Title
Comparative study of statewide transportation planning under ISTEA

Authors
Rothblatt, Donald N.
Colman, Steven B.

Publication Date
1997

Comparative Study of Statewide Transportation Planning Under ISTEA

Donald N. Rothblatt
San Jose State University and
University of California at Berkeley

and

Steven B. Colman
San Jose State University

Working Paper 97-4

IGS
INSTITUTE OF
GOVERNMENTAL
STUDIES

UNIVERSITY OF CALIFORNIA AT BERKELEY

Comparative Study of Statewide Transportation Planning Under ISTEA

Donald N. Rothblatt
San Jose State University and
University of California at Berkeley

and

Steven B. Colman
San Jose State University

Working Paper 97-4

COMPARATIVE STUDY OF STATEWIDE TRANSPORTATION PLANNING UNDER ISTEA

by

Donald N. Rothblatt
San Jose State University and
University of California at Berkeley

and

Steven B. Colman
San Jose State University

PRELIMINARY DRAFT

A Paper for presentation at the
Association of Collegiate Schools of Planning Conference
Fort Lauderdale, Florida

November 1997

ABSTRACT

One of the important feature of the 1991 Intermodal Surface Transportation Efficiency Act (ISTEA) was the requirement that states develop transportation plans and programs for all sections of the state, coordinated with metropolitan planning efforts and fulfilling the state's responsibilities under the Clean Air Act Amendments of 1990. States must undertake a continuous planning process, create a statewide transportation plan (StTP), and develop a Transportation Improvement Program (TIP) to be reviewed by the US Department of Transportation (USDOT).

The purpose of this study is to make a comparison of the California state transportation planning process with those of a representative sample of states engaged in such planning and to suggest models that have been used successfully in preparing each of the state plan elements required by ISTEA. In total, 18 states were selected to provide a balance of geographic location, size, and other factors. The state's planning process and documentation were compared in terms of the past history and current progress in statewide transportation planning, approaches toward addressing the transportation impacts of land use decisions, methods/degree of citizen involvement in the process, the project evaluation process used, and the databases available in each state to support evaluation.

The methodology first involved a comprehensive literature review supplemented with an examination of the state transportation planning documents from a sample of 18 states engaged in such planning. This was followed by telephone interviews of responsible SDOT staff involved in state transportation planning.

This study reports on the findings of these interviews and of a comparison of key features of the state planning documents. In addition, the results from this study provides guidance for improving the transportation planning process that would be very useful to transportation planners and policy-makers in California and all other states performing statewide transportation planning.

I. INTRODUCTION

A. PURPOSE OF THIS STUDY

One of the important features of the 1991 Intermodal Surface Transportation Efficiency Act (ISTEA) legislation was the requirement that states develop transportation plans and programs for all sections of the state, coordinated with metropolitan planning efforts and fulfilling the state's responsibilities under the Clean Air Act Amendments of 1990. States must undertake a continuous planning process and develop a Transportation Improvement Program (TIP) to be reviewed by the US Department of Transportation (DOT). Among the factors that must be considered in the state plans include:

- Transportation needs identified through the six new management "systems" (including congestion management) -- pavement, bridges, safety, congestion, public transportation, and intermodal systems.
  (These systems were made optional in 1995).
- International border crossings and access to ports, airports, intermodal transportation facilities, recreational areas and military facilities.
- Access between metropolitan areas inside and outside the state.
- Recreational travel and tourism.
- The social, economic, energy and environmental effects of transportation decisions.
- Congestion relief and prevention
- Methods to expand and enhance transit services and ridership
- The effects of policy decisions on land use
- Where appropriate, the use of innovative financing mechanisms such as tolls and congestion pricing.
- Methods to enhance the movement of commercial vehicles

ISTEA is the first law in which the federal government has mandated statewide transportation planning. Many of the requirements for the state planning are similar to those for metropolitan areas, with some differences and a few additions reflecting the roles of state department of transportation (SDOTs). The requirement has created a certain amount of difficulty, because of the lack of 'models' to follow in this process. Local governments have been in the business of preparing circulation elements, long-range transportation plans, and similar documents, for many years. But at the state level, the process has been less formalized. Many states have treated lists of projects (capital improvement programs) as the "state transportation plan."

The purpose of this study is to compare several different states' transportation planning processes. In total, 18 states were included to provide a balance of geographic location, size, and other factors. The state's planning process and documentation was compared in terms of the past history and current progress in statewide transportation planning, approaches toward addressing the transportation impacts of land use decisions, methods and degree of citizen involvement in the process, the project evaluation process used, and the databases available in each state to support evaluation and project selection. The methodology included a comprehensive literature review supplemented with telephone interviews of individuals involved in statewide transportation planning. The product is this report that, it is hoped, will be useful to transportation planners in California as well as in all states performing statewide transportation planning.

B. LITERATURE REVIEW AND STATEWIDE TRANSPORTATION PLANNING PRIOR TO ISTEA

The first task in our study was a review of the literature on statewide transportation planning. The University of California's MELVYL system was used to obtain a list of books and articles with the words 'statewide transportation planning,' which yield fewer than 38 useful items. Furthermore, many of the items found are more than 15 years old, and therefore of less immediate relevance. What follows is a review and summary of the relevant literature that was selected from that available.

The available literature on statewide transportation planning Statewide highway plans can trace its roots back at least to the 1890s (Blow, 1920). Industrial development in America created increasing needs for movement between cities, not just within them, and a burgeoning middle class was able to afford (in both time and money) more recreation outside of the city in which they lived. These early state plans often were aimed at horse-powered transportation, but provided the foundations from which motorized state highway systems were to be built later. "Planning" was done in the naive sense of conceiving of a system of roads that would connect all large cities or all county seats together. The plans served two important purposes: first, they provided an assessment and recommendation of the routes that should be adopted and improved by the state highway authority. Second, they served as what today would be known as "visioning" documents: they depicted a future system of state roads that would be safer, better maintained, passable at all times a year and without undue toil. and pleasant to travel. These documents served as a powerful tool to sell the public on what was, for the time, a massive and unprecedented undertaking compared to what the public was used to having the state responsible for. By the 1890s, most large cities had undertaken large public works projects, but the public was accustomed to neither the state nor the federal government being responsible for construction on such a scale.

Rarely did these early plans include financing or programming considerations (other than vague requests for general funds or approval of bond issues), but at least the plan provided a vision of what the world could be like with such a provision of good roads throughout a state. State highway departments, which were generally a division of a public works agency, saw themselves as constructors of these "missing links" between cities, in effect, primarily the builder of rural highways. Because of the long distances involved, the often tortuous terrain, and low population densities, these roads were seldom affordable by rural counties without external financial assistance.

Two events occurred within about ten years of each other that were to drastically change the environment in which these plans existed. The first was the advent of the gallonage-based gasoline tax, first adopted by states in the early 1920s. This revenue source was directly responsive to the use of highways, often dedicated solely to its use through a 'trust fund', and it provided increasing financial support of highways as use began to grow exponentially in the 1920s. The second event was the Great Depression. It had two effects both of which were favorable to public roads. It created an impetus to develop government-supported jobs programs, like road building projects, that could employ large numbers of semi-skilled and unskilled workers. At the same time, the Depression led to a decline in the quality of competing rail services throughout the country. State tax mechanisms, like the gas tax, proved relatively immune to the economic depression, while city and county resources dwindled because of their narrow basis on delinquent property taxes and declining property values. With a stable source of funding, there was a means to pay for a state highway plan; with the Depression, there was the will and political desire to do so.

The 'golden years' of state highway construction are generally conceded to be between 1930 and 1970. Those years saw numerous improvements in roadway design, materials, construction techniques, and vehicles. The rapid pace of construction further necessitated the creation of a master plan, financing, and programming (in what order would the highways be built?). California, for example, developed an elaborate master plan for freeways and expressways in the late 1940s, based on the objective of serving most cities with over 50,000 people with a freeway. The Collier-Burns Act of 1947 provided the financing and legislative authority necessary to implement this system (Jones, 1989).

These early highway plans often included demographic projections, but seldom considered their impact on land use simply because land use controls were under the purview of cities and counties. The state plans would strive to serve the land uses decided upon by local government. The plans were not multi-modal, because public transportation was still (mostly) under private control, and still profitable overall. "For hire" carriers of goods and passengers would be accommodated on the state highways, but on the same terms as other users of the system. Furthermore, the revenue source for highway construction was to be a dedicated "trust fund" of gas tax funds that would be used exclusively for highway construction, not mass transit. This was both a selling point of the original plans, and a key factor in limiting SDOTs willingness in the 1960s and 1970s to engage in multi-modal transportation planning. The state highway departments had been created and funded with one mission in mind.

Urban transportation planning, as opposed to statewide transportation planning, entered a formative stage of development in the 1950s, in part due to the advent of cheap computing power that had not been available before. However, analytical techniques in statewide planning often lagged behind the urban counterparts. There were several reasons why statewide planning was forced to play "catch up" with urban transportation planning:

- The geographic scale of statewide planning makes the acquisition, storage, and analysis of statewide data much more difficult than in urban areas. Even large metro areas often represent a few percent of the total area of a state. For example, few states until recently attempted development of statewide traffic models, whereas in urban areas, travel forecasting models have been relatively common for more than 30 years.

- State planning was often driven by public works departments, who saw the plan as primarily being one of trying to construct routes along the best alignments and at the least cost in order to serve projected traffic.

- General alignments of highways were often determined by legislative fiat, e.g. a highway might be described in statute as "Route Z, beginning in city A and traveling to city B via city C." Although highway planners could certainly influence legislation, this left relatively little room for highway planners in which to work other than in determining specific alignments and number of lanes, since the 'overall transportation policy' had been ordained by legislators.

Planning input to the legislative process was often accomplished through a "highway needs study". These studies, which became formulaic over time, would project state population and motor vehicle growth, develop a functionally classified highway system, an estimate of highway needs based on a traffic volume (and later level of service) criterion; then a long range development program to meet the needs with priorities, and a financial plan to pay for the development program would be prepared (Weiner, 1992). Needed facilities were simply the difference between standards and existing or future conditions.

Absent in the needs studies were consideration of transportation impacts on growth, land use, and the environment; consideration of modes other than highways; and public involvement. Needs studies suffered from the inability to weigh non-user needs against needs of the facility owner and the users (Wegman and Carter, 1972). Even three decades ago, a lack of reliable data (other than of existing demand and safety) was recognized as a serious limitation on statewide transportation planning. Little attention was paid to land use issues and the effects that new technologies or activity patterns could play in the plan.

Public input to the statewide transportation planning process typically involved a single public hearing that occurred late in the project development process. This was later replaced by a two hearing process, a "corridor public hearing" before route location decisions were made (dealing with the need for and general alignment of the highway), and a "highway design public hearing" on the specific location of design features (Weiner, 1992, pp. 81-82). As will be seen, the early planning process differed in a number of ways from the process that was to succeed it in the ISTEA legislation.

By the late 1960s and early 1970s, the rise of the environmental movement was achieving momentum just as highway building was reaching its apex. Statewide transportation planning, particularly in its modal and environmental dimensions, began to receive more attention (Mladinov, 1969). There was considerable public backlash against what was seen as a single-minded state highway program that did not take into account the impacts on people and the environment. The systems approach to planning, in which linkages are stressed, gained in fashion, and was applied to some of the early attempts at true statewide transportation programs.

In the 1970s, increased environmental concerns, reduced real-dollar expenditures, a reduced rate of growth of travel demand (which also yielded slower growth in the gas tax), and the perception that much of the system was complete led to a significant rethinking of statewide transportation planning (Jones, 1979). There was increasing focus on short-term, relatively low cost projects; on considering other modes and "do nothing" alternatives; and on seeking public consensus. The first attempts to consider land use issues in a statewide context were also made.

In California, this yielded two iterations of a statewide transportation plan, neither of which were ultimately accepted by the governor or the legislature (Eckert, 1978).

The 1980s saw a resurgence of public interest (and willingness) to devote funds to transportation. Despite what many saw as a more conservative fiscal approach by government, transportation projects generally fared well in both legislative and voter support. As congestion worsened and the economy boomed, the public seemed more concerned with trying to solve transportation problems by constructing major projects that would improve capacity. In 1990, California voters approved a doubling of the state's gasoline tax. But with increased funding came increased concern by elected officials that the money be wisely invested so as to obtain the best return for the staggering amounts needed for new transportation facilities. This set the stage for passage of the federal Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991, and the president's approval of that bill.

C. REVIEW OF ISTEA REQUIREMENTS FOR STATEWIDE TRANSPORTATION PLANNING

ISTEA made major changes in the way both urban and state transportation planning was conducted. In particular, for the first time statewide (not just urban) transportation planning was mandated. States were required to "explicitly consider, analyze as appropriate and reflect in the planning process products" concerned with 23 planning factors (Federal Register, subsection 450.208). These are paraphrased as follows:

1. Management systems (e.g., safety, congestion, bridge). These systems were made optional in 1995 by the National Highway System bill at the state level.
2. Energy
3. Bicycles and pedestrians
4. Border crossings, international travel, freight routes, national parks and other installations of national importance.
5. Needs of non-metropolitan areas.
6. Metropolitan area transit plans.
7. Connectivity between metropolitan areas.
8. Recreational travel and tourism.
9. Water quality
10. Transportation systems management (TSM)
11. Housing and environmental impacts
12. Traffic congestion
13. Transit service

14. Land use relationships

15. Enhancements

16. Innovative financing

17. Preservation of rights of way

18. Long range needs for person and goods movement

19. Commercial motor vehicles

20. Use of life-cycle costing

21. Coordination and reconciliation of metropolitan and state transportation plans

22. Rural economic growth

23. Indian tribal lands

Each of these factors, for each state, is addressed in Tables 1 through 4. A statewide transportation improvement program (STIP) was required to be developed and Federally approved at least every two years. The STIP was to be consistent with the long-range statewide and metropolitan transportation plans and expected funding, and there had to be opportunity for public comment (Weiner, p. 251). The requirement for the management systems became optional late in 1995 when Congress passed the National Highway Systems (NHS) bill; however, some states had already implemented their management systems by this time, or were planning to complete them even though optional.

For the first time ever, all states were required by the Federal government to prepare statewide transportation plans. This is discussed in greater depth in Section III A. These plans must:

- Be intermodal and statewide in scope, including both people and goods
- Be reasonably consistent in time horizon among its elements, but cover a period of at least 20 years.
- Contain as an element a plan for bicycle transportation, pedestrian walkways, and trails.
- Be coordinated with the metropolitan transportation plans.
- Reference, summarize, or contain short range planning studies.
- Reference, summarize, or contain information on the availability of financial and other resources needed to carry out the plan.
- Cooperate with MPOs and Indian tribal governments (if any) in developing portions of the plan affecting these respective areas.

In short, these changed the emphasis from the previous project-oriented plans, which were really capital improvement programs, to what is considered a "true plan" in the sense of its comprehensive nature, its linkages to related planning issues (like land use and economic growth), and its requirement for coordination between various levels of government in development of the plan.

D. ORGANIZATION OF THIS REPORT

The remainder of this report is divided into three major areas: a description of the study approach and methodology, concerning plan documentation and questionnaire development; a discussion of the survey results and analysis with regard to the state transportation plan; and the institutional roles and relationships of the SDOTs with its external environment. The section on institutional issues deals with agency roles, who pays for the SDOT, control of the SDOT , and citizen involvement. The technical issues section deals with five key aspects of the state planning process, and how they have been approached differently by the 18 SDOTs included in this study. Finally, we conclude with a summary of what has been learned, including some characteristics that appear to be shared by successful SDOTs. We believe that these recommendations could be useful to the California Department of Transportation, to lawmakers considering revisions to the ISTEA legislation, as well as to SDOTs outside California who may be considering revisions to their statewide transportation planning process.

II. STUDY APPROACH AND METHODOLOGY: PLAN DOCUMENTATION AND QUESTIONNAIRE DEVELOPMENT

A. REVIEW PROCESS OF STATEWIDE TRANSPORTATION PLAN DOCUMENTS

We began our study with Phase I during the Fall 1995 by conducting preliminary interviews of the staff of the California Department of Transportation and those of a representative sample of 17 other state departments of transportation (SDOTs) engaged in state planning under ISTEA. In order to provide a balance of geographic location, size and other factors the 18 states included in our study represented virtually every region of the country: Northeast--Maine, Massachusetts, New Jersey, New York and Vermont; Southeast--North Carolina, and Florida; Midwest--Illinois, Michigan, Minnesota, Missouri, and Wisconsin; Southwest--Arizona and Texas; and West--California, Colorado, Oregon and Washington. We also arranged to receive the most recent State Transportation Plan (StTP) for each state.

Our preliminary review of the 18 StTPs and examination of reports of other related studies of state planning, such as the California Statewide CMP/Air Quality Coordination study, provided us with an informative overview about the nature of ISTEA state planning and related issues. Based on this preliminary review, we decided that the best contribution our study could make to understanding the ISTEA state planning program would be by focusing on the following major aspects of StTPs:

- How well have state departments of transportation departments (SDOTs) managed the transition from being primarily highway-construction agencies to full multi-modal transportation agencies?

- How has the public been involved in the development of the state transportation plan?

- How has goods movement -- a relatively new role for SDOTs, been accommodated in the state transportation plan?
- How are environmental factors considered, especially air quality?
- How has information and processes from the six ISTEA management systems been integrated into the transportation planning process?
- What kind of performance measures have been developed in order to make cross-modal comparisons of projects?
- What kind of programs have states developed to assess the impacts of land use decision-making on transportation facilities/performance?
- What resources have been made available for the state transportation planning process?
- What are the institutional characteristics of SDOTs?

Accordingly, we developed an information matrix that described each SDOT with respect to these aspects. First we attempted to complete our matrix from a detailed review of each state plan. This process was helpful in that it familiarized our study team with the activities of each SDOT, but did not provide all the information we needed for our matrix. For example, few state plans provided information about the composition of SDOTs, their advisory committees and annual budgets.

The next phases of our study involved generating a questionnaire which would help us to complete our information matrix and help us to develop and test several hypotheses concerned with the relative success of SDOTs. Tables 1 through 4 present a final version of our information matrix.

B. INITIAL HYPOTHESES AND ASSUMPTIONS

In Phase II (Fall-Winter 1996) we not only determined the data needed to complete our information matrix, but we also identified the output measures of success related to the state planning process as well as the factors or input variables which might influence these outcomes. The measures of success we utilized were based on SDOT staff judgments with respect to:

- overall-effectiveness of SDOT organization to meet objectives
- improved coordination between local governments, transportation and land use activities, and transportation and air quality activities
- degree of cooperation between the SDOT and other significant regional transportation related agencies
- reduction of traffic congestion
- effectiveness of the SDOT process in improving transport mobility and air quality

Based on previous research (Glickfeld and Levine, 1992; Wachs et al., 1993; Donaghy and Schintler, 1994), we determined the factors or input variables likely to influence the desired outputs to be of two kinds. First, there are contextual variables that have important influences on the outputs, but are essentially given for each state and cannot be easily changed. Yet, because of their importance, these variables needed to be accounted for, or controlled, through such techniques as multiple regression or partial correlation analysis (see Appendix D) which tries to determine the influence of each variable while holding the others constant. Examples of contextual variables for each county are per capita income, education (percent college graduates, age 25+ of the 1990 population), total population, population density, number of local governments, and to a somewhat lesser extent, population change, and state highway miles per capita.

The other factors influencing the desired outputs are the characteristics of the SDOT and participating MPOs which can be changed through conscious public policy. These characteristics, or policy variables, include the number of SDOT functions, extent of citizen participation, extent of MPO planning participation, SDOT planning budget, SDOT budget per capita, time used to complete state plan, number of SDOT governing board members, and state highway miles per capita.

Like any serious research study, this work began with a set of expectations and hypotheses by the investigators formed from prior research on and experience with the SDOTs and attending SDOT meetings. The expectations are important because they governed the nature and orientation of the questions asked in the SDOT survey. Some of these expectations were verified by the SDOT interviews, but others were disproved or only partially supported. Among the basic expectations were:

- Generally, we expected that the contextual variables that would suggest intensity of development and growth, such as population, population change and density, would be indicators of congestion and have a negative impact on our output variables; and that measures of socio-economic status such as income and education would be related to successful transport policies and be positively associated with our outcome measures.

- With regard to our policy variables, we expected that the more focused, the more inclusive (in terms of broad consensus building processes), and the more resources available to the SDOTs, the greater would be the desired outcomes. Thus, we expected a negative association between number of SDOT functions and outputs, and positive relationships between indicators of the extent participation and abundance of resources (financial and physical) with desired results as expressed by indicators of SDOT effectiveness.

Some additional specific expectations were that:

- SDOTs would attempt to simplify the process to the greatest degree possible, in order to minimize costs and maximize the impact of available staff resources.

- States would prefer to use existing agencies/institutions (existing prior to 1991) to act as the planning agency, rather than creating a new agency.

C. DEVELOPMENT OF SURVEY INSTRUMENT

Questions concerning each output variable or measure of success were devised and put into the form of a questionnaire schedule. As Appendix A indicates, questions related to these measures of success were designed to yield an ordinal score in accordance with semantic differential scales (where one equals "poor" or "strongly disagree", and ten equals "excellent" or "strongly agree").

Generally, questions involving the input variables were devised employing scales similar to those used for the output measures of success. In addition, questions concerning missing data for our information matrix and questions of an exploratory and open-ended nature were included in the questionnaire.

