IN THE PAST FEW YEARS many major highway projects proposed by state highway agencies have encountered serious public opposition. When opposition first appeared, highway planners believed that improved highway design would satisfy community demands. Since then it has become clear that many interest groups object as much to being denied a role in the decision-making process as to the actual decisions. In other cases, opposing a highway project is the only way a community can publicly deplore the exclusion of effective transit planning from the decision-making process. In short, the process by which transportation decisions are made has become a major transportation issue in America.

The federal government has taken a leading role in building process consciousness. The Federal Highway Administration (10) has realized that earlier and more thorough community participation in highway planning cannot simply be demanded of the state highway agencies. Participatory planning is in fact only possible when significant changes are made in the state-level decision-making process. Although the FHWA process guidelines do not challenge the restriction of many state gas taxes to use on highways or demand institutional changes, they do require early involvement of citizen groups, consideration of a wide range of impacts, and consideration of the "do-nothing" alternative.

Partly as a result of the guidelines, the design of the decision-making process at the state level is in a state of flux more today than at any time since the 1956 Federal-Aid Highway Act. Legislatures are considering new regional transportation institutions, highway agencies are developing corridor studies, and in Washington, D.C., the Highway Trust Fund has at last begun to provide a dribble of transit money.

Intelligent modification of existing state-level transportation decision-making processes will be a difficult, confusing, and time-consuming business. At least partly this is because few interested parties, even few highway engineers, really have a clear idea of what constitutes a decision-making process design in transportation. The purpose of this paper is to propose a definition of this process design that is sensitive to the directions changes seem to be taking in American transportation planning. The definition is in the form of a series of components that occur in any decision-making process design at the state level. Let us begin by stating some basic beliefs about the decision-making process.

We believe that transportation decision-making in the United States is dominated by the behavior of large public organizations, such as state highway departments, municipi-

palties, and environmental agencies. These organizations represent many different interests in society from at least the state level down to the neighborhood. Transportation decisions emerge from the maneuverings and negotiations of these system planning institutions (SPIs) with each other, with private groups, and with the general public over time.

We further believe that the behavior of these SPIs, and therefore the decisions they reach, is strongly influenced by the financial and legal structure constraining these negotiations. The transportation system itself is the result of accumulated decisions, and these decisions result from the incentives imposed on the SPI by this financial and legal structure. We can even define system planning as the SPI and the associated structure influencing their negotiations: System planning is the collection of system planning institutions, funding sources, legal structure, and programming procedures that interact with society to produce transportation policy and investment decisions over time.

In our view the decision-making process is the system planning process, and we will use the terms interchangeably. Just as a road can have different curve radii or different lane widths, the system planning process can have different SPIs and different funding sources. Just as different road designs result in different driver behavior, so different process designs result in different types of organizational behavior and decisions. If we could decide on what type of process behavior we would like to have, it might be possible to design actively a process to produce it. A paper by Mead treats this question in more depth (7). Here we merely present the components of the system planning process design, which are implied by the definition of transportation decision-making. After presentation of these components in the form of an abstract framework for system planning, we will describe the process design in California as a case study.

#### COMPONENTS OF SYSTEM PLANNING PROCESS DESIGN: A FRAMEWORK FOR PROCESS DESCRIPTION

The framework for describing the system planning process design consists of a list of components that occur in any process design. The framework operationalizes the definition of system planning given and is designed to facilitate comparison of different system planning process designs, to provide a process description of manageable length, and to isolate those points in the process design where leverage could be brought to bear to change the design.

#### System Planning Institutions

A great many public and private institutions participate in the system planning process. With interest directed to system planning by the public sector, it is expedient to emphasize in the framework those public institutions that actually have legal authority to make transportation decisions. The entire framework is oriented around these SPIs.

Examples of such institutions are the state legislature, transit districts, municipalities, or the state transportation or highway agency. In a state process, these are usually the key SPIs. The framework will often consider SPIs that physically overlap or whose business is not principally transportation, such as municipalities.