During Phase III of our study (Winter 1996), the questionnaire was constructed, pre-tested and revised. The pretest involved interviewing several SDOT senior staff as well as the staff of air quality districts and regional transportation agencies. Their feedback was very helpful for improving the final questionnaire. In Phase IV (Winter-Spring 1996), the structured questionnaire was administered by telephone to all the SDOT Transportation Planning Directors or their designates. Each interview required about one hour to complete.

D. RESULTS OF SURVEY INSTRUMENT

After the data were collected, scores from questions concerning each variable were entered on computer files for tabular, graphic and statistical analysis in Phase V (Spring 1996). First, simple correlation coefficients were computed in order to make a preliminary examination of the relationships between variables. This procedure also acted as a technique for screening out input variables with marginal influences on dependent variables. Other statistical techniques, such as t-tests and analysis of variance were used to test differences between mean scores of sub-groups of the SDOTs (e.g., high density vs. low density states). Partial correlation coefficients were employed primarily to test for expected relationships between input and output variables in the entire sample. In some cases, multiple regression analysis was used to test the combined impact of the input variables expected to influence each output variable.

Because of the exploratory nature of this study, only tentative expectations of the relationships among the variables examined were used and thus two-tailed t-tests of significance seem most appropriate. Of course, it is recognized in the social and other applied sciences that it is desirable to obtain at least a 95 percent probability of no error due to chance ($p<0.05$) before granting any theoretical importance to the relationships uncovered. However, in order to call the attention of the reader to potentially important areas for future research, results are reported with a somewhat lower 90 percent probability of no error due to chance ($p<0.10$).

III. INTERVIEW SURVEY RESULTS AND ANALYSIS

This chapter discusses and interprets the results of the oral surveys done with the state DOT staff. We have tried to stay as true to the staff response as possible. However, the reader should keep in mind that in a question involving judgment (such as ranking or rating), the item will represent only the opinion of the respondent, and not necessarily others in her or his agency. Secondly, in the interests of conserving space, responses have sometimes been shortened (though in all cases we attempted to keep the sense of what the respondent said). This chapter is divided into the five major sections of the questionnaire (see Appendix A):

- Previous plans and activities
- SDOT roles and responsibilities
- Planning issues and the statewide transportation plan document
- Data sufficiency and analytical tools
- Resource requirements

A. PREVIOUS PLANS AND ACTIVITIES

Table 5 shows the result of the interview questions relating to previous statewide plans and activities. ISTEA appears to have stimulated a new round of state transportation planning updates, since every state but one reported adopting their plan in the period 1994 to 1996. One state (New York) had not yet adopted its plan at the time of the interview (Spring 1996). The median time since the last plan had been adopted was about five to seven years, although several states reported that they had not had a prior plan (of course, they may have had a programming document like a STIP, that the respondent did not consider a statewide plan). California's previous plan was found to be the most out of date, although extensive planning state planning activities had been undertaken in the 1970s (Eckert, 1979).

Most states reported that their new planning efforts were somewhat or completely different than the prior adopted plans. In particular, they cited additional emphasis on multi-modalism and public participation in the planning process. Several states also noted a different emphasis on financial aspects of the plan, such as developing new funding sources or making the plan fiscally constrained.

A factor that had not been expected is that ISTEA also has prompted states to update their plans more frequently than in the past. Most states reported that their plan would be updated in the next three years, in contrast to the four to seven years that elapsed since the last update. It is unclear as to whether this may mean that the plans are being accorded a more important place within the overall operations of the SDOT, but it indicates an ISTEA-induced change from past practices.

B. SDOT ROLES AND RESPONSIBILITIES

SDOTs have several roles and responsibilities. In general, the number of roles and responsibilities has been increasing. The purpose of this section of the interview was to elicit responses about current roles, organization, and attitudes about statewide transportation planning since ISTEA.

Table 6 shows the results of the questions asked in this section of the questionnaire. Nearly all states have assumed multi-modal responsibilities; only Florida and New Jersey were identified as being "traditional" highway agencies (although New Jersey DOT also performs airport planning). "Traditional" agencies were those that performed highway planning, programming, design, construction supervisor, and maintenance functions. Multi-modal agencies were those that handled transit modes (urban or intercity, including rail). The agencies identified as "MM+" also did other "non-traditional" multi-modal planning, such as air or water ports. It should be noted that there is no implication here that "more is better"; indeed, later in this report, we discuss some of the correlations between other variables and the number of SDOT functions performed. In some cases, more functions do not imply better self-evaluations. However, it is likely that in preparing a multi-modal plan, an agency that has multi-modal responsibilities may be able to do a better job, since it is not relying upon the concurrence and actions of third-parties to the plan.

Governing boards of MPOs were found in half of the states surveyed; in the other states, the SDOTs were governed by a single director or commissioner. Independent governing boards and commissions were found to be exclusively in the West, except for Texas and North Carolina. All other states reported either an executive commissioner or other cabinet level personnel, rather than an appointive board of non-professional commissioners. This may be an historical artifact of the "good government" movement of in the first few decades of the century (So, 1988). Western states tended to be more affected by this movement, which sought to depoliticize some of the basic administrative functions of government (and the political machines that had dominated them in the late 19th century) by placing them in the hands of non-professional, non-partisan appointees. This movement also fostered the creation of independent city and county planning commissions, rather than direct planning control by elected officials.

The median number of board members found was seven, and the mean was 8.8 members. The range includes Texas with three commissioners, and North Carolina with 23 commissioners. One of the authors' initial hypothesis was that new ISTEA requirements might cause SDOTs to form new advisory committees or task forces to address the new needs. This hypothesis proved to be false, as most survey respondents indicated that their committee structure pre-dated ISTEA, or were motivated primarily by the need to develop a new state transportation plan, and not specifically because of ISTEA.

Overall, most respondents felt that the current statewide transportation planning structure and process was serving their agency reasonably well, with a mean score of 7.5 and median of 8 (where one represents "poor" and ten represents "excellent"). In the following discussion, we have grouped the responses as follows: responses of 8, 9, or 10 were grouped as "strongly agree"; 6 or 7 were "agree somewhat"; 3 or 4 were "disagree somewhat"; and less than three were "strongly disagree" or very poor.

Most agencies believe that the planning process since ISTEA has improved the coordination between different local governments in their state, with a median score of 6.5. Almost 45 percent of the respondents strongly agreed with this statement. There was a slightly stronger belief that planning process had succeeded in making a closer connection between the planning activities of MPOs and the state, with a median score of 7.0, and a third of the respondents strongly agreeing with the statement. The results were somewhat less congratulatory with respect to land use planning: when posed with the statement, "Our planning process has succeeded in making a closer connection between transportation and land use decision making in

our state," the median score was only 5.0, and less than a quarter of the respondents (22.3 percent) strongly agreed with this statement.

With respect to air quality planning, the self-evaluations were more favorable. Thirty-nine percent of the respondents felt that the planning process had made a closer connection between transportation and improved air quality. Surprisingly, many respondents were tepid about the effects of the plan on reducing traffic congestion: less than 12 percent said that the planning process had succeeded in reducing (or potentially reducing) traffic congestion in the state, with a median score of only 5.0 (neutrality). The only states to strongly agree with this statement were Oregon and New Jersey. This question may have been too speculative, since the decisions and actions as a consequence of plans (not the plans themselves) that succeed in reducing traffic congestion.

States reported anywhere from one to 25 metropolitan planning organizations (MPOs) in their state, with Florida and Texas having the largest number of MPOs[3]. All states reported good or very good (self-score of seven or higher) MPO cooperation in the preparation of the State plan, with a median score of eight. Two states did not answer this question.

Responses varied greatly in terms of what agencies would do to improve the structure or function of the agency (question B.11), with no one issue standing out. Two SDOTs indicated that improved relationships between planning and programming decisions would help the SDOT; and two indicated more public participation was desired. Other responses (sometimes more than one was given by a single agency) include:

- make funding decisions less political
- provide more vision in the plan
- grant the formal statewide plan staff with clear jurisdiction
- lessen mistrust within departments
- make better use of the ISTEA management systems in the plan
- provide more multi-modalism in the plan
- give more regional/corridor level planning
- place more emphasis on rural areas
- generate better performance measures
- give SDOT districts[4] greater authority
- increase staff preparedness for ISTEA mandates

C. PLANNING ISSUES AND THE STATEWIDE TRANSPORTATION PLAN DOCUMENT

Section C of the oral survey covered questions regarding problems facing the state, maintenance of the seven ISTEA management systems, what respondents felt were the best and weakest features of the plan, and whether the plan was subject to environmental analysis (since several states have environmental quality laws that go beyond or are different from the National Environmental Policy Act, or NEPA). Some of the key questions are summarized in Table 7, with a full report of the responses to the questions in Appendix B.

When asked about the current issues facing their state, funding and maintenance of the existing system (which are really related issues) were mentioned most often by SDOT staffs. In fact, it was surprising that these were not mentioned by more states. Other issues of concern

were transportation/land use relationships (and attendant issues having to do with growth); and management of congestion on the state highway system.

Twelve of the states responding indicated that they planned to maintain all of the ISTEA management systems in some form, although not necessarily to the federally mandated standards. This was surprising to some degrees, since it was assumed that due to the expense involved, many states would abandon the programs altogether. The 2/3 affirmative vote indicates that most states view these information systems as being valuable to their basic planning and operations functions, not just superfluous requirements imposed by federal legislation.

Five states indicated that they had subjected their plans to some form of environmental analysis, albeit sometimes in geographically limited areas. This represented less than a third of the states interviewed. These states involved were generally those with the most severe mobile emissions problems, or states in which there has been a high level of environmental activism (e.g., Washington and Wisconsin). The fact that a formal environmental analysis has not been performed does not mean that environmental factors were not considered in the preparation of the plan, of course.

D. DATA SUFFICIENCY AND ANALYTICAL TOOLS

The purpose of this section of the questionnaire was to obtain information on the kinds of databases used in the preparation of the plan and methods of analysis. Most states reported having traffic count databases available (question E1.). Table 8 reports on the results of the important questions in this section.

Half the states (nine) reported obtaining their population and employment forecasts from other state departments, such as state departments of finance or planning. The next most common source of basic demographic data was the census and/or MPOs within the state. A few states (Oregon, Vermont) reported generating their own demographic forecasts internally for this purpose.

Seven states (just over 40 percent of our sample) reported having a statewide travel demand model of some type, even if crude. This includes California, Florida, Michigan, North Carolina, Oregon, Vermont, and Wisconsin. Nearly all of these models are for the purpose of forecasting vehicular traffic only; two states reported having multi-modal models, and one of these apparently produces person-trip estimates of travel without assigning them to a specific mode. Multi-modal models at the state level are costly because of the need to incorporate inter-city travel modes (AMTRAK, air, bus) beyond the intra-urban modes normally considered. Some states have developed specialized models for particular projects, but these are often corridor-oriented (e.g., high-speed rail studies have been conducted in Florida, California, and Texas in recent years, to name a few states).

Only five states reported using the Census Transportation Planning Package (CTPP) as part of their most recent statewide planning process, although some expressed an intention to use the CTPP in the future. The CTPP is a specialized tabulation of the so-called "long form" questionnaire of the census sent to approximately one-in-six households nationwide. Among other things, the long form provides information on the commute characteristics of workers, such as origin-destination and mode of travel data, that is not available from any other source. The Census Bureau, with US DOT funding, has provided statewide tabulations so that data is available for commuters between metropolitan areas, which is often difficult to get from

traditional travel surveys. The CTPP's primary limitation is that it includes the journey to work only, and offers no information on trip linking (also known as "trip tours") that is useful in transportation planning. The CTPP provides the home and work location of an employed person, but this must be factored appropriately to estimate the number of trips on an average weekday (because of absenteeism and people who do not work five days per week). These factors introduce uncertainty when trying to develop actual trip flows for planning purposes.

There is a two-fold value to the CTPP. First, it provides a sample size that is orders of magnitude greater than typical travel surveys (compare the one-in-six average sample size to a recent California travel survey that covered just one in 800 households statewide). Second, urban and metropolitan surveys typically consider only trips beginning at a highway "gateway" to the metropolitan area. The CTPP retains the full detail of the commuters' place/city of residency for inter-metropolitan flows, which are becoming increasingly important as workers commute longer distances and the edges defining metro areas blur.

The absence of CTPP use may be attributable to a number of factors. One is that the CTPP processing was behind schedule, and for many areas not available until 1993/94, which some respondents noted was too late for use of in their plans (even though they might have liked to use it). In any case, it is somewhat disappointing that given the effort put into the CTPP by both the US DOT and the Census Bureau that greater use could not be made of the data. It's worth reiterating that SDOTs indicated that they planned to use the CTPP information in their future planning activities, and since many plan updates are likely in the next few years, the information could prove valuable.

The next question considered reconciliation or comparison of state- or locally generated population forecasts with those produced by the Census Bureau or Bureau of Labor Statistics (BLS). Such a reconciliation might not be important internally for state planning, but certainly would be for assessing national needs in an even-handed way. Surprisingly, only a little over half of the states indicated that such a reconciliation or comparison had been made. The survey question may have suffered from some misinterpretation, because some state forecasts might have already been reconciled (possibly even without the knowledge of the SDOT) by another state agency. However, it was surprising that more states had not taken this simple extra step to assure the reasonableness of the basic demographic forecasts. In part, this could also be due to disagreements between the states and federal sources over the appropriate growth figures, but the usual method of handling such differences would be through (as a minimum) an explanation of the cause of the difference, and more desirably, with a sensitivity test.

Most states reported having used some type of formal performance measure or standard within the plan; only two (New Jersey and Texas) reported that their performance measures (PMs) were still under development. Traffic level of service (LOS) was the most common PM used. Six states (about a third) said they used traffic LOS, transit measures, and multi-modal accessibility standards. Three more states indicated they used traffic LOS only; two states said traffic and transit measures; and two others expressed a reliance on traffic and accessibility standards.

The most desired data not available for the plans was freight data, which was mentioned by six states; followed by information from the ISTEA management systems that was not yet available (three states); and by better forecasts (presumably of traffic, but possibly of revenues), mentioned by three states. One state mentioned the desire for a statewide GIS; another for information on their aviation system; and another for more information on local road needs. The

complaint about the lack of freight data is not new, but has become louder as planning requirements have increasingly sought to include goods movement as part of multi-modal transportation planning. Because of the proprietary nature of virtually all goods movement, and the difficulty of collecting accurate freight data in a disaggregate manner, there are relatively few sources of reliable and useful data for this purpose. The Census Bureau's Commodity transportation Survey is of limited help because it lacks geographic detail (e.g., California is divided into only six areas). This is the one area that might be considered by SDOTs for improvement, as described in the Conclusions section of this report.

E. RESOURCE REQUIREMENTS

Resource requirements for developing the statewide plan may vary for a number of reasons. Among these are the size and complexity of the state, the amount of prior statewide planning that can be built upon, the amount spent on public participation, prevailing labor costs, and other factors. Our working hypothesis was that the cost of the plan (normalized to a per capita basis) would increase with the population of the state, i.e., there would be a non-linear relationship between cost per capita and population.

Interpretation of the meaning of the plan's cost per capita was further complicated by the fact that different states accounted for the costs of plan preparation differently. Fifteen of 18 states indicated that the planning effort had been organized as a separate task unit, with individuals most often assigned to it on a full-time basis. Consultants did not seem to be widely used, except to help with a few specialized elements (such as freight). Most SDOTs appear to have handled the public outreach and participation with their own staff, as well.

The median time to complete the plan was 18 months, with a mode of two years (reported by five agencies). The range was from five months to three years. Agencies indicated that public participation was allowed throughout the planning process, with a median of 18 months also being stated for this purpose, although the mode was slightly lower (18 months, vs. two years for the plan overall). Most respondents (two-thirds) did not feel that more time should have been allowed for the plan, with a third desiring more time.

About two thirds of the states (12 SDOTs) provided information on the cost of preparing their plan. As noted, this estimate was complicated by the fact that staff are sometimes "borrowed" from other divisions within the SDOT, or several divisions may be responsible for preparing different elements of the plan. Of the 12 states, the reported cost of preparing the plan ranged from $150,000 to $3 million. The median figure was $1.00 million, with a mean of $1.11 million.

When normalized to cost per capita, there was still a fairly wide spread in the costs. The cost per thousand population varied from about $25 to more than $380. Most states fell between $75 and $200 per thousand population (i.e., 7.5 and 20 cents per capita).

The expected hypothesis of increasing cost per capita with increasing size was not reflected by the available data (which were missing from some key states, like Florida). It appears that there may be some economy of scale impacts that outweigh the factors noted in our initial hypothesis. Also, larger states (like California) often have large, on-going planning programs that can be used to provide baseline information for the plan and a context for its development, thereby reducing the cost of the actual plan preparation. Smaller states may have had to 'start from scratch' more often, thus increasing their cost of plan preparation. Hopefully,

this information will prove useful to states in budgeting future major updates of their statewide transportation plan.

IV. INSTITUTIONAL ROLES AND ANALYSIS

A. THE EVOLVING ROLE OF THE STATE TRANSPORTATION DEPARTMENTS: HISTORY AND PRESENT

The role of SDOTs continues to evolve in four key areas toward greater:

- Analysis of the environmental impacts of documents
- Inclusion of transit, freight, and non-motorized modes
- Reliance on quantifiable measures of transportation system performance and more sophisticated analytical tools
- Consideration of land use/transportation relationships

Although only a quarter of the states indicated that they had subjected their plans to environmental review, there is at least anecdotal evidence that such reviews are increasing. Several states have had their own environmental review laws since the 1970s, and even in states without such laws, respondents indicated that environmental impact factors were considered. Legislation such as the Clean Air Act Amendments of 1990, as well as citizen pressure, has created an increased impetus toward such review. State DOTs will probably find it necessary in the future to perform increased environmental impact assessment of their plans, particularly in the areas of land use, air quality, noise, biota, and water quality impacts.

The evidence from this study suggests that SDOTs have also been able to successfully adapt their plans to include a multi-modal perspective, including both freight and passengers. However, this role continues to be confusing, for two reasons: first is that fact that SDOTs rarely have the direct operational authority for urban or intercity transit systems, unlike their direct control over the state highway system. For that reason, the state plans tend to be a synthesis of other available plans, rather than a document that can be used to guide future decisions about transit in the state. The state plan may have use in guiding decisions about state funds used to support public transportation improvements and operations in a state, however.

Second, states are noticeably stymied in the freight area by both the lack of available data on exiting freight movements, or of analytical tools to project future freight and vehicle demand. Though it is only a hope, there may be greater cooperation between freight transportation providers and SDOTs. For example, in the San Francisco Bay Area, a goods movement advisory committee made up of private industry members, Caltrans, and other interested parties was formed only a few years ago. The future may see increased MPO or state level interest in collecting quality goods movement data, particularly at a geographic level that approximates that which is typically found in urban passenger travel demand models. Such a level of detail would certainly only be available if the private providers are willing to assist with it.

States also seem to have already made surprising progress in developing multi-modal performance measures. Although traditional traffic level of service continues to be the most commonly used measure, improved data bases (such as embodied in the ISTEA and other management systems) are likely to result in increased reliance on transportation performance measures that can lead to improved decisionmaking. Transportation geographic information systems (GIS) are likely to make the storage, retrieval, and analysis of this data easier and widely accessible within (and outside) the SDOT. States like Michigan have been pioneers in this effort.

More states also appear to be developing mathematical models to project travel demand into the future. Although widely used at the metropolitan level since the 1960s (and even earlier in some pioneering cities), these models can be used to more objectively evaluated alternative plans, to project travel needs and the appropriate facilities to serve those needs, and to evaluate the benefits of competing projects.

There may be a time in the not-to-distant future when land use and growth projections can also be tied into these models, as they are beginning to be at the urban and metropolitan level.

Until recently, the role of the states in local land use decisions has been relatively restrained and has consisted primarily of protecting access to state highways and providing enabling legislation to allow local governments to exercise control over land use. Prior to the 1960s, many transportation professionals viewed their responsibility as being one of developing physical improvements to the transportation system that would serve whatever land use plans the local governments might select, adopt, and implement.

State involvement in land use decisions affecting highways dates back many decades. The original rationale for such involvement was to protect access to state highways and assure that state highways primarily functioned as a conduit for longer-distance trips rather than property access. By the 1930s it became clear that there was a fundamental conflict in the two highway functions of mobility and access. States have also played an important role in the planning and funding of high-speed, high-performance highways, and in many cases, have provided local governments with financing for non-state roads as well. This approach set the foundation for state involvement in local land use decision-making.

The recognition of the important relationships between land use and transportation was relatively slow to evolve at the state level (in contrast to the urban/metropolitan level), although federal law provided impetus to this trend in 1962 with the passage of a new Federal Aid Highway Act. Besides requiring a "continuing, comprehensive, and coordinated" (3C) planning process, the law also required that federal highway funds be used, "... in the development of long-range highway plans and programs which are ... formulated with due consideration to their probable effect on the future development of the urban area..." (Weiner, 1992).

The evolving role of the states in local land use planning, and especially the assessment of impacts on the transportation system, can be seen as a natural outgrowth of transportation systems management programs. In the 1970s, funding shortfalls, inflation, a reduced growth rate in travel, and a changing public perception of the highway building program all led to an emphasis on better management of existing facilities, rather than on major new additions to capacity.

The late 1960s and early 1970s also saw the passage of federal and state environmental quality laws. Advocates argued that man-made changes to the environment could have wide-ranging impacts. This awareness had evolved from the classic notion of a nuisance. Similarly, there was a growing realization that although major land use decisions were almost always made by local governments in the U.S., the traffic impacts of such decisions were often experienced regionally. Thus, it was realized that these local governments were creating external costs that were being ignored in the land use decision-making process. In this process, state transportation departments were mandated to integrate their transportation planning activities with the development actions of local governments.