Each SPI tends to be responsive to interests in its area, but many respond only to some interests (e.g., chamber of commerce). Some institutions pursue specialized forms or modes of transportation (e.g., airport authorities, highway districts) to the exclusion of others. Different SPIs may have interdependent or independent funding.

The framework chooses to view all organizations and institutions that are not public institutions with legal authority as actors or interest groups, whose participation in system planning negotiation takes place within the SPI acting as a forum for dialogue.

The framework should identify the chief activities of each SPI in the system planning process. Some, such as a department of transportation, will be actively engaged in the programming and construction of transportation links. Others, such as municipalities or an environmental agency, may play the role of reviewer of department of transportation proposals.

In describing an existing process, the framework should also describe which interest groups or factions are represented by each SPI and identify to which interests the SPI

decision-makers are responsive. If decision-makers are elected, or removable by elected officials, they tend to be responsive to pressures from interest groups and not just from their planning staffs. But, if they are appointed over long terms or are not responsible to elected officials, they are usually difficult to remove (often the case with highway commissioners) and less responsive to direct public pressures.

Finally, the framework should note which interest groups have no SPIs to represent them in the system planning dialogue.

### Legal Structure

Many decisions made by SPIs are a function of the influences they exert on each other. But this exercise of power and influence goes on within the bounds of a legal structure of laws, statutes, and agency procedures, which constrain the strategies of the participating SPI. State and national legislatures generally play the major roles in defining the legal structure.

Certain SPIs (environmental control agencies, state DOTs, municipalities) are given review authority over projects proposed by other SPIs in their jurisdictions. In some cases this authority amounts to veto power over proposed projects. In others, review only guarantees the agency's right to include its comments with the proposal (the case with A-95 review agencies). Occasionally, low-level SPIs (e.g., municipalities) have review power over projects proposed by higher level SPIs (e.g., the state or its highway agency). But the most common review powers are the powers of program and budget review belonging to high-level funding agencies such as state highway agencies or the Federal Highway Administration. Often these powers are the major means by which the SPIs influence the decisions of regional or state-level implementing agencies.

Another important component of the legal structure is the authority granted to some SPIs (especially state legislatures and municipalities) to raise taxes for use in transportation system planning and construction.

### Funding and Allocation Structure

Even though it is also obviously defined by legislation, the financial structure of a system planning process seems so important that it is treated separately in the framework. The following components of the structure can be defined:

Funding Sources—In general there are multiple sources of funding available. These funds may result from national or state taxing policies or bond issues or may derive from foundations. Sources are usually controlled by different SPIs, in many cases set up to administer the funds. The framework should indicate the important sources, the controlling SPI, and the approximate annual magnitudes.

Funding Restrictions—A fund may be restricted to use by specific organizations or for specific types of projects. Funds may or may not be available to ameliorate the adverse impacts of projects they pay for. The most notorious examples of restricted funds are the national and state highway trust funds, which are usually restricted to use for building and maintaining highways. Funds may be restricted to use on certain defined systems, such as a state highway system. There may also be minimum amounts that must be spent in a given SPI within given time periods.

Allocation Structure—In many cases, the SPI in direct control of a funding source does not actually spend the money for transportation projects but distributes or allocates the funds to a number of lower level SPIs. Because it determines the nature of the financial incentives operating on the lower level SPI, allocation is an important determinant of the behavior of a system planning process. Allocation generally assigns percentages of the total funds to each of the lower level institutions. These percentages then obtain for a number of budget periods, an interval known as the allocation period.

The most important aspect of allocation for a system planning process is the nature of the allocation mechanism used to divide up the money among competing lower level SPIs. Various methods are possible. Some are based on an analysis by the high-level SPI of programs proposed by the lower level SPI. Criteria for allocation based on programs include

1. Economic efficiency of proposed programs,
2. Benefit-cost ratios of proposed programs, and
3. Maintenance of consistent statewide levels of service across all lower level SPIs.

Allocation may often be based on formulas using socioeconomic data such as population, income, and miles of road. Allocation can also be on a project-by-project basis (essentially the method used by the FHWA in doling out federal aid).

### Process Behavior Through Time

System planning, even when it is directed toward implementation of some ultimate master plan, is in effect a continuous activity. It is always characterized by certain periodic information or resource transfers between the SPIs. These transfers can be said to occur periodically at points in time called milestones. Milestones tend to "drive" the process because they encourage informal negotiation and communication between the SPIs before the actual information transfer occurs. These negotiations become more intense when important projects are reaching the end of important project development phases and when resource transfers are involved. For instance, a budgeting milestone can force planners to try to finish up a corridor study in time to allow budgeting of route location in the next budget period. If allocation is based on proposed programs, an allocation milestone can force an agency to try to finish the projects it said it would complete in the allocation period.

It may be difficult to say with any particular milestone how long or how intense the negotiation and bargaining between conflicting interests are before the actual information transfer; the negotiation may also depend on other factors. Nevertheless, it is clear that the number and periodicity of milestones are an important determinant of negotiations between SPIs and thus of process behavior generally. Possible milestones that might be mentioned in a process description are as follows:

1. The budget milestone (usually annual),
2. The allocation milestone (usually every few budget periods),
3. The process monitoring milestone (requiring the transfer of information giving the status of a lower level SPIs decision-making process from the lower level SPI to some higher level institution),
4. Process review milestones (there may be milestones requiring SPI to report evaluation of the structure of their system planning process to other institutions), and
5. Political elections.

The milestones imply periodic information flows between SPIs. The framework should list these formal transfers. A chart or diagram of process information flows constitutes perhaps the best one-page process summary.

### Programming and Project Development

In many ways investment programming procedures are the heart of the process design. They dictate how most of the money gets spent in state highway agencies. Often they are not completely available on paper because of the political sensitivity involved in choosing major public projects.

Programming Procedures and Documentation—The framework should describe the procedures by which projects get into the programs of the SPI and how they evolve over time. Programming documents should be noted for their insight into how projects are chosen for development and formed into alternatives.

Criteria for Project Programming—The framework should note the criteria used by an SPI in deciding which projects to program. Some of these will be explicit, others implicit. Examples are benefit-cost ratios, political pressure, or predicted demand estimates and community acceptability.

Application of Resource Constraint, Programming Horizon, and Future Uncertainty—The framework should stipulate how (if at all) the reality of finite resources enters programming, how far ahead each SPI programs, and how it deals with future uncertainty. A related datum is the discount rate (if any) employed by the process.

Budgeting Documentation—Budgeting usually grows out of programming with the budget request bearing a strong relationship to the first year of the program. Budgeting of lower level SPIs by higher level SPIs normally takes place annually. The framework should explicate the structure of the budget enough to make clear the extent to which the proposed program and its projects (both planning and implementation) are "visible" within the budget request. The framework should also report the extent to which proposed projects are dependent on decisions by other SPIs or general "community acceptance": How much conditionality and future uncertainty are visible in the budget request?

Project Development Phases—These allow extended project development to be subdivided into shorter pieces that can be scheduled more easily in terms of the process periods and milestones. One or more planning phases (e.g., corridor study, route location) are usually followed by right-of-way acquisition and implementation. In case of controversy, an SPI may define study design phases to precede the project development phase. In evaluating a process design, the planning phases (including studies) are actually more important than the right-of-way and construction phases.

Important project milestones, such as public hearings and agreements between local jurisdictions and the implementing agency, usually occur at the end of the project development phases. Veto powers may relate to the right of review by a given SPI of the results of a particular development phase. For instance, a city may have veto power over the results of a detailed design study by virtue of veto power over implementation.