Today, while there is renewed interest in solving urban traffic congestion, there is also the perception that, in some cases, the problems may be bigger and more costly to solve than the public is willing to accept. This dilemma has naturally led to a questioning of whether the one-way relationship -- land use decisions driving transportation decisions -- is a practical and affordable one. By altering land use decision-making to fit available and affordable transportation facilities and capacities, the reasoning goes, traffic congestion can be reduced. There is new emphasis on balancing land use and transportation as part of "growth management", by allowing new development to occur consistent (or concurrent) with the ability of the infrastructure to keep pace with growth.

At a fundamental level, land use/transportation relationships involve questions of the degree to which government should regulate the development of private land. The concept that land use decisions should be supported by transportation plans and that land use changes could be made with little direct and explicit consideration of transportation consequences has become too expensive to maintain and has therefore become unacceptable. During the 1960s and 1970s urban transportation planning techniques were refined sufficiently to project and make use of the direct relationships between land use developments and transportation demand. Trip generation survey data and travel forecasting models began to provide valuable, specific feedback for land use planning.

1. Access Control to State Highway System

Access control is the genesis of state involvement in land use and transportation planning and is still reflected in many of the programs discussed in this paper. It is the basis for justifying state involvement in land use decision-making, a topic that has typically been viewed in American politics as primarily a matter reserved to local governments. A summary of the key features of seven state programs can be found in Colman, 1995.

A common thread connecting these programs is that they place increased emphasis on meaningful performance measures (like level of service) as the indicator of multi-modal transportation system performance, an emphasis on protecting the function of state highways in carrying through-trips, and on developing methods to fairly assess new land development for the costs of traffic impacts. Even if one discounts countervailing trends, SDOTs have come a long way from the first third of the century when they were primarily builders of rural highways.

2. Changing SDOT Functions

Before the ISTEA effort, every state in our study had some form of organization to coordinate and conduct transportation planning. Of these, 16 or 80 percent, had previously developed a state transportation plan. Of these, however, only 9 or 56 percent were multi-modal in nature. These early plans were given a moderate average success score of 6.2 out of 10.0 in our questionnaire.

When the State Transportation Plans (StTPs) were established, virtually all SDOTs began to absorb the newly created planning process required by ISTEA. While no new agencies were created to implement the state planning requirements, ISTEA clearly impacted the nature of the planning process, as 13, or 72 percent, of the SDOTs in our study indicated a significant increase in the degree of intermodal planning as a result of federal requirements. In fact, when asked how well the new planning process changed the old one a moderately high average score of 7.2 out of 10.0 was registered by the SDOT staff. When asked about the degree of success of the new planning process to serve the current SDOT goals, a somewhat higher average score of 7.5, and median score of 8.0 (where one represents "poor" and ten represents "excellent"), were posted.

Accordingly, most SDOTs have integrated many transportation functions, such as highways and intercity rail. As Table 1 indicates, the number of SDOT functions range from between five and fifteen. While many SDOTs were heavily highway-oriented before ISTEA, they are clearly more multi-modal in character now reflecting a broader range of community transportation preferences with a mean number of 9.4 functions. As might be expected, we found a positive simple correlation ($r=0.81$, $p<0.02$) between the number of interest groups represented in the planning process and the number of SDOT functions.

As Table 1 shows, the most prevalent functions SDOTs have are as agencies for the planning, programming, construction and maintenance of highways (nearly 100 percent). Other frequently mentioned functions involve inter-city rail planning (78 percent), and inter-city bus planning (67 percent). Urban transit planning was mentioned less frequently at 44 percent. While most states with relatively large numbers of SDOT functions are from less populous and lower density regions, such as those in the midwest, a few do represent some of the larger and more urban areas, such as Michigan, which have highly integrated state planning activities.

B. WHO PAYS FOR STATEWIDE TRANSPORTATION PLANNING?

Based on data from 12 of the 18 study states, the 1995-96 SDOT planning budgets range from a low of $150,000 in Massachusetts to high of $7.0 million in California, with a mean of $1.42 million (see Table 9). As pointed out earlier, the state planning budgets vary from a low of $25.00 per thousand population to a high of $1,736, with an average of $893. In keeping with our expectations, the more generous SDOT planning budgets are most readily found in the more urbanized and congested states, and positive partial correlations were found between SDOT budget per capita and self-evaluated success in meeting SDOT goals ($r=0.95$, $p<0.05$) (see Table 12).

All SDOTs receive most of their funding for planning and operations from the federal government through ISTEA, and other grants. On average, these federal funds comprise about 78 percent of the SDOT planning budget. Another 22 percent of the budget comes from state fuel taxes, user and license fees, and other grants. This budgetary arrangement clearly suggests a considerable amount of federal influence and participation in the SDOT policy making process. It should therefore not be surprising that SDOT-USDOT cooperation received the highest score of interagency cooperation on our questionnaire of 8.7 out of a possible 10.0.

MPOs receive a similar distribution of federal and state funds plus a certain amount of funding from non-USDOT federal agencies and local contributions. This funding pattern suggests that the MPOs may be influenced by a broader range of federal, state and local interests than are the SDOTs.

C. WHO CONTROLS THE STATE DOTs?

With regard to governance, 13 of the SDOTs have a board or commission to oversee the functioning of the agency. In several cases the SDOT is run directly by the cabinet position of the secretary, commissioner, or director of transportation without a governing board. As pointed earlier, governing board membership size ranges from three in Texas to 23 in North Carolina. Generally, the boards are numerically dominated by appointees of the governor with an overwhelming majority of the board voting power. For example in California, nine members are appointed by the governor and one each by the head of the transportation committee of each house of the state legislature. In a few states, SDOT board members are selected by the Secretary of Transportation and/or require the confirmation of the state legislature.

At the same time, SDOT staff with their professional expertise about transportation, land use and air quality also help frame the policy-making agenda. Various standing advisory committees also appear to have significant influence in the SDOT policy-making process, which represent a wide range of business, transportation, environmental groups.

In addition, there is a significant amount of influence on the SDOTs from "above" because of the dominance of federal funding and the state executive branch, and "below" from the considerable interaction of the MPOs in most state planning activity.

D. CITIZEN AND STAKEHOLDER INVOLVEMENT IN STATEWIDE TRANSPORTATION PLANS

As Table 4 shows, about half of the SDOTs have advisory committees. These committees attempt to represent a broad range of constituencies, such as business interests,

minority social equity groups, environmental interests and modal advocates. The number of these committees varies from zero in Illinois and Missouri to more than 10 in California, New York and Oregon, with the average number for our SDOT sample of 4.5.

The groups most frequently represented were the modal advocates and business interests, while the least represented were environmental organizations and minority social equity groups. Perhaps this finding reflects the perception of the overarching importance of physical and economic efficiency compared to social considerations in the transportation planning process.

In keeping with our expectations, we also found that the greater the breadth of citizen participation (as measured by the number of advisory committees), the more effective the SDOT appeared to be. For example, as Table 11 indicates, we found a positive partial correlations between the breadth of citizen participation and reduction of traffic congestion ($r=0.99$, $0<0.01$); and with improved SDOT coordination with regional institutions, such as between MPOs and the states ($r=0.97$) and transportation and air quality activities ($r=0.99$)(both $p<0.05$). Also expected was the positive relation of citizens participation and success of public involvement ($r=0.99$; $p<0.05$). Perhaps this suggests the increased likelihood in arriving at a policy consensus at the state level as the breadth and extent of citizen participation expands.

Yet, care should be taken when considering citizens participation at other levels of transportation planning. For example, studies of metropolitan planning have shown that contentious local citizen participation could begin to yield negative results at the regional level (Bish, 1971). That is, there may be a trade-off between the extent of local citizen participation and the degree of regional planning consensus, which is not strongly expressed at the state level of planning.

Perhaps state level planning, which by its nature is further removed from local citizen activity, involves interests representing a broader and more consensus- oriented organizations than those experienced at the regional level. The costs of voluntary citizen participation at the state level are far greater than those at the urban/metropolitan level, which tends to focus primarily on specific projects, rather than broad policies. The increased costs of participation at the state level may also limit the number of participants and level of controversy.

E. HOW DOES THE STATE DOT RELATE TO REGIONAL AGENCIES?

One of the objectives of the ISTEA legislation is to improve the quality of state transportation planning and its relationships with other transportation, land use and air quality decision making activity. Accordingly, our study examined the extent to which the SDOTs coordinated its activities with those of regional transportation related agencies.

As Appendix C shows, scores for Regional Cooperation ranged from a low of 6.3 to a high of 8.7 out of a possible 10. Perhaps not surprisingly, the highest average score for cooperation of 8.7 was given to the most influential institution in the SDOT budget -- the U.S. Department of Transportation. As expected, the next highest score of 8.1 was generated by the regional institutions most related to SDOT activities -- transportation metropolitan planning organizations, which implement ISTEA policies at the metropolitan level. These institutions were shown to be highly integrated with SDOT planning activities (with a score of at least 8) in 11 of the 18 states or 61 percent.

The next highest score of 7.3 for CMA-regional cooperation was given to environmental agencies, which suggests increasing positive cooperative development in relating environmental impacts to transportation planning, other SDOTs ranked somewhat lower with a 7.3 score indicating a growing interstate regional concern in state transportation planning. The next average score of 6.8 was given to transit operators, who may not receive the highest priority from the still highway oriented SDOTs of most states. Finally, the remaining scores of 6.8, and 6.3 were posted by the regional agencies often not directly linked administratively with SDOTs -- air quality and land use organizations.

F. WHAT INGREDIENTS MAKE FOR A SUCCESSFUL STATEWIDE PLAN?

In attempting to determine the ingredients that make for a successful SDOT, we first identified the output measures of success related to the goals of the ISTEA state planning program, as well as the factors that might influence these desired outcomes. Then, we collected the relevant information by interviewing the staff and examining the SDOT of every state in our study and gathering related demographic data from the U.S. census and highway statistics from the Federal Highway Administration (FHWA). After appropriate analysis, we have reported our findings as to the SDOT characteristics most associated with the desired outcomes.

1. Number of SDOT Functions

Generally, we found that (contrary to our expectations) the more functional responsibilities the SDOTs have, the higher the output scores were in terms of simple correlations of cooperation with regional transportation agencies ($p<0.10$) and land use/growth management agencies ($p<0.05$). The major positive relationship in terms of partial correlations that occurred when increasing the number of functional SDOT responsibilities was with the degree of SDOT cooperation with regional environmental planning agencies ($p<0.05$). These relationships held regardless of the number and nature of the SDOT functions.

Interestingly, when the SDOT staff were asked what they would do to improve the structure and function of their organization, the two most frequent suggestions were to have more focus on SDOT functions and have more coordination with regional agencies. Apparently, there seems to be a desire for both a clearly defined, focused SDOT function at the state level, and a comprehensive integrative function at the regional level. This suggests that SDOTs should not have too many different responsibilities so as to swamp their staff, but enough functional integration to provide regional and statewide breadth of vision. In the end, however, the number of SDOT functions will be determined by state government.

2. Degree of Citizen Participation

As pointed out earlier, in keeping with our expectations, as the degree of citizen participation (as measure by the number and type of advisory committees) increases there was an observed increase in the desired output scores for the reduction of traffic congestion, and improved SDOT cooperation with regional institutions, such as MPOs and air quality and transportation planning agencies. At the same time, we found an expected positive relation between the breadth of citizen participation and the success of public involvement.

However, other studies of California transportation planning (Rothblatt and Colman, 1995) suggest the likelihood of a trade-off between the extent of local citizen participation and the ability to form a regional planning consensus. That is, extensive citizen participation may actually be a potential obstacle to regional planning if conducted excessively or improperly. Perhaps some optimal point can be reached that balances the costs of participation with the benefits of regional consensus.

Thus, while citizen participation appears to function well at the state level, additional attention is needed by the related regional institutions to bridge what appears to be a gap between the legitimate democratic drive for increasing local citizen participation and the growing need for large-scale regional and statewide planning activities for our expanding metropolitan areas. Similar conclusions were arrived at in studies of planning and growth management activities in California and elsewhere (Beatley et al., 1994; Pincetl, 1994). While the approaches may vary in each region of the state, more progress seems to be needed here with state leadership.

3. SDOT Budget Per Capita

Partially in keeping with our expectations, our analysis of program spending, in terms of SDOT planning budget per capita did indicate a few significant relationships with desirable scores for success in obtaining current SDOT goals ($p<0.10$); and degree of cooperation with other SDOTs and regional transportation agencies (both $p<0.05$). Yet, the planning budget per capita had only half the significant relationships with effectiveness indicators as had the total planning budget (see Tables 12 and 13). This probably reflects the likelihood that, on a relative scale, total planning budgets are commensurate with their level of transportation difficulties, and the influence of scale economies mentioned earlier. It is therefore not surprising that we found a simple positive correlation of SDOT planning budget and percent miles of state highway congested ($p<0.05$).

Still, we also found a strong positive partial correlation between SDOT planning budget per capita and the degree of success of public involvement ($r=0.99$, $p<0.05$). Clearly, adequate funding is needed for effective SDOT planning and consensus building, and obtaining such funding should continue to be an important priority for the SDOT state planning effort.

4. Number of SDOT Governing Board Members

Given the great diversity of states in our study, it is not surprising that the number of SDOT governing board members ranges from three in Texas to 23 in North Carolina. The mean is 8.4.

Also, in accordance with our expectations are the significant positive relationships we found between the number of board members involved in SDOTs and the effectiveness indicators of success of the degree of SDOT cooperation with the regional transportation agencies, such as air quality agencies, improved cooperation with the U.S. Department of Transportation, and greater success in the public involvement process (all $p<0.05$). These findings shown on Table 14 suggest that, like less formal citizen participation, expanded formal government representation fosters increased

SDOT cooperation with regional and federal transportation related agencies, and with improved citizen participation as well.

5. Time Used to Complete State Plan

As pointed out earlier, the time to complete the state plan varied from five to 36 months, with a median of 18 months. Our partial correlation analysis supported our expectations, as the length of time used to complete state plans had significant positive relationships with improved coordination between MPOs and state planning ($p<0.05$) and transportation and air quality activities ($p<0.10$). As Table 15 shows, we also found positive relationships between planning time and effectiveness of SDOT to improve transportation mobility and air quality ($p<0.10$) and degree of cooperation with USDOT ($p<0.05$).

Thus, it appears that in general, time was well spent in improving the quality of state transportation plans and SDOT relations with other transportation agencies. However, we did not find any direct relationship between time and success of public involvement as was the case in planning budget per capita. This suggests that while increased financial support can yield improved public involvement, extended planning time alone does not guarantee success in citizen participation. Perhaps an optimality process is also at work at the state level between the costs of planning time and the benefits of public participation, as well as qualitative aspects of the participation process.

6. State Urban Road Miles Per Capita

Our expectations for positive relationships between state urban road miles per capita and effectiveness indicators were generally not borne out. As Table 16 reveals, state urban road miles per capita posted negative partial correlations with cooperation between local governments ($p<0.05$), MPOs and the state ($p<0.10$) and transportation and air quality activities ($p<0.10$); importance of MPOs in metro planning ($p<0.10$); success of public involvement ($p<0.10$); and degree of cooperation with regional transportation agencies and transit operators (both $p<0.005$). The only positive relationship was found with cooperation with the USDOT ($p<0.050$).

Clearly, this indicates that increasing state urban roadways per capita does not ensure an improved state transportation planning system. Indeed, the reverse appears to be the case. With the possible exception of cooperation with the USDOT, which provides financial support for road construction. all other significant relations were negative. As Tables 17 and 18 document, similar results were found when employing partial correlation analysis of vehicle miles traveled per capita and percent miles of congested highways with respect to indicators of SDOT effectiveness.

These findings suggest that a large number of road and highway facilities alone are not likely to improve the transportation planning process as viewed by the staff of SDOTs. Perhaps a greater emphasis on other modes of transportation such as transit would yield better results.

7. Total Population

As shown in Table 1, the 1992 population varied greatly among the states from a low of 576,000 in Vermont to a high of 31,211,000 in California, with a mean value of 8,640,000.

In accordance with our expectations, Table 19 shows that population size varied negatively with improved coordination with transportation and land use activities ($p<0.05$), reduction of traffic congestion ($p<0.10$), and importance of MPOs in metro planning ($p<0.05$). Only cooperation with USDOT had a positive relation to population ($p<0.05$), probably because of the increase in federal assistance needed with a larger population.

These findings are corroborated by those of other studies which show, for example, that the most populous communities in California are most likely to be impacted by development and to enact growth management measures (Glickfeld and Levine, 1992).

8. Population Change

We expected increasing population change to reflect more development pressure and traffic congestion and thus have negative influences on our desired indicators of program outcomes. Instead, Table 20 shows only positive relationships between population change and cooperation with regional environmental agencies ($p<0.10$) and the U.S. Department of Transportation ($p<0.050$).

These findings about the limited relative impact of population growth on transportation quality is similar to that found in the growth management field (Glickfeld and Levine, 1992), probably reflects the fact that the highest population growth generally occurs in the less developed counties on the edge of metropolitan areas. For example, states in our study with a population density less than 50 persons per square mile had a mean 1982-92 population change of 14.7 percent compared to 4.7 percent for that of higher density states. Yet, our data did indicate a growing willingness of SDOTs to cope with the transportation implications of growth through greater cooperation with regional and federal transportation agencies.

9. Population Density

Population density, which is a measure of intensity of development, or degree of urbanization, varies greatly among our study areas from a low of 35.9 persons per square mile in Arizona to a high of 1,065 in very urban New Jersey, with a mean value of 207. As Table 1 shows, only four of the 18 states in our sample (Florida, Massachusetts, New Jersey and New York) had on overall residential density over 250 persons per square mile which is below the U.S. census criteria of 1,000 for defining the boundaries of urban areas.

Our expectations about the influence on population density were supported by the significant ($p<0.05$) positive partial correlations with regional transportation planning institutions and transit operators (see Table 21). Again our findings suggest an adaptive

SDOT behavior to try to become more effective and cooperative with transportation funding institutions in order to cope with increasing intensity of development.

10. Per Capita Income

The level of affluence also varies significantly among the states in our sample. Table 1 shows that 1990 mean per capita income ranged from a low of $15,207 in Maine to a high of $20,108 in New York, with a mean of $17,096. Thus, the potential resources available for dealing with community problems in more affluent areas could be a positive factor in the field of transportation.

In keeping with our expectations, Table 22 shows that increases in per capita income yielded only positive relationships with success of public involvement ($p<0.05$); and cooperation with other SDOTs ($p<0.10$), regional transportation agencies ($p<0.05$), transit operators ($p<0.05$) and the U.S. Department of Transportation ($p<0.05$). While other studies have shown that socio-economic characteristics, such as income, were not good predictors for the passage of planning measures, such as growth management ordinances (Knaap 1987; Baldassare 1996) or for congestion management support (Rothblatt and Colman 1995), our research yields strong positive associations of income with indicators of SDOT effectiveness. Perhaps other factors, such as a greater sense of urgency about improving the increasing transportation congestion and higher expectations of governmental activities by more affluent residents (who may place a higher value on their travel time) may be at work.

11. Education

As Table 1 shows, educational attainment also varied substantially among our study states. In terms of the percent college graduates age 25 plus of the 1990 population, the level ranged from 12 to 18 percent, with a 14 percent average.

Like per capita income, level of education did support our expectations of having positive relationships with desired outcomes. As Table 23 indicates, percent college graduates age 25 plus of the 1990 population had positive correlations with coordination between local governments ($p<0.05$); and cooperation between SDOTs and other SDOTs ($p<0.50$), regional transportation planning agencies ($p<0.50$) and the U.S. Department of Transportation (all $p<0.10$). These findings are corroborated by the Glickfeld and Levine (1992) study of California growth management and the Rothblatt and Colman study (1995) of the California congestion management policy, which found that jurisdictions that had a higher proportion of college educated persons tend to enact more growth management measures and be more supportive of congestion management programs. These results may be due to the higher public regard for collective improvement, often generated in more well-educated communities.

V. CONCLUSIONS AND RECOMMENDATIONS

A. STATEWIDE TRANSPORTATION PLANNING IN PROSPECT

Although ISTEA may have created profound changes in the way statewide transportation planning is done, it has accelerated several trends that were already under way, and therefore its impacts can said to have been significant. The first of those trends is a greater emphasis on examining the environmental impacts and effects on environmental quality of statewide plans (Meyer, 1989). Although NEPA is now a quarter century old, statewide plans and the projects embodied within them will be subjected to closer and more sophisticated environmental scrutiny in the future. Larger and more detailed databases will allow for more careful consideration of environmental impacts, and possibly consideration of a greater number of alternatives in the future. Already, a significant number of states were found to be analyzing their documents beyond the requirements of NEPA.

A second trend is that of technological changes upon both the SDOT's own operations, and the effects that it is having on the travel needs of the future. SDOT plans are increasingly taking advantage of intelligent transportation systems (ITS) in better managing traffic flows. The difficulty of assessing activity and related travel demand changes as a result of technology (work at home, home video on demand, and so forth) has proven more difficult. State planning may need to respond in the future to major demographic changes as the population ages and travel demand changes with it. For example, one could conceive of at least the rate of growth on urban commuter routes decreasing, while those on recreational routes might accelerate. State plans, which tend to be based on past trends, will need to take this into account.

Along with better data for planning, there is also a trend to try to quantify factors into performance measures that can be used to more objectively develop plans, and associated needs and projects. This is a rapidly developing field that is currently subject to a National Cooperative Highway Research Project (NCHRP). The performance measures, if carefully selected and applied, should give SDOTs the ability to develop better plans in the future that will provide the greatest return on dollar of investment.

Finally, there are two forces that seem to be working against each other -- an increasing linkage between involving SDOTs in land use decisionmaking, and increased political and fiscal conservatism of the electorate (Colman, 1995). Since Florida passed its growth management program in the mid-1980s, there has been increasing state legislation expanding the relationship between land use decisions and transportation, which has been countered by some retrenchment due to gains by property rights advocates in the courts. It is difficult to say which of this two trends will prevail in the long term.

B. CONCLUSIONS

The purpose of this study is to examine how SDOTs responded to new planning requirements; to determine what planning techniques or methods seemed to work well for them (or conversely, what did not); and to provide guidance that might be useful to other SDOTs in future plan updates, and by the federal government in its consideration of ISTEA re-authorization for the 1997-2003 period. The methodology used in this study involved selection of a sample of 18 states (including California) that would provide a variety of differing conditions, obtaining the StTP documents, review of the documents, and a follow-up survey of responsible SDOT staff who worked on the StTP.

The Intermodal Surface Transportation Efficiency Act of 1991 has made profound changes in the way transportation planning is done in the United States, at both the urban and state levels. Although many states had prepared statewide transportation plans prior to ISTEA, ISTEA created new planning requirements and specifically set out 23 factors (discussed in this report) that must be addressed. In particular, prior to ISTEA, many states had not addressed a 20-year time frame, and had placed less emphasis on intermodal needs, goods and freight movement planning, public participation, and development of a funding plan. These requirements posed new challenges for State Departments of Transportation (SDOTs) to meet during the 1991-1995 period covered by this study.

The key results from our study are the following:

- The ISTEA planning requirements stimulated new statewide transportation planning. Although 80 percent of our sample had previously developed StTPs, many updated and revised their plans as a direct result of the ISTEA legislation.

- Most SDOTs reported that their updates were significantly different from their previously adopted plans.

- New plans tended, in general, to be more multi-modal, include more public and stakeholder participation, and greater consideration of funding issues, than had the previous planning efforts.

- Most SDOT staff interviewed felt that ISTEA had improved the statewide transportation planning process, as well as the connection between transportation planning and air quality issues.

- SDOT staff also felt metropolitan planning organizations (MPOs) were very cooperative with the process, but that the lack of land use/transportation linkages still posed a problem at the statewide level.

- Most SDOTs allowed between 18 to 24 months to prepare their plans, and felt this amount of time was sufficient. Reported costs of StTPs was between 8 and 20 cents per capita in the majority of states, with a few states reporting greater or lesser resources devoted. More populous states fell toward the bottom end of this range, possibly due to some economies of scale, and/or the ability to rely upon earlier planning work as a foundation for the StTP.

- Other major issues identified as problematic for the SDOTs were obtaining adequate funding to carry out the plan, to maintain the existing system, and to manage congestion on the system.

- Two-thirds of the states sampled said they plan to keep some or all elements of the ISTEA management systems, even though these systems are now voluntary.

- Traffic level of service is the most widely used performance measure, but analytical tools generally lag behind those used in urban and metro areas. Less than a quarter of the states reported having statewide travel forecasting models, and nearly all were capable only of forecasting vehicular traffic. Most state plans were unable to use Census Transportation Planning Package (CTPP) data in the planning effort, primarily because

of the late availability of this data. The lack of freight data also posed a problem for many SDOTs to address this aspect of their plans.

C. RECOMMENDATIONS

Despite the improved statewide planning encouraged by ISTEA, , there are several areas that may be improved in the future. These include increased public/ stakeholder participation, development and testing of alternatives, assignment of full social costs of transportation, and consideration of equity impacts. While the selection of items on this list is based upon the findings and conclusions of this study, it is by no means exhaustive. However, it does reflect some of the current thinking in urban/metropolitan area planning, which is typically two or three decades ahead of statewide transportation planning. Each of these areas is briefly treated in the paragraphs below:

1. Stakeholder and Public Participation

Although SDOTs have made admirable efforts to increase stakeholder and general public participation in the StTP, there is still much that can be done to improve this process. We note that the use of advisory committees is modest compared to most regional transportation planning agencies. This may be a function of the higher cost of advisory committee participation when members are distributed statewide. However, statewide advisory committee participation might be encouraged if SDOTs shared in the travel and other expenses incurred by advisory committee members in attending such meetings. These advisory committees might also be set up either regionally or at the SDOT district level in order to encourage greater on-going participation in the planning process. Finally, we note that most SDOTs performed public participation work in-house, without the help of outside experts. Public participation is becoming an increasingly complex and specialized field in itself, and the traditional engineering or planning training of SDOT employees may not be sufficient to deal with this emerging role. One recommendation for consideration would be for the increased use of outside experts to either train or support SDOT staff in their roles of encouraging public participation and outreach to under-represented communities.

2. Development and Testing of Alternatives

A surprising number of StTPs presented one, and only one, plan as the adopted alternative. Although it is quite likely that other alternatives were considered (and then rejected) as part of the planning process, these are not shown or documented in the plans. Urban and metropolitan transportation plan alternatives have long been developed and tested using these dichotomies (and sometimes others, too):

- Modal emphasis (e.g., transit versus highway)
- Funding availability (low versus high)
- Growth (low versus high population projections; compact versus dispersed development patterns)

In the typical urban or metro plan, three to five alternatives will be fully developed and analyzed as part of the planning process. The result is an adopted plan that may represent one of the dichotomies, but more often is a hybridization of the best possible actions that are uncovered

during the planning process. Perhaps because of their evolution from the old highway needs studies, few StTPs in our study considered such options or seemed to follow this planning. Although the development of alternative plans has a downside (e.g., it can engender controversy and increase the cost of the planning process), it is fundamental to a true planning process, and is probably the only way of assuring that a truly optimal course of action is selected.

3. Assignment of the Full Social Costs of Transportation

Transportation systems (and not just highway systems) create external costs and benefits. These occur when the prices paid by the system users do not reflect the full and true cost of providing the service. They also occur when non-users must bear some cost unrelated to their use. The externalities -- examples are air pollution, noise, vibration, visual blight-- typically are not fully exchanged through regular markets. In the classic case of negative externalities, underpricing the service sends the wrong signals. For example, congestion is a signal to the SDOT that additional capacity is needed, but the congestion may be there primarily because the peak hour users congesting the highway are being subsidized by other highway users and non-users. Economists have pointed out this problem since at least the 1960s (and perhaps before), noting that the optimal supply of transportation service or capacity can only be determined when prices reflect the full and true social costs of transportation. Eckert (1979) has written about efforts to achieve full pricing of transportation in California in the 1970s, and the strong public and political resistance to it.. These efforts mostly failed, but the problem remains: if users pay less than the true costs of their use of the system, they can only do so by transferring some of the costs to other users and non-users, and will tend to over-consume the service relative to the optimum level. This sends signals (congestion) to the supplying agency (such as the SDOT) that will encourage them to provide even further investment to satisfy this artificially subsidized demand. On the other hand, some social benefits may also be created by transportation system development, especially increases in property values around transportation nodes; access to jobs, health care, and educational opportunities: and the social and economic cohesion resulting from greater accessibility in a state and region.

The politics of full social cost pricing are quite different, since each group tends to argue against any changes that would harm it (or perhaps worse, create an uncertainty that is perceived as potentially harming it). Nevertheless, this area deserves greater consideration in the future statewide transportation planning updates, since state legislatures control the primary mechanism (fuel taxes and weight fees) that could be used to develop a more optimal pricing structure for transportation services.

4. Equity Considerations

Others have noted that major planning decisions can alter the distribution of goods and services in society (Gale, 1992; Cunningham et al., 1995; Crane, 1996). Even in smaller states, the state transportation plans may guide billions of dollars over the two-decade planning horizon. It therefore was surprising that few states assessed the basic equity impacts of their plans.

Simply put, these impacts concern who pays for the plan, and who benefits from it. We believe that the issue is frequently ignored at the state level because of the assumption that highway users, paying taxes on gasoline and diesel fuel, pay all the costs and enjoy all the benefits of the highway system. However. this is true only if highways have unidimensional impacts. If there are any externalities imposed by highway or other transportation users (as there surely are), the beneficiaries will not always be the payers. In fact, there may be equity impacts

even if non-transportation impacts are ignored. The widening of a freeway into downtown Los Angeles or San Francisco benefits commuters leaving their workplaces at five o'clock, but almost assuredly will not be covered by the gasoline taxes they generate. The width and strength of pavement may have to be increased to accommodate large truck traffic, even though the costs may be passed on to smaller, lighter vehicles. Thus, there may be transfers between different highway users, depending on vehicle types and the spatial and temporal dimensions of their use.

In urban plans, various constituencies have been effective in determining transportation policies based on real (and perceived) impacts on their communities. It is likely that such constituencies may become more vocal at the state level in the future. SDOTs will need to be prepared for and address such concerns proactively in the future. Ignoring such issues does not mean that the underlying problem will disappear.

5. Improved Land Use/Transportation Coordination

Several states, including Florida, Oregon, and Washington, have developed comprehensive statewide growth management programs. New Jersey has attempted to better tie their TIP to planning goals (Luberoff, 1993). These programs may act as a model for how California and other states can better coordinate land use and transportation decisions.

NOTES

1. The six management systems are: road pavement, bridges, road safety, congestion, public transportation, and intermodal transportation facilities. They are still required for transportation management areas (TMAs).

2. As per subsection 450.214, Federal Register, October 28, 1993.

3. An MPO, or Metropolitan Planning Organization, is a federally required body responsible for the transportation planning and project selection in its region; the governor designates an MPO in every urbanized area with a population of over 50,000 people. For example, the Metropolitan Transportation Commission is the San Francisco Bay Area's MPO.

4. Most SDOTs are divided into regional districts (e.g., in California there are 12). These districts may include several counties, may be formed around a metropolitan area, or may use other criteria.

BIBLIOGRAPHY

Baldassare Mark, et al. 1996. "Possible Planning Roles for Regional Government Journal of the American Planning Association 62, 1:17-29

Beatley, Timothy, Brower, David J. and Lucy, William H. 1994. "Representation in Comprehensive Planning: An Analysis of the Austinplan Process," Journal of the America Planning Association 60, 2:185-96.

Bish, Robert L. 1971. The Public Economy of Metropolitan Areas (Chicago: Markham).

Blow, Ben 1920. California Highways. (San Francisco: California State Automobile Association).

Bollens, Scott A. 1992. "State Growth Management: Intergovernmental Frameworks and Policy Objectives," Journal of the American Planning Association 58, 4:454-66.

California Department of Transportation. 1990. Congestion Management Program Resource Handbook (Sacramento, CA: California Department of Transportation).

Cervero, Robert. 1994. "Rail Transit and Joint Development: Land Market Impacts in Washington, D.C. and Atlanta," Journal of the American Planning Association 60, 1:83-94.

Cerrero, Robert and John Landis. 1995. "Transportation-Land Use Connection Still Matters," Access 7:16-22.

Colman, Steven B., Committee Chair. 1995. "Statewide Programs to Assess Transportation Impacts of Land Use Development," Report of Technical Committee 6A-57, Institute of Transportation Engineers, Washington, D.C.

Crane, Randall. 1996. "Cars and Drivers in the New Suburbs: Linking Access to Travel in Neotraditional Planning" Journal of the American Planning Association, 62, 1:51-65.

Cunningham, Lawrence F. et al. 1995. "Developing a Costommer Focus in the Statewide Planning Process," Paper presented at the Transportation Research Board Annual Meeting, Washington, D.C., January.

DeGrove, John M. ed. 1991. Balanced Gowth: A Planning Guide for Local Government (Washington, D.C.: International City Management Association).

Donaghy, Kieran P. and Schintler, Lamie A. 1994. "Optimal Policies for Reducing Congestion of Major Commuting Arteries in a Growing Urbanized Area." Journal of Planning Education and Research 13, 3:189-96.

Eckert, Ross. 1978. "California Transportation Planning: Examining the Entrails."

Gale, Dennis E. 1992. "Eight State-Sponsored Growth Management Programs - A Comparative Analysis," Journal of the American Planning Association 58, 4:425-450.
Giuliano, Genevieve, 1992. "Transportation Demand Management: Promise or Panacea?," Journal of the American Planning Association 58, 3:327-35.

Glickfeld, Madelyn and Levine, Ned. 1992. Regional Growth: Local Reaction: The Enactment and Effects of Local Growth Control and Management Measures in California (Cambridge, MA: Lincoln Institute of Land Policy).

Gordon, Peter and Harry W. Richardson. 1996. "Beyond Polycentricity: The Dispersed Metropolis, Los Angeles, 1970-1990," Journal of the American Planning Association 62, 3:289-312.

Hanson, Susan, ed. 1995. The Geography of Urban Transportation (New York: Guilford).

Ismart, Dane. 1994. "State Management Systems: Overview of ISTEA Requirements and Current Implementation," Transportation Research News 173, July-August, Transportation Research Board.

Jones, David W. 1989. "California's Freeway Era in Historical Perspective," Research Report UCB-ITS-RR-89-16. University of California Institute of Transportation Studies, Berkeley, July.

Knaap, Gerrit J. 1987. "Self-Interest and Voter Support for Oregon's Land Use Controls," Journal of the American Planning Association 53, 1:92-97.

Luberoff, David. 1993. State Planning in New Jersey," Lincoln Institute of Land Policy Working Papers, Cambridge, MA.

Olshansky, Robert B. 1996. "The California Environmental Quality Act and Local Planning," Journal of the American Planning Association 62, 3:313-330.

Park, Kee Ok. 1994. "Expenditure Patterns and Interactions Among Local Governments in Metropolitan Areas," Urban Affairs Quarterly 29, 4:335-64.

Pincetl, Stephanie. 1994. "The Regional Management of Growth in California: A History of Failure," International Journal of Urban and Regional Research 18, 2:256-74.

Rothblatt, Donald N. 1992. "Swimming Against the Tide: Metropolitan Planning and Management in the United States." Planning Practice and Research 7, 1:4-8.

Rothblatt, Donald N. and Steven B. Colman. 1995. "An Approach to Urban Transportation Planning: California's Congestion Management Policy," Journal of International Association of Traffic and Safety Sciences 19, 2:26-35.

Rothblatt, Donald N. and Steven B. Colman. 1995. "An Experiment in Sub-Regional Planning: California's Congestion Management Policy," Working Paper 95-7, Institute of Governmental Studies, University of California Berkeley.

So, Frank et al. ed. 1988. The Practice of Local Government Planning (Washington, D.C.: International City Managers Association).

Statewide CMP/Air Quality Coordination Steering Committee. 1994. Final Study Report: Statewide CMP/Air Quality Coordination Study, Los Angeles Metropolitan Transportation Authority.

The Urban Transportation Monitor. 1994. "State DOT's Cooperate to Develop Integrated Approach to Planning" 8, 9 (May 13).

Transportation Research Board. 1969. "Statewide Transportation Planning." Highway Research Record 264, Highway Research Board of the National Academy of Sciences, Washington, D.C.

Transportation Research Board. 1989. "Future of Statewide Transportation Planning," Transportation Research Record 1243. transportation Research Board of the National Academy of Sciences, Washington, D.C.

Transportation Research Board. 1995. State Departments of Transportation (Washington, D.C.: National Academy Press).

U.S. Department of Transportation. 1991. Intermodal Surface Transportation Efficiency Act of 1991--A Summary, Washington D.C.: Publication FHWA-PL-92-008.

U.S. Department of Transportation. 1994. ISTEA Regional Roundtable Report and Action Plan, Washington, D.C.

United States Department of Transportation, Federal Highway Administration. 1995. Highway Statistics 1993. (Washington, D.C.: US Department of Transportation.)

Vogt, W. Paul. 1993. Dictionary of Statistics and Methodology: A Non-Technical Guide for the Social Sciences (Newbury Park, CA: Sage Publications).

Wachs, Martin, Taylor, Brian D., Levine, Ned and Ong, Paul. 1993. "The Changing Commute: A Case Study of the Jobs-Housing Relationship Over Time," Urban Studies 30, 10:1711-29.

Wegman, Frederick J. and Everett C. Carter. 1972. "Statewide Transportation Planning -- A Current Review." Meeting preprint 1733 of the American Society of Civil Engineers National Transportation Egineering Meeting, Milwaukee, July.

Weiner, Edward. 1992. "Urban Transportation Planning in the United States: An Historical Overview," Report DOT-T-93-02. U.S. Department of Transportation, Office of the Secretary of Transportation, revised edition. November.

Wright, Paul. H. 1996. Highway Engineering (New York: Wiley).

TABLES

TABLE 1 BASIC STATE INFORMATION

STATE	SDOT Functions (1)	Total Motor Vehicles (2)	Total Disbursements (Thousands of Dollars) (3)	Grants-In-Aid To Local Governments (Thousands of Dollars) (4)	Public Roads & Street Miles Under State Control (Rural) (5)	Public Roads & Street Miles Under State Control (Urban) (6)	Total Miles Public Streets (7)	Divided Highway Miles - 4 or More lanes (8)	Miles of Congested State Highways (9)	Population (Thousands) (10)	1980-1990 Population %Change (11)	Annual VMT Per Capita (12)	Area (sq. mi.) (13)	Density (persons/ sq mi) (14)	Income Per Capita (1990) (15)	% Pop. 25+ College Grad (1990) (16)
Arizona	A-E, G-J	2,891,589	1,539,137	337,501	5,459	685	55,763	1,651	18	3,936	34.9	9,947	113,642	35 9	14,695	13.3
California	A-E, G, H	22,823,712	8,117,071	1,238,239	14,812	3,841	169,201	9,247	1,191	31,211	25.7	8,536	155,973	201.5	17,396	15.3
Colorado	A-E, G-I, K	3,032,088	1,191,132	345,339	8,200	1,025	78,721	1,770	68	3,566	14.0	9,175	103,729	35 2	17,272	18.0
Florida	A-E	10,169,556	3,858,336	163,374	7,509	4,423	112,808	4,679	306	13,679	32.7	8,807	53,997	258.4	16,765	12.0
Illinois	A-E, I, O, Q	8,070,464	3,575,480	435,469	12,507	4,798	136,965	3,340	219	11,697	0.5	7,668	55,593	211 4	18,394	13.6
Maine	A-J	1,027,942	460,363	19,421	7,741	809	22,510	419	5	1,239	9.1	9,832	30,865	40.2	15,207	12.7
Massachusetts	A-F, H-J	3,837,497	2,215,600	99,212	1,654	2,002	30,563	1,048	192	6,012	4.9	7,765	7,838	770.7	19,811	16.6
Michigan	A-K	7,398,558	2,093,685	667,979	7,631	2,006	117,659	2,296	334	9,478	0.4	9,041	56,809	107.2	17,272	10.9
Minnesota	A-L, N, O	3,716,103	2,330,679	390,473	12,147	1,204	129,959	2,082	145	4,517	7 4	9,346	79,617	57 4	17,365	15 6
Missouri	A-E, I-L	4,065,686	1,431,033	194,770	30,666	1,536	121,787	1,682	166	5,234	2.1	10,474	68,898	76.6	16,022	11.7
New Jersey	A-F, H, I, K	5,640,875	3,147,773	88,457	1,451	1,822	35,097	1,642	193	7,879	5.0	7,580	7,419	1,065.4	21,684	16 0
New York	A-E, L, J	10,162,501	6,734,953	450,786	11,563	4,701	111,882	3,178	458	18,197	2 5	6,168	47,224	384.7	20,108	13.2
North Carolina	A-M, P	5,364,571	1,737,314	88,214	68,789	9,255	96,028	2,297	143	6,945	12 8	10,006	48,718	145 1	15,212	12 0
Oregon	A-K	2,624,127	1,020,498	267,210	10,363	852	96,036	814	63	3,032	7 9	9,351	96,002	32.1	15,792	13.6
Texas	A-E, G-I, K	13,118,321	5,621,892	143,055	67,593	9,258	294,142	6,856	615	18,031	19.4	9,296	261,914	70.2	15,357	13 9
Vermont	A-E, G-J	483,222	258,385	21,133	2,663	176	14,166	354	5	576	10.0	10,375	9,249	62.7	15,641	15 4
Washington	A-E, H, J	4,412,998	1,882,329	338,043	17,745	1,144	79,428	1,145	148	5,255	17.8	8,779	66,581	80.2	17,486	15 9
Wisconsin	A-D, F-L	3,814,695	2,150,450	263,770	10,985	1,455	37,642	1,695	92	5,038	4.0	9,759	54,314	93.6	16,256	12.1
AVERAGE	N/A	6,258,584	2,742,562	308,469	16,638	2,833	96,887	2,566	242	8,640	11.7	8,995	73,243	207.1	17,096	14 0

NOTES:

A = Highway Planning
B = Highway Programming
C = Highway Design
D = Construction Supervision
E = Highway Maintenance
F = Urban Transit Planning
G = Inter-City Bus Planning
H = Inter-City Rail Planning and/or Financing
I = Airport Planning
J = Ports & Harbor Planning
K = Bicycle Planning
L = Pedestrian Planning
M = Financing
N = Logistics
O = Freight Planning
P = Safety
Q = Economic Development

SOURCES:

1993 Highway Statistics, U.S. Department of Transportation, Federal Highway Administration;
U.S. Census of Population & Housing 1990;
1996 Statistical Abstract of the United States, U. S. Dept of Commerce, Economic and Statistical Administration;
1993 FHWA Highway Statistics, SS-4.