### Process Monitoring and Process Review

Process Monitoring—Process monitoring is a term for ways in which SPIs review the character or quality of the decision-making process in the short run. It usually takes the form of process guidelines levied by one SPI on another. These guidelines specify rules for decision-making, such as early involvement of interest groups or use of interdisciplinary design teams. The FHWA's process guidelines are one example of process monitoring. The key to monitoring effectiveness is periodic checkup by the levying SPI backed up by some kind of effective incentive or threat such as curtailment of funds if the guidelines are not obeyed.

Process Review—This is a term for mechanisms the process may have for changing itself in the long run. Conceptually, at least, a system planning process might have built into it the capability to review and redesign itself to meet changing needs; process review might be institutionalized as a formal periodic activity. This capacity for periodic process review is very important, and the framework should mention it where it exists. Unfortunately, process review and change only occur in most present process designs in response to a crisis such as the freeway revolt or the environmental crisis.

Process review is generally done by a high-level SPI, such as the state legislature or DOT. Elements of the process design that might be changed in process review include

1. Project development phases,
2. Size of and restrictions on funding sources,
3. Spending minimums in a given SPI, and
4. Allocations mechanisms.

### Support Models

Impact prediction is a major activity of transportation planning. Impact prediction and display models can have significant impact on the process through the assumptions they make about the world. Whatever these assumptions are, they inevitably bias both the predictions and people's views of the world. General information should be provided by the framework as well as more detailed information about transportation flow models, land use prediction, and other impact prediction models.

Included in general information are some of the following questions:

1. What is the range of impacts for which prediction tools exist? Do techniques exist for predicting both user and nonuser impacts? Which impacts?
2. How are prediction tools adapted to the needs of decision-makers? Are predic-

tions at a level of detail appropriate to the SPI using them? Is "turn around time" reasonable?

3. Are predictions a function of policy variables where appropriate?
4. Do prediction models give estimates of uncertainty in their predictions?

Network flow models should address the following questions:

1. Is the analysis multimodal?
2. Does flow prediction incorporate concepts of supply-demand equilibrium? Does trip generation depend partly on level-of-service variables delivered by the network (e.g., supply-demand equilibrium)? Does assignment treat network capacity as an input (capacity restraint) or as an output (uncapacitated assignment)? Are there feedback loops to facilitate level-of-service consistency at each step of the flow prediction: trip generation, trip distribution, modal split, assignment?
3. Are multiple level-of-service variables used in predicting demand (e.g., in and out of vehicle time, out-of-pocket and non-out-of-pocket costs)?
4. At what levels of detail does the process perform flow simulation: system-wide, corridor, subarea?

Land use prediction models should deal with the following items:

1. Is land use (traffic generator) prediction ad hoc, or are prediction models (land use models) used to some degree? Which models?
2. Are land use predictions partly a function of levels of service on the transportation network?
3. How far ahead are land uses predicted?
4. What land use, if any, "drives" the prediction (i.e., is predicted exogenously and assumed to cause development of other land uses)?

With other impact models, the framework should note the existence of models or techniques for predicting the following impacts:

1. Noise levels,
2. Air pollution levels,
3. Effects on local tax base and real estate values, and
4. Effects on local circulation patterns.

When display aids are used, the following questions should be answered:

1. What sort of display aids are used in meetings? In hand-outs?
2. What levels of detail are used?
3. Do displays encourage interest groups to participate?
4. Is the system planning process itself displayed? Do interest groups understand the decision-making process? Does the process display who the decision-maker is, when the decisions affecting them will be made, the points of view of other institutions with respect to a particular decision, and its own legal and institutional structure?

#### Informal Process Structure: Role Perceptions of the Planning Staff

We have discussed the formal structure of the system planning process design. We believe this structure is a major determinant of the behavior of planners working for the major system planning institutions of the process. It produces for them a set of roles to be assumed, a set of negotiation games to be played according to certain rules in arguing project decisions. For example, a city mayor is likely to be more interested in local transportation problems than in the general statewide performance of the transportation system. A state highway engineer is likely to emphasize state-level impacts over regional impacts because he is a state, not a regional, employee. A mayor will be easier for a state DOT to negotiate with if he has no local veto power over state projects. A highway district allocated funds based on a formula using socioeconomic data will not try so hard to sell roads as one whose allocation is based on a proposed construction program.