TABLE 2 STATE PLAN RESPONSE TO THE 23 ISTEA FACTORS

STATE	SYSTEMS (17)	ENERGY (18)	BIKE (19)	ACCESSIBILITY (20)	NON-MPO (21)	MPO (22)	MPOCON (23)	TOURISM (24)
AZ	S 6 Management Systems (no Traffic). Details on each system are in Chapter 4.	M Promote effic use of energy res. through coord. with State Energy Office. P. 8-11.	S Incorp. bike and ped. plans into main trans. plans, encourage biking and walking. Pp. 8-3, 4, 11.	S Maintain E-W & N-S trans. corridors for inter-state/nat'l trade. Will have airport accessPp.8-8, 6-6,9,10, see AN.	M Non-metro area studies (SATS) will ID multimodal needs in rural areas. No specifics. Pp. 2-8,9.	M AZ has 3 MPOs. MPO trans. plans will be incorp into AZ's plan. P. 2-8.	S Criteria for corridor consid. incl. connectivity bt current and future MPOs. Pp. 8-4,5, Chapter 10, 4-8.	S Support tour. and rec. travel by coord. w/ tourist & park agencies. Accommodate tourists as well as AZ residents. Pp 8-8, 9.
CA	S App. C, specific sys. mentioned & current status. p. 15, 17, Env. Effects Matrix, pp. A-3-A-5.	L Mentioned only in reference to alternative fuels, and energy efficiency. Env. Effects Matrix, p. 22, 24,pp A- - A-5.	M Mentioned only sparingly. The CTP supports regional efforts which are required by the State. p. 17, 18.	S Ports/airports rarely mentnd. Others disc. with emphasis on effic. and enhancmnt with Mex. p 5,6t,20,23.	M Rural areas and funding set aside specifically for these areas is discussed. p. 2, 10, 17.	M Reg. Plans dealt with in App. B. The State plan defers much of its ISTEA efforts to the reg. plans. pp. B-1 - B-2.	S seamless" system, providing access, improv. intercity rail, making interreg. road systems. p.20,B-1-B-2.	S Tourism is discussed in terms of economic goals. p. 3, Policy 1, Objective C; p. 9, 10.
CO	S 7 Manage. Systems. Traffic/ Data listed as Traffic Monitoring pp. 38-39.	N	M Incorp nec. improvements to enhance bike safety when rds are upgraded. No specifics. Pp. 117-121.	L Current airport access is ment. national parks, etc. are not. P. 128.	M Non MPO areas will be covered by the ten rural TPRs. No specifics. Pp. 33-35.	M CO has 5 MPOs. MPO trans. plans will be incorp. into CO's plan. Pp. 30-33.	N	M Bike tourism is substant. part of CO tourism, along with scenic byways. No specifics. Pp 8-9, 118.
FL	M 7 sys. are being developed but no other info is given. Pp A9 - 10.	M Will support energy conserv. goals. Doesn't say what goals or how. P 37, 39-41.	S Build bike/ ped. overpasses & prov. accom for them on highways. Reduce fatalities. Pp. 31, 32, 40.	M Improve conn bt. sea/airports, railroads and hwy systems for effic. interregional movement. P. 38.	L Create statewide trans system. Non MPOs not ment. Pp. 36 - 38.	M MPOs and Trans Dept. will coop. on devl and adopt. of long range metro area trans plan. P. A14.	L Highspeed rail lines will be placed in Interstate System corridors. P. 37.	L No mention of rec. travel or tourism.
IL	S 6 manage. systems planned (no Traffic/Data) Pp. 14, 21.	S Reduce consumption thru promoting other trans. forms &devl energy eff &alt fuel veh. Pp 24-26.	L Promote safe travel fac. for bikers and walkers. P. 20 & C.	S ID intnatl & intstate trans needs. Access to rec, cult, scenic, hist and airport. Pp. 19, 22, 28.	S Non-MPO govts will be incl. in state plan proc. Imp. of rural acces P. 28 & 10.	S 12 MPOs. MPO plans will be incorp into State plans. P.16 & F.	M ID intstate trans needs & prom intstate coop. MPOs not ment. P. 28.	M Attract intra-state, interstate & internatl tourism. P. 19.
MA	S 6 Manage. Systems. Details in Chapter 8.	S Reduce energy use thru alt. fuel veh., US DOE Clean Cities Init., encour. fuel effic and conserv. P. 2/20.	S Incorp. bike and ped. plans into main trans. plans, encourage biking and walking. Pp. 1/8, 2/6-7, 11.	L Improve ground access to airports No specifics. P. 2/13.	N	S MA has 13 MPOs. Plan summaries are in Chapter 9.	M Improve inter-city rail and bus options by coord. pub and priv serv. in MA and adj. states. MPOs not ment. P. 2/12.	M Improve access to tourist fac. thru better signs, intermodal links, attractive right-of-ways. P. 2/18.

Notes:
S = Strong Response
M = Moderate Response
L = Light Response
N = Not Addressed
N/D = No Data Available

TABLE 2 STATE PLAN RESPONSE TO THE 23 ISTEA FACTORS

STATE	SYSTEMS (17)	ENERGY (18)	BIKE (19)	ACCESSIBILITY (20)	NON-MPO (21)	MPO (22)	MPOCON (23)	TOURISM (24)
ME	S 6 manage systems planned Developed accident data which identifies high accident locations. Pp27-34,133.	S Reduce consumption thru other trans. forms &devl energy eff &alt fuel veh, rideshare programs, teleccmtng., market incentive for energy eff use, educ. outreach.	S Has statewide bicycle & pedestrian plan, bicycle and pedestrian strategies integrated into virtually all of the intermodal strategies. Pp. 134, MDOT Plan Part 2.	S many int'l border crossing to Canada, access to ports, airports, and intermodal transportation thoroughly addressed. 3 RTACs have military installations.Pp134-135.	S RTACs rep. muni, envir/land use, busin, alt mode interest & gen'l public. Discuss weekly trans. issues & concern. 8 RTACs Advisory Report in Part 2 of MDOT Plan.	S 4 MPOs.MPO plans incorporated by reference in MDOT plan.	S National Highway System-Chp.II, connectivity between Maine's maj. highways & cities of New Hampshire & Canada.	S Major factor of economy. Many strats. on congestion, envrmnt., and intermodalism on tourist issue contained in the plan - concern addressed in Chp. V
MI	M "MDOT... will have all these systems operating ... by July 1, 1996." p. 13, 14, 47.	L "Use management systems... to energy consumption statewide." p. 50b.	S "Encourage bic. and walk. as means of trans. by providing on- and off-road facilities." p. 40, 7, 52.	S "...more efficient access to border crossings...", p. 52. p. 35, 59, 60, 33.	M Rural areas are not mentioned specifically.	M The state MAPS are "coordinated with the State Long Range Plan to ensure consis-tency " p. 64, 65.	S "Enhance opport.s for coord. between state, regional, city, county, township and tribal officials...," p. 32.	S "... facilitate travel , enhance rec. opp.s and make the trans. sys. itself a tourist attraction." p. 59, 22.
MN	S Discussed in detail, by region: pp. C-1 - C-21, 5-6.	M Use en. pricing, user fees, alter. fuels, and resrch. & tech. dev. on renewable en. sources; p. 3-4b. p. 7-9.	S 2 other state bicycling plans (p. 6-14) encourage ridership. p. 2-9b, 2-18b, 6-14, 6-17, 7-2, 7-9, 7-14, 8-2.	M This topic is not a major one in the plan. pp. 5-14 - 5-16, 6-17 - 6-20.	L Rural areas not discussed outside of one specific project: p. 8-7 and invest strategies on p. 7-4.	S MPO information is given in detail in the Attachments section. p. 5-5, A-5, pp. B-1 - B-26.	N	N
MO	S 6 manage. systems (all exc. Traffic). Will devl a Maint. Manage. System. Chapter 10.	S Provides trans sys that is energy & resource effic. by impr. fed fleet req. & veh. maint. prog,study alt. fuels. Chap 5,p 9	S Integrate B&P into trans plans. Encour. B&P, traffic calm, coord fac.,provide tax breaks for users. Chap 4.	M Each MPO addresses this issue, but without specifics. Chap 7.	L No ment. exc to work w/non-MPOs to coord trans prog. Chap 5, p.7.	S Exec summ. are in Chap. 7.	S Coord. trans planing w/other states, state agencies and MPOs. Chap2, p11, Chap. 7.	M Support tour. & impr. access to rec & convention destinations. Chap. 2, p4, Chap 4, p12.
NC	S 6 manage. systems (all exc. Traffic). Bridge is operational;others will be ready in 96. P. 5, details PP. 51-52.	M Develop and implement strat. to reduce energy consump. No specifics. PP. 101-102.	S Has Off of B&P Trans. Integr b&p plns w/trans plns, dev. needs invent, incl b path maint with hwy maintPp 55,56,58,71,76...	L Access to specific areas are mentioned in MPO reports but not main plan.	L Rural areas have long-range plans, but no oth. mention exc. to bring NC's pop w/in 10mi of hwy Pp144-145, 71.	S 17 MPOs. MPO plans will be into state plan; summaries are included in plan Pp. 113-143.	L Conn. bt NC MPOs prob in MPO plans; inter-state travel is not mentioned in MPO or main plan.	M Cont. to work w/Div. of Travel & Tourism to devl proj. to meet tourism needs P. 69.
NJ	S 7 Manage. Systems. Pp. 143-148.	M Encourage greater energy efficiency. No details. P. 65.	S More compreh safety prog, use old bridg for bike and ped paths, prov. bike & ped. fac. on hwys. Pp. 71, 74-77, 79.	L Upgrade inter-modal fac., improve access to fac. to serve internatl markets. No specifics. P. 65.	No Non-MPOs in state.	S NJ has 3 MPOs which contain all areas of NJ. MPO trans plans will be incorp. into NJ's plans. Pp.148-149.	S Expand transit cap. into mid-town Manhattan. P. 78.	L Stimulate tourism. No specifics. P. 65.

Notes:
S = Strong Response
M = Moderate Response
L = Light Response
N = Not Addressed
N/D = No Data Available

TABLE 2 STATE PLAN RESPONSE TO THE 23 ISTEA FACTORS

STATE	SYSTEMS (17)	ENERGY (18)	BIKE (19)	ACCESSIBILITY (20)	NON-MPO (21)	MPO (22)	MPOCON (23)	TOURISM (24)
NY	M Man. systems in development. Are a part of the NY planning process. p. 7, 8, pavement - p. 23.	M "encourage and facilitate people choosing more energy efficient travel" p. 38 Lower VMT levels. p 14,35.	S Clearly encouraged. Sep. "Statewide Bic. and Ped. Plan". p. 12,25t,26,36,61,72-73,80.	S Ports/airports/borders disc. in detail. Mil. bases and nat. scenic pts. = N p. 14t, p. 19, p. 28, 51l, 55, 59.	S Section devoted to "Rural". Discussion on topics from tech. trends to agric. to tourism. p. 9, 41, 75-84.	M MPOs mentioned in plan. MPO's goals in chart (page 6). Appdx. lists the 12 long range MPO plans.	L Connectivity discussed only in general.. Vague reference to interagency cooperation (pp. 39-40).	M Some goals concerning tourism discussed in rural mobility section (page 81). p. 46, 76, 81.
OR	M All are covered in goal 4G.7, p. 66. See also p. 115.	M Effic. vehicles, clean motor fuels, fuel effic. modes to min. trans.-related energy consum. p. 40.	S An important trans. option to be included in all trans. plans within the state:the LCDC rule p.12, p. 39, 40t, p. 52.	S Throughout the plan mainly in economic terms. pp. 58-61, p.24 (ports: last benchmark), p.26-27 Inat. economy.	M Improve access and econ. dev. and enhance the tourism and the travel exper.s of travelers in the state. p. 30, 53.	M MAPs are discussed throughout, usually in terms of MPOs. p. 68-69, pp. 121-124.	L Accomodates goods and pass. mvmnts into and through urban and rural areas;" p. 68. Also: pp. 121-12, pp. 49-54.	M Dev. a trans. sys. that supports intrastate and inat. toursm and improves access to recr. destinations p.61.
TX	S Implement fully all 7 systems Pp. 28-29.	M No energy goals mentioned, through lots of emphasis on devl of alt. fuels. Pp. 39-41.	S Enhance B&P mobility. Incorp. bike fac. consid. into all design proj appt. state & dist bike coordinators. Pp19-20,46,95-99.	S Ensure acc to trans fac & border Xings thru corr-lvl traff., Cong. Man. Sys, ITS, modal alts & IDing prob. Pp31-32,35-38 57.	S Ensure min. lvl of surface trans in rural areas, farm/ranch - mkt rds, adjust rd mnt accord. to growth patt. Pp. 22-24.	M TX will train MPOs to undertake trans plan. Pp. 47-48.	M Increase access. of all areas in TX thru modeling trans patt. No spec. mention of MPOs. Pp. 15-15,30, 36A.	M Prioritize projects which maintain or improve links to state/natl parks & other attractions. P. 23.
VT	L Organization of ISTEA and Monitoring Systems yet to be developed.	S Develop and implement strat. to reduce energy consump. feaseablity of electric cars, carpool, telecommuting Chp 9.	M Projects are under design in Vermont municipalities to create new bikepats. bike and pedestrian desing standards metion pp117,120.	MWork with New England Trans. Initiative (NETI), VM's border crossing carry about 20% of all goods to Montreal, mentions on seaport access Chp.5.	L all 12 Regional Planning Commissions plans not completed.	N/D MPO Plan not completed.	S has plans, designed, funded, and constructed connections within its boundaries, other issues addressed thru the NETI study chp 5.	S Tourism critical component of the state's approach to strategic capital investment chp 3,9,15.
WA	N	L Develop pub trans services and programs to meet energy obj. No specifics given. P. 29.	SS Prioritize proj. funding, incorp B&P into main plan, incr public safety ed & enforc., impr. inter modal links. BP.	M Improve efficiency at U.S/ Canadian border. P. 12.	M Cont. Rural Mobility Grant Program, encour. formation of Pub Trans Coord Com w/in RTPOs. P. 32.	M WA has 12 RTPOs. No spec. mention of MPOs P. 2.	M Improve Intercity Passenger Rail. Pp. 35-39.	M Support tourism devl. No specifics. Table A2, Highway Book.
WIS	S p. 98-101, all of the sys.s req'd by ISTEA are currently being developed.	L p. 116, 136-138.	M "WisDOT has begun to recog. Bike and ped. trans. As legitimate travel options..." p. 12, 76-77.	M Preserving natural assests, airport plans, and exports, and water freight all mentioned.	L Mentioned lightly in terms of the "Rural and Specialized Passenger Transportation Plan." p. 12, 77.	S "WisDOT actively works with and supports MPO planning in many ways", p. 5, pp. 38-40.	S WisDOT defines "guidelines" for MPO plan compnts to assist conntvty p. 39.	N In process. of creation.

Notes:
S = Strong Response
M = Moderate Response
L = Light Response
N = Not Addressed
N/D = No Data Available

TABLE 2 STATE PLAN RESPONSE TO THE 23 ISTEA FACTORS

STATE	WATER (25)	TSM (26)	EFFECTS (27)	CONGESTION (28)	TRANSIT (29)	LAND USE (30)	ENHANCEMENT (31)	REVENUE ENHANCEMENT (32)
AZ	M Fed H2O qual acts shall be met & exceeded. Trans. fac. should be consist. w/ AZ and area H2O plans. 8-11, 9-4,5.	S Promote TDM such as peak-hr pric, parking sup & pric. strat,empl. based TDM, tele-comm, work week comp. 8-6, 9-6,9.	M Eval econ, soc, energy,and environ.impacts of trans fac. Focus on environ. No specifics. Pp 8-6, 10, 12, 9-4,5.	M Cong. Manag. Sys. will consid range of options to reduce SOVs. All TMAs must have a CMS Pp 4-4.	S Promote reliab transit sys thru State Transit Plan and support of over-the-road motor coach services. Pp. 8-3.	S Devl. trans sys comp. w/ existing& planned land use thru pop & empl. proj, local govt coord, dens devl. Pp. 8-2, 9,10.	S Enhance aest. values thru consid of exist. veg, hist contnt, fac. design, artistic treat., loc. of corrido. P. 8-12.	S Currently funded by AZ Lottery, consid. spec. assess, peak-hour pric, jt. pub/priv vent. Pp 7-3, 10, 8-13.
CA	M Ca. will incorporate the Fed. Water Poll. Control Act in the operation and maint. of trans. facilities. p.22b.	M maintain its existing trans. system to serve the customer and to max. the public's return on invest. p. 14.	S App. A contains an Env. Effects Matrix. pp. A-3 - A-5 p. 2, 3,Improve econ. competiv. Policy 1A, p.5,21, A-1	M Discussed in terms of an overloaded trans system (p. 1) and in terms of Cong. Mangmnt. Agncies. (p. 17t).	S Improve and expand modal choice, including transit. Expand alt. transit services p. 17b, 19, 2, A-3-A-5.	S Protect envir., respect commu. values, encrge afford. housing, & mange land responsively p. 25, A-1,A-3-A-5.	S Reduce presence of toxic materials, improve air quality, and preserve scenic corridors.p.21,22,23.	M The Transportation Blueprint extends funding through the year 2000. p. 2t, 27.
CO	N	S Promote TDM such as ITS, ridesharing, flex hours, HOV lns, modified work hrs, telecomm. Pp125-126, 136-138.	M Will incorp. soc., econ., and environ concerns into trans plann. No specifics. Pp. 22-26, 45.	S Conduct Major Invest.Studies (MIS) on cong. corridors w/ MM potential. Use ITS techn. Pp. 20, 89-91, 138-139.	L Current sys. is discussed, but no plans for future exc. 3 new bus routes. Pp. 133-136.	M Devl. proc. which balances trans & land use. Need more info before this proc. can be devl. P. 146.	M Has Scenic Byways prog. Pp. 8-9, 89.	N
FL	M Will go beyond Fed standards and coop. with local agencies. No details. P. 41	S HOV, car/ van, xpand bus sys, intell veh/ hiway sys,employ incent, bikeways, ped overpasses. Pp. 36-37, 39-40.	M Sensitive to neighborhood, comm, and hist. pres. goals. Will go beyond Fed environ standards P. 41.	S Reduction of SOVs is one goal of plan. See J for details. Pp. 39 - 40.	S Incr. ridership thru expand serv., add buses, incr. reliability, create strong attractors, imp. intermod.conn. 40.	L Most resp. is placed on local govt. planners. Pp. 38, 40.	S Use nat. veg. and wildflowers. Sensitive to community neighbor., & hist pres. P. 41.	L No innovative rev. enhancement given.
IL	L No specific ment., perhaps consid. "environ consid". Pp 24-26.	S Improve intermodal conn, use adv tech, pub trans, car/van, telecom &cong. price. Pp 22-24.	M Strong emp on econ. and air qual. Pp 18-19, 24 - 26.	S Imp. inter-modal conn, use adv. tech (ITS, AVI), hi speed rail pub trans, telecom cong pric Pp22-23.	M Expand, enhance & encour. Reduce cong & emissions Pp20, 23 and 25 .	M Consider effects on land use and devl; consist w/ all long & short range plans. P.26.	NCovered in other areas, but not important to STP.	S Explore toll opports, value capture pricing, priv. sect. funding pub/priv part &ded taxes. Pp 26-28.
MA	S Specific pol. to prev and mit H2O poll, ie red. road salt, restore poll. shellfish beds.Fed pol. not ment. P. 2/20.	S Fwy surveill, control systems, incident manage, ramp metering, HOV proj and signal timing. Pp. 2/9-10.	S Reduce air pollutants, water pollutants, and noise and vibration impacts, Pp. 2/20-21.	S Ridesharing, shuttles, pref. parking, subsidized transit passes. Pp. 2/10-11.	L Only intercity buses mentioned (see AM).	S Improve trans options in devl areas to encour. transit use, high density devl, and environ sens. land use. Pp. 6/5-6.	M Broaden Scenic Byway Program,enhance historical and arch. significant land and prop. P. 2/22.	M Developer-based rather than user based; cong manage. not mentioned. Pp. 7/21-26.