This informal process structure is often the most visible part of the process design

to citizens involved in highway decisions. Interest groups may perceive a condescending, even arrogant attitude in a highway engineer and fail to see the dedicated funding sources he is trying to spend or the traffic flow predictions he is trying to maintain.

The formal structure of the process helps produce the planner's role perceptions and behavior, but these are also strongly influenced by the planner's own internalized professional standards and beliefs. A planner who believes in "optimum" system design and the desirability of growth and progress will probably behave differently from one who believes in the sacredness of the community's opinion and desires.

Even though they are explained partially by the formal process design, it is important to include an assessment of planners' role perceptions in the framework description. This is especially important for the chief implementing or funding institutions, such as state highway agencies. Role perceptions are evidently a major determinant of process performance.

### TRANSPORTATION SYSTEM PLANNING PROCESS IN CALIFORNIA

The transportation system planning process in California offers a useful case study for the framework presented. The California process is perhaps the largest state process in America, spending almost \$1 billion a year in state and federal money. Its formal process structure is more complex than that found in most states. It is a process encountering and responding to severe problems. In the research in several states necessary to produce this framework, the regional agencies and the California Department of Transportation stood out as institutions of unusual competence.

The California process is described as of September 1971. Changes since that time include the creation of a state DOT and regional planning agencies for transportation in each region entrusted with the creation of a new multimodal state highway plan. The FHWA guidelines will result in still more changes. The description is based on extensive contact with the California system planning process, directly both through field trips and through M.I.T. staff working on contract research in California. An intensive search of relevant documentation was also performed. The description contains only the essentials of the process design in the interest of brevity. More detailed descriptions are available.

#### System Planning Institutions

1. The legislature establishes state transportation funding such as the Highway Users' Tax Fund (HUTF) and State Highway Fund (SHF), the 16,000-mile state highway system, and the freeway and expressway system within the state system. The interest groups represented are statewide lobbies such as the highway lobby, the Sierra Club, and local and regional interests who fail to gain access to the process at lower levels. The responsiveness of decision-makers is good.

2. The highway commission controls expenditures of the SHF. The interest groups represented are probably prohighway groups. The responsiveness of decision-makers is poor.

3. The division of highways is responsible for building and maintaining the state highway system with the contents of the SHF. The interest groups represented are state-level road interests and also regional and community interests failing to gain access to the process at the highway district level. The responsiveness of decision-makers is poor.

4. The highway districts are regional agencies of the Division of Highways who perform all planning, programming, and construction on the state system. The interest groups represented are real estate developers, mayors, and highway interests, and responsiveness of decision-makers is poor.

5. Among the councils of government are the Association of Bay Area Governments (ABAG) in the Bay Area, Southern California Association of Governments (SCAG) in Los Angeles, and the Comprehensive Planning Organization (CPO) in San Diego. The interest groups represented are pro-urban planning, antihighway, and environmental groups. The responsiveness of decision-makers is good.

6. The transit districts such as the Southern California Rapid Transit District in Los Angeles and the unusually powerful Metropolitan Transportation Commission (MTC) in San Francisco receive some state money from the new sales tax for transit.

7. The counties and cities receive direct grants from the HUTF for use on "select systems" of local highways. They negotiate exact location and design of state highways with the districts. The interest groups represented are development interests and community and neighborhood groups. The responsiveness of decision-makers is good.

### Legal Structure

1. The legislature establishes gas and license taxes contributing to HUTF and reviews and revises master plans for the state highway and freeway and expressway systems. Master plans define links at the corridor level. The legislature also establishes gas taxes contributing to state transit funding.