Notes:
S = Strong Response
M = Moderate Response
L = Light Response
N = Not Addressed
N/D = No Data Available

TABLE 2 STATE PLAN RESPONSE TO THE 23 ISTEA FACTORS

STATE	WATER (25)	TSM (26)	EFFECTS (27)	CONGESTION (28)	TRANSIT (29)	LAND USE (30)	ENHANCEMENT (31)	REVENUE ENHANCEMENT (32)
ME	S Chp.V(goal 6 obj. 2) for ponds, rivers, lakes & estu. current work w/state plan off to devel Coastal Zone Mgmt Plan. Goal 3obj4 strtgs protect H2O resources relate to highways.	S Chp V. promote improved efficiency of existing system through implementation of multi-modal connections & expansion of mult-modal oppurt. for mult-modal efficiency.	S ChpV. goals, objectives & strategies strongly emphasize social, economic, energy&environ. Goals 4,5,6,7,10&12.	S Chp. V Strtgs Goal 1&2 reduce conges thru demand mngmnt. techq. Goal 9: rideshare,capital improve, 1-800 easy access, encourage local gov't to consider trip rectn. ord.es.	S Chp. V Goal 2-expan new intermodal opport to improve transit facil. MDOT in process work w/ transit provdr, D.O. Human Services & Bur of Mental Retar. to adopt perfom. standrds.	S 8 RTACs Advisory Report in Plan Part 2 has a chptr. on a reg. overview & LU trends. Goal 4, Part 1-integr. trans & land use plann, encour TOD, mixed used, growth mgm't.	S MDOT has Trans. Enhmnt. Project, RTACs support strats. & programs to identify & preserve scenic views, archeol &hist sites to retain Maine's rural charat.	STurnpike only toll road in state. oppor for toll of other hiways. study the use of pub/priv partnr for new trans facil developm't, dedicated to promo altern trans.
MI	L The plan challenges the provisions of the CW Act that are costly. p.56.	M "Maintain and, where approp. improve state highways, ..roads, streets, and bridges ...," p. 45.	L "Respect sensitive or unique natural, scenic and cultural environments...," p. 54, 17.	M This topic is discussed mainly in terms of encouraging alternatives to the SOV mode. p. 55.	S "Enhance the responsiveness and efficiency of transit and ridesharing...," p. 39, pp. 28-30.	M "Max. the use of existing infras., increase the effec. of invest. and enhance the vitality of the local commun. p. 34.	S "Provide transportation systems that are environmentally responsible and aesthetically pleasing'" p. 53.	S Use "investment in existing infrastructure to retain or enhance the viability...," p. 49.
MN	N	L One trans. investment priority is "preserve essential elements of the trans. system"; p. 4-3.	S These impacts discussed to varying degrees. Social - p. 1-3, 7-4, Env. - p. 3-5,3-6,4-2,4-7,7-1-7-15.	L Not addressed directly. Alternative trans. modes such as transit, bike and pedestrian are discussed.	S Specific plans are in place. p. 2-13 - 2-18, 5-8, 5-10 - 5-13, 6-9 - 6-14, 6-20 - 6-24, 7-9, 7-14, 8-2, 8-3, 8-9.	M One statewide trans. policy objective is to "coordinate trans. planning and land use decisions." p. 4-3, 4-11, 7-2.	S Addressed directly with specific objectives on pages 7-10 - 7-11. Noise - p. 7-5.	S Entire chapter. Topics: higher gas tax, create higher sales tax, implement road pricing. p. 3-7, 6-1 -6-27, 8-12.
MO	L Consider imp. of clean water. No specifics, no mention of Fed regs. Chap 5, p6.	S/M Prom TDM strat. incl. ride sharing, flextime, alt. modes, tele-comm. Chap. 5, p10, Chap. 7.	M Each MPO is resp. Noise abate,personal safety, off street parking, driveway loc.,& others. Chap. 7.	S Ed. pub. re. SOV impact, incr park/ride use, encour.use of alt. modes. Chap 5, p7, Chap 7, and C.	M Create task forces to encour transit use. Resp. of MPOs. Chap 5, p. 7, Chap. 7.	M Prom. compact land use patterns approp. comm & indust. locations & redevl opps. Chapt 5, p6, Chap. 7.	SS Native veg rehab/restor, min. herbicides, prot. scen &hist. qual. Chap 5, p. 8, Chap 11.	S Bonds, 75/25 match prog, local/ state/priv ventures toll bridges. Chap 12, p 5.
NC	M Cont. to util. pract. to protect water quality. Fed regs not mentioned P.100.	M-S ID cong. hwy corridors needing HOV lanes. P. 56. See also Q.	M Impr. & devl practices to prot. social, hist, cult, archaeo &environ resources. Focus on envir. not others Pp. 97-102.	S Impl. Cong Man. Sys.Encour. intermodl facl, ridesharing, park & ride, flex hrs, car/van, pref park Pp54,57,65-67.	M Devl. master plan to impr. pub trans options in NC. P. 53.	S Integr. trans &land use plann. Encour. TOD, mixed use, compact & acces patterns of devl. Pp. 63, 71.	S Cont. widflwr & ornamnt plntng & ScenicByways, incr aware. of enhanc opps, min.effects on hist. struct.76-78.	S Study cong. pricing, tolls, time-of-day pricing, value capture pric. & HOV discounts. Pp. 76, 93, 95.
NJ	M Meet or exceed environ standards. No specifics. P. 65.	S Metering, traf. engineering, HOV lanes, change travel behavior, off-peak tolls, empl incent. Pp 75, 80, 81, 87-88.	L See AO. Non-environ issues not addressed.	S See AP.	S Expand and reconfig. old rail network. 11 new lines considered. P. 78.	S Use trans to shape desired devl patt., encour businesses to stay in areas supp state land use pol. Pp.81,85.	S Reposition util lines, replace unappealing lights & landscaping. Cont. Scenic Byways Prog.Pp. 150.	S Electr. coll. of tolls & fares, mrkt based cong. pric., wt dist tax, priv. rds. Pp. 75, 82, 94-104, 109, 111, 112.

Notes:
S = Strong Response
M = Moderate Response
L = Light Response
N = Not Addressed
N/D = No Data Available

TABLE 2 STATE PLAN RESPONSE TO THE 23 ISTEA FACTORS

STATE	WATER (25)	TSM (26)	EFFECTS (27)	CONGESTION (28)	TRANSIT (29)	LAND USE (30)	ENHANCEMENT (31)	REVENUE ENHANCEMENT (32)
NY	N	S "It is essential that NY's future trans. infrast. be maint'd. in good repair" p.21,pp.32-34.	M Social impacts not disc'd. energy and environ. impacts ment'd. pp. 13-14,15-17, 35, 36,14, 35.	S Goals that emphasize non-SOV travel and improved engineering as partial solutions. p. 41, 62-74.	S Transit is perhaps the most mentioned single topic in the plan. p.12,19,25,27,32,54,57, 61,66-68,79,87.	M Graph of MPO plans has a section on land use, the state plan mentions the topic only sparingly. p. 39b.	L Mentioned indirectly. Air and noise pollution discussed. (p. 15)".	S Chapter VI: "New York's trans. program faces major fiscal challenges." Desperate tone p. 85-92.
OR	M Fed. and state laws of water pollution. mentioned.as are envir. protection statutes p.28, 40-41, 115.	M "It is the policy of Or. to mng. existing trans. infras. and servcs before adding new fac.s "pp. 64 66p. 12, 18, 115.	M "Or. will continue to prize the beauty of the landscape and the quality of the envir." p. 27-28, 40-41.	S A major theme of the plan is to implement non - SOV encourgmnt msrs. p. 2, p. 12, p. 24 benchmark #1, 38, 48, 51,54.	S Transit is important part of Or.'s endorsmnt of alternative transportation modes p.8,9,11,12, 51,54b,85,88,94-96.	S Trans. sys.s dev. will support mixed use land dev., compact cities, and connectivity. p. 47,7b,p.18,28,47.	M "Include aesth.s in design, maint. and improve. of corridors and rights of way" .p. 55.	S The cost of alt.s is disc. in detail. Specific financing plan in the works as of 1992 p.18, 6,8,18,33t .
TX	L Resolve dregd. disputes re. Gulf Intracoastal Waterway. P. 29.	S Promote ridesharing and carpooling, HOV and reversible lanes & incorp. new tech. Pp. 18, 21, 61.	M Support alt. fuels, environ qual in non-attain areas, ID environ sensitive areas. Mostly envir. Pp. 39-41.	S ID bottlenecks in fr8 trans, priort. funding for proj that promote HOV use or other non-SOV modes. Pp. 20, 24 & K.	S Provide incent, est. remote park. facilities, educate, task force to rec. changes, high speed water transit. Pp 17-18.	S Encourage compact & accessible patt, urban boundaries, reuse of prev devl areas, TODs, mixed use. 24-25.	L Est. guidelines that enhance environment. No specifics. P.41.	S Cong. pricing, time-of-day pric, incr reg. fees on com trucks, user fees, wt-dist. taxes, emission fees. Pp. 26, 52.
VT	N	L Id system maintance, mgm't & preservation. No strategies.	S 18 measures of effectiveness for transportation improvements. chp 3,9,10,18.	L limited applicability in Vermont with its essentially rural travel characteristics.	L commuter light rail system currently under study, no mention of transit facil expansion and enhancement.	S Integr. trans &land use plann. Encour. TOD, mixed use, compact & acces patterns of devl. Pp. 20,21.	S VDOT policy which includes free-standing projects & enhancement to traditional trans. projects. Initial round of grants have been approved. .	S gasoline taxes, retention of motor vehicle use taxes, privatization strategies.
WA	N	S TSM meas will be fully funded. Devl. HCT, HOV lanes, use TSM & TDM for new proj. P. 32, Hwy pp. 3-5.	M Mostly envir. Remove fish barriers, reduce noise, no net loss of wetlands P. 13.	S Improve ferry system. P. 19. See K and N.	S Provide sched info for multimodal trips, improve rural mobil., allow local govts to to impose trans. taxes. Pp. 25-33.	M Facilitate integration of land use and trans. processes. No details. Pp. 26,27.	S Manage roadside veg., maintain Scenic & Rec. Highway Sys preserve hist. resources along highways. Pp9,13.	L No innovative rev. enhancement given, only increased income taxes. P. 71-75.
WIS	L Mentioned p. 125.	L p. 7.	S p. 114 - Env. Impact Draft Plan, p. 90-92, 128-130, econ pp. 37-38.	L pp. 75-76.	M WisDOT to fight higher fares, lower ridrshp and funding. pp. 11-12, 42-43, 60-64!, 71-74.	S Ccoord. trans. and land use plnng to make smarter, more effct. decisions. p. 103, 119-120!, 14, 86-90!.	N In process. of creation.	M WisDOT uses a dedicated transportation fund. Also, considers expanding user fees beyond highways. p. 15, 93-96!.

Notes:
S = Strong Response
M = Moderate Response
L = Light Response
N = Not Addressed
N/D = No Data Available

TABLE 2 STATE PLAN RESPONSE TO THE 23 ISTEA FACTORS

STATE	RIGHTS OF WAY (33)	LONG RANGE (34)	COMMERCIAL (35)	LIFE-CYCLE (36)	COORD. PLANS (37)	INVEST STRAT (38)	INDIAN (39)
AZ	M Protect and preserve r-o-ws for future facilities, consistent w/ planned devl. Pp. 8-10, 9-13.	S Long-term outlook re. pop., energy and techn. Pp. 5-4 - 5-15.	M Current cond are mentioned (Natl Intercity Truck Routes, Pref Haz Mat Routes), Pp. 6-6 - 6-10.	M Consider l-c in planning and design of trans fac. No specifics P. 8-13.	S See AL & AM.	L Devl prog. for impr. of rural roads for econ. devl. purposes. P. 8-8.	S Close coord. with all American Indian Nations in AZ to ensure trans. sys compatibility Pp. 8-14, 15.
CA	L Preserve trans. corridors. Environmental Effects Matrix, p. A-5.	S p. 3, 5, 8. whole plan.	S Simplify permit processes, focus on invest. and expand auto. comm. vehicle operations. P. 5-6, 8, 15, A-3.	M The State "should emphasize use of life cycle cost principles in investment decisions" p. 14.	M "actual practice has been spotty and fragmented." p. B-1 - B-2, p. A-1,	M Actions:support tech. dev. for tourism and serve rural areas and rec. sites. p. 2, 9, 10.	S Mentioned Specifically. "participated"; p. ii, p. 26
CO	M Obtain r-o-ws to abandoned rail lines. P. 132.	L Meet needs of all who use CO's transportation sys No transit details. P. 43.	S Improve State Significant Corr. Use ITS techn., such as weigh-in-motion. Pp. 75, 77, 95-101, 89-90, 126.	N	S MPO trans. plans will be incorp into State plans. Pp 22-24, 44.	N Could be in TRPs; see AK.	S CO's 2 Indian tribes are memb. of the SW TRP. Their plans are incorp into the TRP and state plans. P. 35.
FL	S Coop. with local govts, adv. acquisit. of r-o-w, ID & protect land required for future air & water ports Pp. 37 - 38.	M Complete FL Intrastate Hiway System & imp. conn. bt. seaports airports, railroads & highways. Pp. 36, 38.	S Complete FIHS, manage trans corridors effectively. See R. Pp. 36 - 38.	N	L Dept. will coord. with local & regional agencies. MPOs not mentioned. P. 40.	L/M Complete FIHS P. 37.	N
IL	S Preserve by IDing unused r-o-w and current r-o-w threatened by loss or destruct. P. 28.	M Promote system utilizing all feas. modes, facilit transfers, provide statewide access. P. 24.	S Prom effic. move., ID intnatl & intstate trans needs, prom mobil & acc to trans sys. Pp. 19, 20, 24.	M Develop life-cycle costs for pavement and bridges. P. 21.	M Coordinate state and local plans, including MPOs. P. 28.	M Attract tourism, provide access to rec, cult hist, scen fac thru state. Rural not ment. P. 19 & L.	No Indians reserves.
MA	L Mentioned as a way to reduce congestion. P. 2/11.	M Expected demographic and work changes addressed. 3/24-28.	M Improve effic. of freight sys. thru Freight Adv. Council and special studies. Pp. 2/13-14.	N	S See AL.	M Make long-term econ impact one factor in trans decision making. Weigh rural and urban proj fairly. Pp. 2/17.	M Include Indian tribes in trans. policy devl. along with all other under-represnted groups. P. 2/2.

Notes:
S = Strong Response
M = Moderate Response
L = Light Response
N = Not Addressed
N/D = No Data Available

TABLE 2 STATE PLAN RESPONSE TO THE 23 ISTEA FACTORS

STATE	RIGHTS OF WAY (33)	LONG RANGE (34)	COMMERCIAL (35)	LIFE-CYCLE (36)	COORD. PLANS (37)	INVEST STRAT (38)	INDIAN (39)
ME	SChV Goal 11:dev.policyto share rail corr w/ ped/bike faci. ID future corr. preserve walk & cycle r-o-w. policy for sharing rail corr w/ compat. winter/non-winter users.	S Promote system utilizing all feas. modes, facilit transfers, provide statewide access. ChV Goals 1 & 2.	S Prom effic. move., thru just-in-time delivery schedules, get heavy freight off roads & onto rail or water, build haul roads to heavier standards than other roads. ChpV Goal 1,2,3.	M Ch V Goal 2obj 3 Strtgs to research and imple life cycle costs for all modes. No mention of use of full life cycle costs in the design & engineer of bridges, tunnels or pavements.	S Coord of MPO&RTAC plans and Maine Turnpike Plans is addressed by MDOT's Multi-Modal Planning Group.	S Chp V Goal 7attract tourism, improvement & repair of local roads, work w/fed & state to promote land mgm't and recreational development.	S Representation of Indian Tribal Gov't is an integral part of the ongoing interagency Transportation Forum.
MI	S "Preserve right-of-way corridors for anticipated transportation improvements ..." p. 35. Use of rail corridors' p. 46.	S "The plan must cover a 20-year time frame...," p. 1.	S "MDOT had developed ...programs [to be] responsive to the needs of bus. and indus. p. 17.	M Minimize the life-cycle costs of the infrastructure," p. 46.	M "Improve connectivity in the provision of trans. services across and within juris.s and among modes" p. 31.	M Mentioned only in terms of overall economic growth.	S "Enhance oport.s for coord. between state, regional, city, county, township and tribal officials," p.32,17.
MN	L Not mentioned directly. p. 4-12.	S Page 1-1 states: " The Plan will ensure a well managed transportation system over the next 20 years."	L Not mentioned directly.	L A specific goal is to incorporate life-cycle costs into the planning process (p.4-5).	L Not mentioned specifically.	N	L This topic is not addressed in any great detail. p. 5-4.
MO	M/S Pres. r-o-ws Prevent encroach of subdivisions. Chap. 7.	S Trans sys that is sustainable into future. MPO long-range plans. Chap. 2, pp8-9, Chap 7.	M Impr. mobility of freight to mrkts, devl. MM freight sys, devl of effic intermodal freight facilities Chap 2, pp 3-4.	M Listed by MPOs. Chap 7.	S See H.	M See I.	No Indians reserves.
NC	S ID future corr, encour. local govts to prot. rgt-of-way, review rail abandonment applications P.74.	M Lists trends & local long range plans. Devl. long-range plans for cities,counties & regions. Pp 37-48, 54, 144-145.	S ID bottlenecks, devl ITS tech., util. Cong Manag System to ID sys links and facilities constraining fr8 traff Pp. 67,76,89.	M Use l-c cost analyses to eval projects. P. 96.	S Coord & coop with pub & priv agencies & all lvls of govt. Has 3-C trans plan proc for MPOs. Pp 103-107, 113-146.	L Study approp trans proj related to econ devl of NC. Rural not mentioned. P. 69.	N (Indians were involved in plan creation) .
NJ	M Preserve r-o-w for bikes, transit, stations, parking & hwys. No specifics. P. 76.	M Passenger & goods movement are covered in Intermodal Man. Sys. Long-range not spec. Pp. 147-148.	S Eliminate barriers that restr. trucks, provide clearance for doub stack rail, dredge channels. Pp. 77, 81.	M Pavement, bridge, & public transit manage. sys. will min. l-c costs. Pp73-74, 75.	S See AL & AM.	L All areas fall under an MPO. Tourism is listed under AN.	No Indians reserves.

Notes:
S = Strong Response
M = Moderate Response
L = Light Response
N = Not Addressed
N/D = No Data Available

TABLE 2 STATE PLAN RESPONSE TO THE 23 ISTEA FACTORS

STATE	RIGHTS OF WAY (33)	LONG RANGE (34)	COMMERCIAL (35)	LIFE-CYCLE (36)	COORD. PLANS (37)	INVEST STRAT (38)	INDIAN (39)
NY	N " the State's most densely pop. metro. areas have little space for adding capacity.(p. 64)".	S All of the plan. "...the first quarter of the new century..."	S Discussion of freight move. but little is specifically comm. motor vehicle. p. 49, 57, 58, 70-71.	S Action Step: "focus on life-cycle costing rather than first cost...(p. 33)." . p. 33.	L Coordination is mentioned only indirectly.	S Discussed specifically. Goal: "support and enhance rural economic development." p. 76, 80-81.	M "It is import. to address their concerns as early in the planning process as possible." p. 76, 83.
OR	L "Consider using abandoned rail corridors..." p. 39.	S Whole plan is 20 years.	S "promote a bal. freight trans. sys. which takes adv. of the inherent effics. of each mode."Goal 3:p.13,56-61.	L "Consider the use of life-cycle costs in the design and engineering of bridges, tunnels, and pavement.	M "Reg. trans. plans shall be made consistent with the adopted elements of the trans system plan." p.48,69.	L "It is the policy of Or. to fac. the movem. of goods andservices and to impr. access in rural areas. "p.30 ,53.	M Or."shall coop. with Indian Tribal gov.s in trans. plnng when plans are on or adjacent to Indian reserv.s p.6,7.p.48t, 70.
TX	N	L Maintain infrastructure, implement man. systems. Pp. 25-29.	L Enforce inspections and licensing of comm vehicles P. 26,43.	S Use L-C costing for cost estimates and proj. evaluation P. 49.	M See G.	M Give attention to econ. needs of rural areas; no spec. policy. P. 38, F & I.	N
VT	L Id corridors, preservation of r-o-w mentioned briefly.	L only mentions the importance of movement of persons and goods.	L mentioned only considered as parts of the regional and statewide modelling process, no concrete plan.	L mention consideration of lif-cycle costs, but no plan.	L since the regional commissions plans are not completed there is limited coordination .	L mentions only the importance of tourism and no strategies.	No Indians reserves.
WA	M Preserve poss corridors such as abandoned rail tracks and r-o-ws P. 29.	L No specific mention.	M Support eff. & reliable freight movement. P. 12. See AA.	N	L Develop partnerships bt. all trans. entities. Not MPO specific P. 27.	L Urban and rural areas will be funded separately Funds to be alloc. acc. to mobil. needs and Cong. Rank Order. P. 5.	L Mentioned as "interested party" for heritage res. purposes. P. 13.
WIS	N In process. of creation.	S In Nov., 1994, WisDOT "formally adopted a comp., long-range plan... through the year 2020." Intro letter.	S "hiwys [are] critically import. for freight move.s and econ dev. in Wis." p. 80.p.44, 46, 79!, 110-111, 13.	N	S "Neither the WisDOT nor the MPO plan is by itself a whole." p. 39, 102.	L This topic is covered briefly in one page and is combined with the topic of specialized trans. p. 77, 119, 12.	N In process. of creation.