2. The highway commission reviews division programs such as the multiyear financial plan (MYFP) based on district multiyear program proposals (MYPPs) and budgets, performs allocation of SHF to districts, and issues procedural guidelines to the division.

3. The division reviews district programs (planning program and MYPP) and budget and issues procedures to districts.

4. The district must obtain route adoption agreement from town and counties through which a proposed state highway passes, setting detailed corridor location. The district must then obtain the freeway agreement from these bodies based on a review of detailed design before it can close local roads for construction. The power to withhold the freeway agreement represents a local veto. Recent changes require a third agreement milestone, the cooperative or corridor agreement, which terminates a new corridor study phase, at least in urban areas, and precedes the route adoption agreement.

5. The regional MTC in the Bay Area reviews all transportation projects in its region and has veto authority over all transportation projects not deemed of statewide importance by the highway commission. Established by state law, MTC has compulsory membership of counties and towns in the Bay Area. MTC coordinates closely with ABAG.

6. ABAG, SCAG, and CPO have A-95 review power in their regions.

### Funding and Allocation Structure

1. Among the funding sources, HUTF is based on gas and license taxes. Half of the fund goes to towns and counties in direct grants and half goes to SHF. State transit funding is based on  $\frac{1}{4}$  percent sales tax on gasoline and is allocated directly to counties. Federal funds are available at various matching ratios for state roads (Interstate, aid to primary and secondary roads program).

2. In terms of funding restrictions, all counties but two in the mountains must receive at least \$4 million over the allocation period of 4 years. These are defined as county minimums. SHF and federal program funds may be used for highway construction only. District programs must also satisfy district minimums as defined by allocation.

3. According to the allocation structure, allocation of direct grants from HUTF to cities and counties is by formula using socioeconomic data. Allocation of state transit funding is by formula using socioeconomic data. Sixty percent of SHF is allocated to Southern California and 40 percent to Northern California based on legislation. Within the north and the south, allocation of 70 percent of SHF is based on relative needs of the districts. Needs are based on flow model predictions of system size necessary to maintain statewide levels of service or average speed for each functional classification of roadway. This calculation determines district minimums over 4 years. The remaining 30 percent of SHF is allocated at the commission's discretion. The allocation period is 4 years.

### Process Behavior Through Time

1. Milestones include budgets (district and division requests) on an annual basis, programming (MYPP, MYFP, planning program) on an annual basis, needs study and allocation (every 4 years), and recommended changes to state highway system (to legislature every 4 years).



2. Information flows are as shown in Figure 1.

### Programming and Project Development

1. District programming is based on a needs study (based on model predictions of capacity required to maintain specified statewide levels of service on various classes of facilities and on local desires). District programming develops planning program containing 8 to 12 years of new construction and MYPP, sent annually for division review, containing 6 years of construction and programs for maintenance and local assistance. Division programming combines MYPPs from districts into MYFP, the division's program, for annual commission review. Budgets are handled similarly.

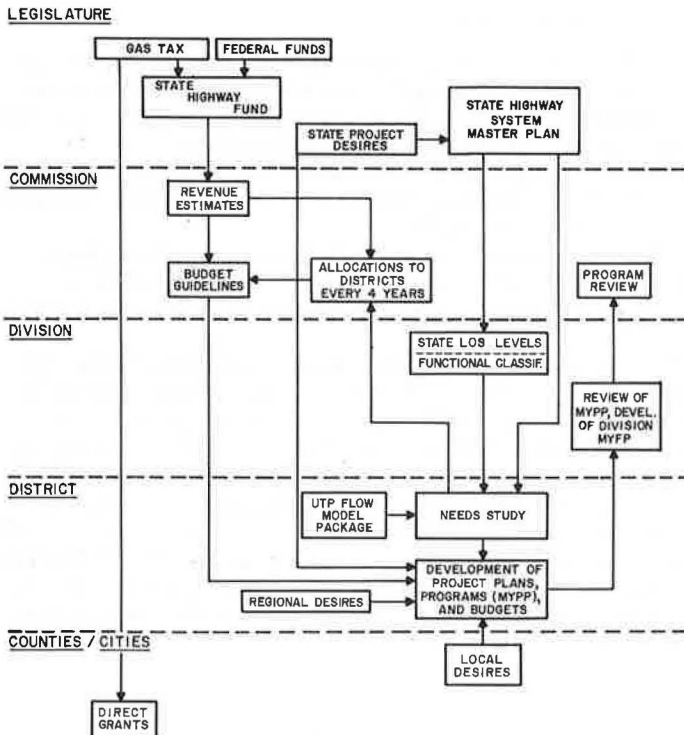
2. The criteria for project programming include credibility of need as given by the network flow model and interstate status and county and district minimums.