Notes:
S = Strong Response
M = Moderate Response
L = Light Response
N = Not Addressed
N/D = No Data Available

TABLE 3 ADDITIONAL ISTEA QUESTIONS

STATE	MULTIMODAL (40)	PUBLIC INVOLV (41)	FREIGHT (42)	PERF. MEASURE (43)
AZ	S. Addresses all modes. Create a MM trans sys. Pp. 8-1 - 8-7.	M. Pub involved thru surveys, mail list, newsletter, board mtgs, speakers, media & leg. briefings. Chapter 3.	M. Corridors will be designed to accom. pass. & freight trans. Pp. 8-2, 10-12, 10-23 - 10-31.	M. PMs will be used to eval. perf of trans. fac. Eg: pavement index. Others need to be devl. P. 4-2.
CA	L Reccom. #3 to the Governor: " Determining the State's Role beyond Highways.", p. iii.	S This topic is of considerable concern. p. 5, 32-33, Environmental Effects Matrix, pp. A-3 - A-5.	L Discussed only in Appendix C under Statutory System Performance Objectives, p. C-3.	M Technical Addendum pp. 46-47. Environmental Effects Matrix, p. A-5.
CO	S. Addresses all modes. Denver West MM Transfer Centers for skiers and gamblers. Pp44, 115-139.	S. Outreach to statewide groups, underserved pops, public ed., media plan. Pp. 39-40, 51-61.	L. Improve freight movement thru. more effic. inter-modal conn. No details.	L. Travel demand measures, but no performance measures. Pp. 41-42.
FL	S. Bikes, peds, transit are encouraged. Rail airports & seaports are mentioned for freight. Pp. 36-38.	M. No plan for public involve in trans dec. Comm. involv. w/ devl of plan= exhibits & pub. workshops Pp. A2-5.	M. Addressed in terms of safety, protection of infrastructure, & econ. benefit. Pp. 32, 35, & 36-38.	L. Brief mention but no details. P. A8.
IL	L. Multimodal approach mentioned but not focused on.	S. Ensure opp for all indiv, grps & orgs in all parts of proc. Cont ed & info re trans issues. Pp. 15, 28.	M. Very broad, covered in S & T.	M. Has needs assess, but no measures to eval alt plans or mon. plan implement. P. 14.
MA	S. Addresses all modes. Current trans. sys. is reviewed in Chap. 3. Pp. 2/8-14.	M. Encour. pub involv on commit. and commiss, reach out to under rep. grps, assess effect. of pub outreach. P. 2/2.	M. Current conditions desc. 3/17-24. See AY.	N.

NOTES:

N/D = No Data Available

TABLE 3 ADDITIONAL ISTEA QUESTIONS

STATE	MULTIMODAL (40)	PUBLIC INVOLV (41)	FREIGHT (42)	PERF. MEASURE (43)
ME	S. Throughout Plan discuss multimodal. Chp. II contains intermodal inventories.	S. Ensure opp for all indiv, grps & orgs in all parts of proc. Cont ed & info re trans issues. Pp. 131.	L. Very broad, covered rail freight and marine freight but little in regard to truck freight.	N/D
MI	M Remnants of being a "highway construction" agency, the report devotes attention to other trans. modes.	"Encourage public participation throughout the transportation decision-making process," p. 43.	S Michigan SLRP has a strong commercial component. P. 17-25, 33, 41, 47, 51.	"Develop interim service standards for each system...," p. 44. Specific performance measures are and alternative plans are not mentioned.
MN	M It appears that Min. moved beyond treating trans. plnng as "highway construction" long ago. Page 5-1.	L MDOT claims "extensive efforts to involve citizens from throughout the state..." - p. 3-3. There is no evidence given.	S Discussed Thoroughly. p. 2-21 - 2-31, 4-3, 4-7.	N
MO	M. Bikes and peds are addressed but other modes just briefly mentioned.	S. Proact involv. cust. in the dec. proc,1-800 #, reg. newletters polling, pub mtgs. Ch 2, p10, Ch 8, p6, Ch 9, App C-F.	M. See T.	M. Equip. life meas, l-c and alt. analysis are ment Environ PMs will be in next plan update. Ch 10, pp3-4, Ch 5, p 16.
NC	S. Prom bal. bt. modes, ID corr. apprp forMMtrans, inte. MM plan into plan proc, use train stn as intM fac.Pp57 59,22-23.	M-S. Ensure coor & coop w/ pub. Surveys, pub hear, info wrkshps newletters, pub review 103-107, 8-15.	S. ID poss fr8 alt modes, rev. regs that neg affect fr8 competitiveness increase inspect. Pp. 59, 89, & U.	N
NJ	S. Discourage hwy exp. in favor of other options. NJ has bike and ped plan and emp transit. Pp. 81, 143.	S. Conduct surveys, maintain issue groups, bulletins, focus groups. Pp. 85-92, 46-60.	S. Goods Move. Ed. Campaign, resolve dredging issues, maint. infrastructure. Pp. 74, 118.	M. 2 types: institutional & strategic. No details.Qual. eval system incl. Pp. 62-68, 70, 119.

NOTES:

N/D = No Data Available

TABLE 3 ADDITIONAL ISTEA QUESTIONS

STATE	MULTIMODAL (40)	PUBLIC INVOLV (41)	FREIGHT (42)	PERF. MEASURE (43)
NY	S It appears that New York transportation planners moved away from being highway planners long ago.	L Interest groups involved in creating the trans. plan. The amount of their involvement is not mentioned.	S Focus on competitiveness and modernity of its fr. move. capabilities. p.30,45,49-52,54,58,70-71.	N
OR	L "For first time the state's trans. plan emphas. the dev. of public transit, rail lines, bic., and ped. facil.s."	N	S Mentioned throughout the document. p. 104, 1, 12, 13, 42-3, 57-60, 91-93, 104.	M The plan has general LOS goals, but rarely uses quantifiable data. p.7 (LOS), P.8, p. 77-105, p. 127, p. 80-85.
TX	S. All modes are considered in Multimodal Chap. Pp. 55-107.	M-S. Develop ombudsman and user-friendly guide to reg. process. Emp. on prev. run-ins w/ public. Pp. 11-14, 44-48.	S. Diff fr8 modes detailed, impact of new tech., coord. w/ internatl fr8 co. re. haz mat trans. 80-102,20-22,28, 42.	N.
VT	L. limited mention of multimodal.	M. involved all interested Vermonters in the process of transportation decisions. disussed the plan at meetings held various locations.	N/D	N/D
WA	SS. WA's main plan is the "Statewide MM Trans. Plan". All modes are given indiv. chapters.	L. Addresses & phone numbers of WSDOT regional offices are given. P. 5.	S. Give Freight & Goods Trans Sys. hwys all weather surface & incr. veh. clear. P. 12. Rail & marine issues pp 41-53.	L. LOS standards will be used to measure mobility on hwy corridors. Pp. 11-12.
WIS	L "State and interstate highways reman a key focus," p. 6.	S "200 mtgs [were] held with citzns and constit. groups",Intro letter. pp. 25-30. p. 4.	S Plan takes a good look at modernizing all types of freight. p. 44, 46, 79l, 110-111, 13.	M Some stats, but not compreh. "base case" and 3 altern.s discussed in detail. pp. 109-133.

NOTES:

N/D = No Data Available

TABLE 4 STATE DOT ORGANIZATIONAL INFORMATION

STATE	HOW SDOT BOARD IS SELECTED (44)	# OF MEMBERS ON SDOT BOARD (45)	STANDING ADVISORY COMMITTEES (46)	STANDING ADVISORY COMMITTEE MEMBERSHIP (47)	ADMINISTRATIVE AND MISCELLANEOUS EXPENDITURES FOR SDOT OPERATION (48)
AZ	Governor	7	No standing.	N/D	$54,606
CA	9 are appointed by Governor, 1 is head of Senate Transp. Commit. 1 is head of Assmebly Transp. Commit.	11	DTAC reprsnts. business, minority, env. an dmodal interests Others include bikes, trucks, much more. Most are ad hoc.	Varies	$687,771
CO	Governor-confirmed by legislature.	11	The usual groups, plus trucking, Indian, Enviromental; 100 mtgs. held in 15 regions.	N/D	$32,813
FL	N/D	N/D	N/D	Varies	$139,635
IL	Cabinet-level body.	N/D	Chamber of Commerce, Garden Clubs, Seniors, Enviros., Universities, Citizen Advisory Groups. 26 mtgs., incl. 4 scoping, 12 topic, 10 regional forums. Not standing.	N/D	$204,262
MA	Governor.	N/D	No standing.	N/D	$15,388
ME	Legislative.	9	Business, Minority, Environmental, Modal, and General Public Groups all: 16-20 members.	Appointed & Volunteered.	$160,149
MI	Appointed by Governor.	6	40 groups. Mostly appointed for STP.	N/D	$167,344
MN	None	None	Bike Board, Private Motor Carriers, others. Not standing.	Selected by the District Engineer.	$65,443

Notes:

N/D = No Data Available

Administrative data in cloumn (48) from 1993 FHWA Statistics, SS-4. Excludes, construction, maintenance, law enforcement, interest and bond payments.

TABLE 4 STATE DOT ORGANIZATIONAL INFORMATION

STATE	HOW SDOT BOARD IS SELECTED (44)	# OF MEMBERS ON SDOT BOARD (45)	STANDING ADVISORY COMMITTEES (46)	STANDING ADVISORY COMMITTEE MEMBERSHIP (47)	ADMINISTRATIVE AND MISCELLANEOUS EXPENDITURES FOR SDOT OPERATION (48)
MO	Governor.	6	Those listed in survey. 100 mtgs. spread out incl. focus groups, staff mtgs. Not standing.	N/D	$116,104
NC	Governor, Speaker of House, Senate Pro-tem - confirmed by legislature.	23	All grps. represented. Some standing.	Sec. of Trans.	$189,392
NJ	Secretary of transportation.	N/D	Major employers. Business. Priv. transit operators. Shippers. Enviros. Local Govt. MPOs. Disabld. 17 wrkshps. Not standing.	N/D	$444,099
NY	N/D	N/D	N/D. Not standing.	Governor and legislature choose.	$115,180
OR	Governor.	5	N/D	N/D	$27,887
TX	Governor.	3	Eniviro & bike.	Governor.	$341,505
VT	N/D	N/D	All interests listed. Not standing.	Appointed & Volunteered.	$12,134
WA	Governor.	7	N/D	N/D	$138,493
WIS	N/D	N/D	Mostly modal advocates: Bike, Hiway safety, Airport. Temp committees include Revenue and Hiway.	DOT selects membership, legislature picks some.	$65,148

Notes:

N/D = No Data Available
Administrative data in cloumn (48) from 1993 FHWA Statistics, SS-4. Excludes, construction, maintenance, law enforcement, interest and bond payments.

TABLE 5 PREVIOUS PLANS AND ACTIVITIES

State	Plan Adopted (month/yr)	Year since prior plan	Differences w/earlier plan	Next update
AZ	12/94	15	Moderate; more interagency coordination & multi-modal	Ongoing
CA	4/95	39 (plans done in 1970s but never adopted)	Completely different; policy document	Minor update in 1997
CO	1/96	No prior plan	NA	6/97
FL	2/95	2	Moderate; long range goals/ objectives added	1/99
IL	3/95	No prior plan	NA	Unknown
MA	12/94	NA	NA	1/99
ME	1/95	3	Very; public participation and non-highway modes	1/98
MI	1/95	3	Somewhat; fiscally constrained plan	1/98 3-year cycle
MN	1/95	13	Somewhat; more policy oriented & multimodal; specific funding	Every odd year
MO	1/95	3	Very different; policy-based multi-modal created w/public input	3/97
NC	9/95	20	Somewhat; contains goals/objectives; public participation; MM	6/97
NJ	5/95	6	Somewhat different; policy plan	2000
NY	In progress	9	Somewhat; use ideas and mobility	2001
OR	9/92	4	Very different; adds system element, MM needs, minimum LOS. New plan more specific.	98/99
TX	12/94	No prior plan	NA	1/9
VT	8/95	3	Somewhat different; public involvement and MM considerations	2001
WA	1/95	10	Somewhat different; MM; financial decisions based on all options	9/97
WI	2/95	7	Somewhat different; MM; new plan strategic/policy level plan	Every 5 years

NA = Not Applicable

TABLE 6 SDOT ROLES AND RESPONSIBILITIES

State	Type* Agency	Recent Change in Structure of SDOT?	No. of Board Members	No. of MPOS in State
AZ	MM+	Y - new intermodal division; downsize	7	3
CA	MM	ND	11	15
CO	MM	Y - became DOT & assumed aeronautics functions	11	5
FL	T	N	NA	25
IL	MM	Flood control transferred to other agency	NA	12
MA	MM	N	NA	13
ME	MM	In progress	9	4
MI	MM+	N	6	13
MN	MM	N	NA	7
MO	MM	Y - major	6	13
NC	MM	N	23	17
NJ	T + air	N	NA	3
NY	MM	N	NA	12
OR	NA	Y	5	5
TX	MM	N	3	25
VT	MM	Y - relation w/Transportation Board	NA	1 (plus 11 regional planning councils)
WA	MM	Y	7	8
WI	NA	N	NA	13

NA = Not applicable
ND = No data (missing or not answered)
N = No
Y = Yes
Type agency: T=traditional highway functions; MM=multi-modal; MM+=multimodal plus extra functions (such as ports planning)

TABLE 7 PLANNING ISSUES AND THE STATEWIDE PLAN DOCUMENT

State	Pressing Problems	Maintain Mgmt. Systems?	What Best in Plan?	What to Improve Process?	Subject to Environmental Analysis
AZ	Funding, MM system, environ. protection, growth/economic development	All	Diversity of elements	Completion of process stated w/ISTEA	N
CA	Funding structural issues, goods movement	All exc. public trans. & congestion	Seeking input from outside SDOT	Articulated roles for various participants; uniform financial forecast procedure	Y
CO	Preservation, safety, mobility	Bridge, pavement, traffic	Coordination w/interest groups; public participation	Project prioritization; long range vision	In AQ non-attain. areas only
FL	Evaluating modal alternatives; managing high priority corridors; transit and nonmotorized modes	All	Plan serving as the link between policy planning process, budget process and work program development	ND	N
IL	Congestion/mobility in urban areas; improving AQ; aging interstate system; funding; access to rural areas	All, but not to federal stds	Public involvement, outreach, education	ND	N

State	Pressing Problems	Maintain Mgmt. Systems?	What Best in Plan?	What to Improve Process?	Subject to Environmental Analysis
MA	Preserving existing system; reducing congestion; funding; growth management	All, but intermodal open	Bottoms up approach for projects/programs from MPOs. Top down for policies. Local support.	"Integrated planning process"; shorten planning/design/permitting process	N
ME	Funding; economic development; environmental needs	Missing	Projection of future needs	More time	
MI	Highway preservation	All + 3 more	Authors believe plan well written and understandable by public	Reduce cumbersome nature of MPO approval process; reduce fragmentation of all jurisdictions	Sub-state plans only
MN	Intermodalism, access, values, community involvement; coordination	All	Involvement of other agencies	More public involvement; more centralization for policy	N
MO	Maintenance, improved access and mobility	All, but intermodal lags	Public involvement; not a static document	Moe intermodal approach	N
NC	Maintenance, funding; ability to respond to growth	Not all. Limited congest. mgmt	Inclusivity; less politics	Continue MPO/public involvement; respond to public concerns; keep Federal role minimal	N

State	Pressing Problems	Maintain Mgmt. Systems?	What Best in Plan?	What to Improve Process?	Subject to Environmental Analysis
NJ	Economic development; quality of life; linkage to land use. Efficiency of systems	All to varying degree	Public involvement	Public involvement. Frame clear choices; maximize flexibility	N
NY	Maintenace; interagency coordination; congestion, funding	All	Public information process	More attention to land use issues; connection with nearby states	N
OR	Congestion management, determining LOS; urban/rural split; equity	All	Commitment of senior management and trans. commission	Funding; better fund estimates; better land use/TP connection; fed gov't should reward states with better planning	ND
TX	Preservation/maintenance; funding; mobility; economic development; international trade	Bridge, pavement, congestion only	Multi-modal; extensive public input	Better education/training; link plans to projects	N
VT	Preventive maintenance; strategic investment decisions responsive to communities	Bridge, pavement, safety only	ND	More input from general public (less from special interest groups)	ND
WA	Funding	No, but doing most	Public and legislative process strong	Consider current and future plans together to maximize each mode's efficiency	Y
WI	Condition of statewide freeway system; rail passenger needs	All, but w/changes	Public involvement	Work closer with local government	Y

ND = No data
N = No
Y = Yes

TABLE 9

AVERAGE DISTRIBUTION OF SDOT PLANNING BUDGETARY RESOURCES: FY 1995-96

Source	Average Funds	Percent
Federal/ISTEA	$1,112,000	78.3
State Funds[a]	308,000	21.7
Total Average Budget	$1,420,000	100.0

[a] From state fuel taxes, user and license fees, and other grants.

Source: Data obtained from interviews of staff from all study SDOTs, February - May, 1996

TABLE 10

RELATIONSHIPS BETWEEN THE NUMBER OF SDOT FUNCTIONS AND INDICATORS OF SDOT EFFECTIVENESS

Effectiveness Indicator			Partial Correlation Coefficient[a] (n=18)
A.	Success of prior transportation plan to achieve goals		0.2040
B.	Success of new planning process to:		
	1.	Change prior plan	-0.4700
	2.	Serve current SDOT goals	-0.2028
C.	Improved coordination between:		
	1.	Local governments	-0.0668
	2.	MPOs and State	0.0114
	3.	Transportation and land use activities	0.3381
	4.	Transportation and air quality activities	0.1876
D.	Reduction of Traffic Congestion		-0.2216
E.	SDOT/MPO cooperation		-0.0296
F.	Effectiveness of SDOT to improve transportation mobility and air quality		0.1178
G.	Importance of MPOs in metro planning		0.1998
H.	Success of public involvement		-0.0296
I.	Degree of plan controversy		0.2700
J.	Degree of cooperation with other significant agencies:		
	1.	Other SDOTs	-0.0307
	2.	Air quality district	0.2875
	3.	Regional transportation planning agencies	0.5836[c]
	4.	Land use/growth management agencies	0.0406
	5.	Environmental agencies	0.5016[c]
	6.	Transit operators	0.2168
	7.	U.S. Department of Transportation	0.3020

[a]two-tailed t-test yields p>0.100 unless otherwise noted
[b]t-test yields p<0.100
[c]t-test yields p<0.050
[d]t-test yields p<0.010
[e]t-test yields p<0.005
Source: Compiled by authors

TABLE 11

RELATIONSHIPS BETWEEN THE EXTENT OF CITIZENS PARTICIPATION AND INDICATORS OF SDOT EFFECTIVENESS

Effectiveness Indicator		Partial Correlation Coefficient[a] (n=18)
A.	Success of prior transportation plan to achieve goals	-0.2867
B.	Success of new planning process to:	
1.	Change prior plan	0.1751
2.	Serve current SDOT goals	-0.3604
C.	Improved coordination between:	
1.	Local governments	0.8677
2.	MPOs and State	0.9714[c]
3.	Transportation and land use activities	0.8055
4.	Transportation and air quality activities	0.9922[c]
D.	Reduction of Traffic Congestion	0.9897[d]
E.	SDOT/MPO cooperation	-0.0974
F.	Effectiveness of SDOT to improve transportation mobility and air quality	-0.7069
G.	Importance of MPOs in metro planning	-0.2011
H.	Success of public involvement	0.9916[c]
I.	Degree of plan controversy	0.4193
J.	Degree of cooperation with other significant agencies:	
1.	Other SDOTs	0.2546
2.	Air quality district	0.2987
3.	Regional transportation planning agencies	-0.5884
4.	Land use/growth management agencies	-0.3561
5.	Environmental agencies	-0.6357
6.	Transit operators	-0.8497
7.	U.S. Department of Transportation	-0.4048

[a]two-tailed t-test yields p>0.100 unless otherwise noted
[b]t-test yields p<0.100
[c]t-test yields p<0.050
[d]t-test yields p<0.010
[e]t-test yields p<0.005
Source: Compiled by authors

TABLE 12

RELATIONSHIPS BETWEEN THE SDOT PLANNING BUDGET AND INDICATORS OF SDOT EFFECTIVENESS

Effectiveness Indicator			Partial Correlation Coefficient[a] (n=18)
A.	Success of prior transportation plan to achieve goals		0.0641
B.	Success of new planning process to:		
	1.	Change prior plan	0.2687
	2.	Serve current SDOT goals	0.9451[e]
C.	Improved coordination between:		
	1.	Local governments	-0.9134[d]
	2.	MPOs and State	-0.5237
	3.	Transportation and land use activities	-0.5321
	4.	Transportation and air quality activities	-0.7702[c]
D.	Reduction of Traffic Congestion		-0.8112[c]
E.	SDOT/MPO cooperation		0.3919
F.	Effectiveness of SDOT to improve transportation mobility and air quality		0.6183[c]
G.	Importance of MPOs in metro planning		-0.2269
H.	Success of public involvement		0.3816
I.	Degree of plan controversy		-0.5383
J.	Degree of cooperation with other significant agencies:		
	1.	Other SDOTs	0.1488
	2.	Air quality district	0.8112[c]
	3.	Regional transportation planning agencies	0.6183[b]
	4.	Land use/growth management agencies	0.1019
	5.	Environmental agencies	0.5353
	6.	Transit operators	0.0427
	7.	U.S. Department of Transportation	0.6220[b]

[a]two-tailed t-test yields $p>0.100$ unless otherwise noted
[b]t-test yields $p<0.100$
[c]t-test yields $p<0.050$
[d]t-test yields $p<0.010$
[e]t-test yields $p<0.005$
Source: Compiled by authors

TABLE 13

RELATIONSHIPS BETWEEN SDOT PLANNING BUDGET PER CAPITA AND INDICATORS OF SDOT EFFECTIVENESS

Effectiveness Indicator		Partial Correlation Coefficient[a] (n=18)
A.	Success of prior transportation plan to achieve goals	-0.4753
B.	Success of new planning process to:	
1.	Change prior plan	0.0304
2.	Serve current SDOT goals	0.7719[b]
C.	Improved coordination between:	
1.	Local governments	0.2721
2.	MPOs and State	0.0592
3.	Transportation and land use activities	0.5295
4.	Transportation and air quality activities	-0.5937
D.	Reduction of Traffic Congestion	-0.1683
E.	SDOT/MPO cooperation	0.2880
F.	Effectiveness of SDOT to improve transportation mobility and air quality	-0.2526
G.	Importance of MPOs in metro planning	0.6547
H.	Success of public involvement	0.9972[c]
I.	Degree of plan controversy	0.6815
J.	Degree of cooperation with other significant agencies:	
1.	Other SDOTs	0.8558[c]
2.	Air quality district	0.7340
3.	Regional transportation planning agencies	0.8154[c]
4.	Land use/growth management agencies	0.4630
5.	Environmental agencies	0.2658
6.	Transit operators	-0.0576
7.	U.S. Department of Transportation	0.4510