3. Resource constraint is applied after project sizing and location decisions have been made. The programming horizon is 8 to 12 years. There are no explicit consideration of future uncertainty and no discounting procedures.

4. In budgeting documentation, the budget is submitted in program form containing programs for maintenance and operations, improvements, local assistance, and general support. New construction dominates improvement programs and represents 75 to 80 percent of the entire budget.

5. Project development phases (and associated milestones) include a corridor study (recently added, ends with "cooperative agreement" between districts and cities containing the proposed corridor), route study (ends with route adoption), mapping and basic design (ends with freeway agreement), right-of-way acquisition, and construction.

Figure 1. Simplified information flow of the California system planning process.



### Process Monitoring and Process Review

1. No systematic review or monitoring of the process exists.
2. Responses to present difficulties include community interaction units operated by the right-of-way division of the districts, new corridor study, and special planning policy for the coastal zone containing Calif-1.

### Support Models

1. Network flow models deal with automobiles only (but transit mode soon to be included), no dependence of trip generation on level-of-service variables, 24-hour trips, and uncapacitated, "all-or-nothing" assignment to the network with link sizes as an output of the model.
2. Land use models include data for trip generation calculations based mostly on local predictions of socioeconomic indicators and work under way in San Diego and San Francisco on implementation of the PLUM land use model.
3. For other impact prediction models, information is not available.
4. Little information is available on display aids.

### Role Perceptions of the Planning Staff

The key planners in the process remain the route planners employed by the Division of Highways and its districts. By and large most of these people define their roles in terms of completing the California freeway and expressway system. This perception demands no explicit reason for involving community groups in decision-making. They believe that political factors should not influence programming any more than necessary.

At the top management levels of the division some role perceptions have begun to accept more community participation. In fact, some of the division staff have adopted a complete "help the community make a decision" role perception. This is also true of the staff of the district- and division-level Community and Environmental Factors Units. California is a land of extremes, and this is evident in the wide range of role perceptions that coexist in the Division of Highways and its districts.

## CONCLUSION

The transportation decision-making process is changing faster today than ever before. This is partly because a wide variety of professional and citizen groups have become as interested in the design of this process as in the decisions it produces. Ultimately, they sense, the process design predetermines these decisions.

The growing concern with the process of reaching decisions finds reflection in recent federal policy such as the FHWA's process guidelines. These guidelines begin to specify what desirable process behavior should be.

Before the highway agencies will be able to respond fully to the guidelines, they need to understand the makeup of a system planning process. Similarly, interest groups, when they criticize highway decision-making, need to understand that the highway department is not the whole process.

The purpose of this paper has been to propose an operational definition of the system planning process that can be used by highway agencies and state governments to display the state transportation planning process design to all interest groups.

It is time that federal agencies such as FHWA and UMTA require process descriptions as part of the state applications for federal funds. FHWA should require complete process descriptions as a follow-on to the process guidelines. State decision-making process designs should be on file in updated form and should be available to all for comparison and review. States should compare process designs the way they compare their populations, economies, and highway systems. Only such open discussions will enable us to make intelligent changes in these designs to ensure that they continue to answer the country's evolving transportation needs.

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