[a]two-tailed t-test yields p>0.100 unless otherwise noted
[b]t-test yields p<0.100
[c]t-test yields p<0.050
[d]t-test yields p<0.010
[e]t-test yields p<0.005
Source: Compiled by authors

TABLE 14

RELATIONSHIPS BETWEEN THE NUMBER OF SDOT GOVERNING BOARD MEMBERS AND INDICATORS OF SDOT EFFECTIVENESS

Effectiveness Indicator		Partial Correlation Coefficient[a] (n=18)
A.	Success of prior transportation plan to achieve goals	0.5410
B.	Success of new planning process to:	
1.	Change prior plan	0.7478
2.	Serve current SDOT goals	-0.0664
C.	Improved coordination between:	
1.	Local governments	0.5512
2.	MPOs and State	-0.6381
3.	Transportation and land use activities	-0.7485
4.	Transportation and air quality activities	-0.3017
D.	Reduction of Traffic Congestion	-0.7485
E.	SDOT/MPO cooperation	-0.3429
F.	Effectiveness of SDOT to improve transportation mobility and air quality	-0.3311
G.	Importance of MPOs in metro planning	0.4204
H.	Success of public involvement	0.9746[c]
I.	Degree of plan controversy	0.7081
J.	Degree of cooperation with other significant agencies:	
1.	Other SDOTs	0.7447
2.	Air quality district	0.9975[c]
3.	Regional transportation planning agencies	-0.1749
4.	Land use/growth management agencies	-0.5624
5.	Environmental agencies	0.3985
6.	Transit operators	-0.6633
7.	U.S. Department of Transportation	0.9005[c]

[a]two-tailed t-test yields p>0.100 unless otherwise noted
[b]t-test yields p<0.100
[c]t-test yields p<0.050
[d]t-test yields p<0.010
[e]t-test yields p<0.005
Source: Compiled by authors

TABLE 15

RELATIONSHIPS BETWEEN THE TIME USED TO COMPLETE STATE PLAN AND INDICATORS OF SDOT EFFECTIVENESS

Effectiveness Indicator		Partial Correlation Coefficient[a] (n=18)
A.	Success of prior transportation plan to achieve goals	0.1220
B.	Success of new planning process to:	
1.	Change prior plan	0.0585
2.	Serve current SDOT goals	0.4742
C.	Improved coordination between:	
1.	Local governments	0.2568
2.	MPOs and State	0.5483 [c]
3.	Transportation and land use activities	0.2475
4.	Transportation and air quality activities	0.4755 [b]
D.	Reduction of Traffic Congestion	0.2212
E.	SDOT/MPO cooperation	-0.3773
F.	Effectiveness of SDOT to improve transportation mobility and air quality	0.4653 [b]
G.	Importance of MPOs in metro planning	-0.1392
H.	Success of public involvement	-0.3431
I.	Degree of plan controversy	0.1992
J.	Degree of cooperation with other significant agencies:	
1.	Other SDOTs	0.2022
2.	Air quality district	-0.1545
3.	Regional transportation planning agencies	-0.0462
4.	Land use/growth management agencies	-0.5023
5.	Environmental agencies	-0.3585
6.	Transit operators	-0.3508
7.	U.S. Department of Transportation	0.5467[c]

[a]two-tailed t-test yields p>0.100 unless otherwise noted
[b]t-test yields p<0.100
[c]t-test yields p<0.050
[d]t-test yields p<0.010
[e]t-test yields p<0.005
Source: Compiled by authors

TABLE 16

RELATIONSHIPS BETWEEN STATE URBAN ROAD MILES PER CAPITA AND INDICATORS OF SDOT EFFECTIVENESS

Effectiveness Indicator			Partial Correlation Coefficient[a] (n=18)
A.	Success of prior transportation plan to achieve goals		-0.0693
B.	Success of new planning process to:		
	1.	Change prior plan	0.0311
	2.	Serve current SDOT goals	0.1546
C.	Improved coordination between:		
	1.	Local governments	-0.5519[c]
	2.	MPOs and State	-0.4943[b]
	3.	Transportation and land use activities	-0.3853
	4.	Transportation and air quality activities	-0.4584[b]
D.	Reduction of Traffic Congestion		-0.3720
E.	SDOT/MPO cooperation		0.2836
F.	Effectiveness of SDOT to improve transportation mobility and air quality		-0.0181
G.	Importance of MPOs in metro planning		-0.5210[b]
H.	Success of public involvement		-0.5543[b]
I.	Degree of plan controversy		0.2705
J.	Degree of cooperation with other significant agencies:		
	1.	Other SDOTs	-0.4071
	2.	Air quality district	-0.0225
	3.	Regional transportation planning agencies	-0.8316[e]
	4.	Land use/growth management agencies	-0.1673
	5.	Environmental agencies	0.0497
	6.	Transit operators	-0.7200[c]
	7.	U.S. Department of Transportation	0.0700

[a]two-tailed t-test yields p>0.100 unless otherwise noted
[b]t-test yields p<0.100
[c]t-test yields p<0.050
[d]t-test yields p<0.010
[e]t-test yields p<0.005
Source: Compiled by authors

TABLE 17

RELATIONSHIPS BETWEEN 1990 VEHICLE MILES TRAVELED PER CAPITA AND INDICATORS OF SDOT EFFECTIVENESS

Effectiveness Indicator			Partial Correlation Coefficient[a] (n=18)
A.	Success of prior transportation plan to achieve goals		-0.0378
B.	Success of new planning process to:		
	1.	Change prior plan	0.2956
	2.	Serve current SDOT goals	0.0165
C.	Improved coordination between:		
	1.	Local governments	0.1107
	2.	MPOs and State	0.1374
	3.	Transportation and land use activities	0.3244
	4.	Transportation and air quality activities	0.2557
D.	Reduction of Traffic Congestion		0.2066
E.	SDOT/MPO cooperation		-0.1122
F.	Effectiveness of SDOT to improve transportation mobility and air quality		0.0332
G.	Importance of MPOs in metro planning		0.1534
H.	Success of public involvement		0.5462[b]
I.	Degree of plan controversy		0.3742
J.	Degree of cooperation with other significant agencies:		
	1.	Other SDOTs	-0.0442
	2.	Air quality district	-0.5349[b]
	3.	Regional transportation planning agencies	-0.2655
	4.	Land use/growth management agencies	-0.4653
	5.	Environmental agencies	-0.4913[b]
	6.	Transit operators	-0.6009[c]
	7.	U.S. Department of Transportation	-0.3778

[a]two-tailed t-test yields p>0.100 unless otherwise noted
[b]t-test yields p<0.100
[c]t-test yields p<0.050
[d]t-test yields p<0.010
[e]t-test yields p<0.005
Source: Compiled by authors

TABLE 18

RELATIONSHIPS BETWEEN THE PERCENT MILES OF CONGESTED HIGHWAYS AND INDICATORS OF SDOT EFFECTIVENESS

Effectiveness Indicator		Partial Correlation Coefficient[a] (n=18)
A.	Success of prior transportation plan to achieve goals	0.2460
B.	Success of new planning process to:	
1.	Change prior plan	0.3911
2.	Serve current SDOT goals	-0.0869
C.	Improved coordination between:	
1.	Local governments	-0.2510
2.	MPOs and State	0.760
3.	Transportation and land use activities	0.2437
4.	Transportation and air quality activities	0.2775
D.	Reduction of Traffic Congestion	0.1337
E.	SDOT/MPO cooperation	-0.0183
F.	Effectiveness of SDOT to improve transportation mobility and air quality	0.0419
G.	Importance of MPOs in metro planning	0.1301
H.	Success of public involvement	-0.1091
I.	Degree of plan controversy	-0.5336[c]
J.	Degree of cooperation with other significant agencies:	
1.	Other SDOTs	-0.4180
2.	Air quality district	0.0835
3.	Regional transportation planning agencies	-0.7265[e]
4.	Land use/growth management agencies	-0.1022
5.	Environmental agencies	0.0257
6.	Transit operators	-0.3580
7.	U.S. Department of Transportation	-0.4743[b]

[a]two-tailed t-test yields p>0.100 unless otherwise noted
[b]t-test yields p<0.100
[c]t-test yields p<0.050
[d]t-test yields p<0.010
[e]t-test yields p<0.005
Source: Compiled by authors

TABLE 19

RELATIONSHIPS BETWEEN 1992 POPULATION AND INDICATORS OF SDOT EFFECTIVENESS

Effectiveness Indicator			Partial Correlation Coefficient[a] (n=18)
A.	Success of prior transportation plan to achieve goals		0.3808
B.	Success of new planning process to:		
	1.	Change prior plan	-0.2276
	2.	Serve current SDOT goals	0.2196
C.	Improved coordination between:		
	1.	Local governments	0.2116
	2.	MPOs and State	-0.0569
	3.	Transportation and land use activities	-0.6094[c]
	4.	Transportation and air quality activities	-0.2068
D.	Reduction of Traffic Congestion		-0.5090[b]
E.	SDOT/MPO cooperation		0.1493
F.	Effectiveness of SDOT to improve transportation mobility and air quality		0.1436
G.	Importance of MPOs in metro planning		-0.5752[c]
H.	Success of public involvement		0.2946
I.	Degree of plan controversy		-0.1432
J.	Degree of cooperation with other significant agencies:		
	1.	Other SDOTs	-0.0914
	2.	Air quality district	0.1886
	3.	Regional transportation planning agencies	-0.2122
	4.	Land use/growth management agencies	-0.1212
	5.	Environmental agencies	0.4003
	6.	Transit operators	0.1358
	7.	U.S. Department of Transportation	0.5115[c]

[a]two-tailed t-test yields p>0.100 unless otherwise noted
[b]t-test yields p<0.100
[c]t-test yields p<0.050
[d]t-test yields p<0.010
[e]t-test yields p<0.005
Source: Compiled by authors

TABLE 20

RELATIONSHIPS BETWEEN 1980-90 POPULATION CHANGE AND INDICATORS OF SDOT EFFECTIVENESS

Effectiveness Indicator			Partial Correlation Coefficient[a] (n=18)
A.	Success of prior transportation plan to achieve goals		0.1646
B.	Success of new planning process to:		
	1.	Change prior plan	-0.4232
	2.	Serve current SDOT goals	0.2501
C.	Improved coordination between:		
	1.	Local governments	0.1536
	2.	MPOs and State	0.0708
	3.	Transportation and land use activities	-0.0799
	4.	Transportation and air quality activities	0.0880
D.	Reduction of Traffic Congestion		-0.327
E.	SDOT/MPO cooperation		-0.2910
F.	Effectiveness of SDOT to improve transportation mobility and air quality		-0.4173
G.	Importance of MPOs in metro planning		-0.0646
H.	Success of public involvement		0.2084
I.	Degree of plan controversy		0.4837[b]
J.	Degree of cooperation with other significant agencies:		
	1.	Other SDOTs	0.0726
	2.	Air quality district	0.3014
	3.	Regional transportation planning agencies	0.0751
	4.	Land use/growth management agencies	-0.2142
	5.	Environmental agencies	0.4593[b]
	6.	Transit operators	0.0593
	7.	U.S. Department of Transportation	0.5346[c]

[a]two-tailed t-test yields p>0.100 unless otherwise noted
[b]t-test yields p<0.100
[c]t-test yields p<0.050
[d]t-test yields p<0.010
[e]t-test yields p<0.005
Source: Compiled by authors

TABLE 21

RELATIONSHIPS BETWEEN THE 1992 POPULATION DENSITY AND INDICATORS OF SDOT EFFECTIVENESS

Effectiveness Indicator			Partial Correlation Coefficient[a] (n=18)
A.	Success of prior transportation plan to achieve goals		0.0278
B.	Success of new planning process to:		
	1.	Change prior plan	-0.3387
	2.	Serve current SDOT goals	-0.1965
C.	Improved coordination between:		
	1.	Local governments	-0.1193
	2.	MPOs and State	-0.2343
	3.	Transportation and land use activities	-0.1596
	4.	Transportation and air quality activities	-0.0421
D.	Reduction of Traffic Congestion		0.2712
E.	SDOT/MPO cooperation		-0.0255
F.	Effectiveness of SDOT to improve transportation mobility and air quality		-0.2472
G.	Importance of MPOs in metro planning		-0.0772
H.	Success of public involvement		-0.2890
I.	Degree of plan controversy		0.3020
J.	Degree of cooperation with other significant agencies:		
	1.	Other SDOTs	-0.4202
	2.	Air quality district	-0.1093
	3.	Regional transportation planning agencies	0.5934[c]
	4.	Land use/growth management agencies	0.1719
	5.	Environmental agencies	-0.1092
	6.	Transit operators	0.5285[c]
	7.	U.S. Department of Transportation	-0.3047

[a]two-tailed t-test yields p>0.100 unless otherwise noted
[b]t-test yields p<0.100
[c]t-test yields p<0.050
[d]t-test yields p<0.010
[e]t-test yields p<0.005
Source: Compiled by authors

TABLE 22

RELATIONSHIPS BETWEEN 1990 PER CAPITA INCOME AND INDICATORS OF SDOT EFFECTIVENESS

Effectiveness Indicator			Partial Correlation Coefficient[a] (n=18)
A.	Success of prior transportation plan to achieve goals		0.0503
B.	Success of new planning process to:		
	1.	Change prior plan	-0.0160
	2.	Serve current SDOT goals	0.0842
C.	Improved coordination between:		
	1.	Local governments	0.1882
	2.	MPOs and State	0.2086
	3.	Transportation and land use activities	-0.0369
	4.	Transportation and air quality activities	0.0066
D.	Reduction of Traffic Congestion		-0.0448
E.	SDOT/MPO cooperation		0.0174
F.	Effectiveness of SDOT to improve transportation mobility and air quality		0.3334
G.	Importance of MPOs in metro planning		0.1336
H.	Success of public involvement		0.5494[c]
I.	Degree of plan controversy		-0.3063
J.	Degree of cooperation with other significant agencies:		
	1.	Other SDOTs	0.4550[b]
	2.	Air quality district	0.0069
	3.	Regional transportation planning agencies	0.6147[c]
	4.	Land use/growth management agencies	-0.1307
	5.	Environmental agencies	0.3495
	6.	Transit operators	0.5566[c]
	7.	U.S. Department of Transportation	0.6180[c]

[a]two-tailed t-test yields p>0.100 unless otherwise noted
[b]t-test yields p<0.100
[c]t-test yields p<0.050
[d]t-test yields p<0.010
[e]t-test yields p<0.005
Source: Compiled by authors

TABLE 23

RELATIONSHIPS BETWEEN PERCENT COLLEGE GRADUATE, AGE 25+ 1990 POPULATION AND INDICATORS OF SDOT EFFECTIVENESS

Effectiveness Indicator		Partial Correlation Coefficient[a] (n=18)
A.	Success of prior transportation plan to achieve goals	-0.4244
B.	Success of new planning process to:	
	1. Change prior plan	0.3603
	2. Serve current SDOT goals	-0.2240
C.	Improved coordination between:	
	1. Local governments	0.5193[c]
	2. MPOs and State	0.1471
	3. Transportation and land use activities	0.0513
	4. Transportation and air quality activities	-0.0137
D.	Reduction of Traffic Congestion	-0.0365
E.	SDOT/MPO cooperation	0.0862
F.	Effectiveness of SDOT to improve transportation mobility and air quality	-0.2190
G.	Importance of MPOs in metro planning	0.0806
H.	Success of public involvement	0.0194
I.	Degree of plan controversy	0.2262
J.	Degree of cooperation with other significant agencies:	
	1. Other SDOTs	0.5257[c]
	2. Air quality district	-0.1652
	3. Regional transportation planning agencies	0.5779[c]
	4. Land use/growth management agencies	0.2536
	5. Environmental agencies	-0.0707
	6. Transit operators	-0.3211
	7. U.S. Department of Transportation	0.4800[b]

[a]two-tailed t-test yields p>0.100 unless otherwise noted
[b]t-test yields p<0.100
[c]t-test yields p<0.050
[d]t-test yields p<0.010
[e]t-test yields p<0.005
Source: Compiled by authors

BIBLIOGRAPHY

Baldassare Mark, et al. 1996. "Possible Planning Roles for Regional Government," Journal of the American Planning Association 62, 1:17-29.

Beatley, Timothy, Brower, David J. and Lucy, William H. 1994. "Representation in Comprehensive Planning: An Analysis of the Austinplan Process," Journal of the America Planning Association 60, 2:185-96.

Bish, Robert L. 1971. The Public Economy of Metropolitan Areas (Chicago: Markham).

Blow, Ben. 1920. California Highways. (San Francisco: California State Automobile Association).

Bollens, Scott A. 1992. "State Growth Management: Intergovernmental Frameworks and Policy Objectives," Journal of the American Planning Association 58, 4:454-66.

California Department of Transportation. 1990. Congestion Management Program Resource Handbook (Sacramento, CA: California Department of Transportation).

Cervero, Robert. 1994. "Rail Transit and Joint Development: Land Market Impacts in Washington, D.C. and Atlanta," Journal of the American Planning Association 60, 1:83-94.

Cervero, Robert and John Landis. 1995. "Transportation-Land Use Connection Still Matters," Access 7:16-22.

Colman, Steven B., Committee Chair. 1995. "Statewide Programs to Assess Transportation Impacts of Land Use Development," Report of Technical Committee 6A-57, Institute of Transportation Engineers, Washington, DC.

Crane, Randall. 1996. "Cars and Drivers in the New Suburbs: Linking Access to Travel in Neotraditional Planning", Journal of the American Planning Association 62, 1:51-65.

Cunningham, Lawrence F. et al. 1995. "Developing a Customer Focus in the Statewide Planning Process," Paper presented at the Transportation Research Board Annual Meeting, Washington, D.C., January.

DeGrove, John M. ed. 1991. Balanced Gowth: A Planning Guide for Local Government (Washington, DC.: International City Management Association).

Donaghy, Kieran P. and Schintler, Lamie A. 1994. "Optimal Policies for Reducing Congestion of Major Commuting Arteries in a Growing Urbanized Area," Journal of Planning Education and Research 13, 3:189-96.

Eckert, Ross. 1979. "California Transportation Planning: Examining the Entrails," Paper 19, International Institute for Economic Research, Department of Economics, University of California, Los Angeles.

Gale, Dennis E. 1992. "Eight State-Sponsored Growth Management Programs - A Comparative Analysis," Journal of the American Planning Association 58, 4:425-450.

Glickfeld, Madelyn and Levine, Ned. 1992. Regional Growth: Local Reaction: The Enactment and Effects of Local Growth Control and Management Measures in California (Cambridge, MA: Lincoln Institute of Land Policy).

Gordon, Peter and Harry W. Richardson. 1996. "Beyond Polycentricity: The Dispersed Metropolis, Los Angeles, 1970-1990," Journal of the American Planning Association 62, 3:289-312.

Hanson, Susan, ed. 1995. The Geography of Urban Transportation (New York: Guilford).

Ismart, Dane. 1994. "State Management Systems: Overview of ISTEA Requirements and Current Implementation," Transportation Research News 173, July-August, Transportation Research Board.

Jones, David W. 1989. "California's Freeway Era in Historical Perspective," Research Report UCB-ITS-RR-89-16. University of California Institute of Transportation Studies, Berkeley, July.

Knaap, Gerrit J. 1987. "Self-Interest and Voter Support for Oregon's Land Use Controls," Journal of the American Planning Association 53, 1:92-97.

Luberoff, David. 1993. "State Planning in New Jersey," Lincoln Institute of Land Policy Working Papers, Cambridge, MA.

Nie, Norman H., et al. 1975. Statistical Package for the Social Sciences (New York: McGraw-Hill).

Olshansky, Robert B. 1996. "The California Environmental Quality Act and Local Planning," Journal of the American Planning Association 62, 3:313-330.

Park, Kee Ok. 1994. "Expenditure Patterns and Interactions Among Local Governments in Metropolitan Areas," Urban Affairs Quarterly 29, 4:335-64.

Pincetl, Stephanie. 1994. "The Regional Management of Growth in California: A History of Failure," International Journal of Urban and Regional Research 18, 2:256-74.

Rothblatt, Donald N. 1992. "Swimming Against the Tide: Metropolitan Planning and Management in the United States," Planning Practice and Research 7, 1:4-8.

Rothblatt, Donald N. and Steven B. Colman. 1995. "An Approach to Urban Transportation Planning: California's Congestion Management Policy," Journal of International Association of Traffic and Safety Sciences 19, 2:26-35.

Rothblatt, Donald N. and Steven B. Colman. 1995. "An Experiment in Sub-Regional Planning: California's Congestion Management Policy," Working Paper 95-7, Institute of Governmental Studies, University of California Berkeley.

So, Frank et al. eds. 1988. The Practice of Local Government Planning (Washington, DC.: International City Managers Association).

Statewide CMP/Air Quality Coordination Steering Committee. 1994. Final Study Report: Statewide CMP/Air Quality Coordination Study, Los Angeles Metropolitan Transportation Authority.

The Urban Transportation Monitor. 1994. "State DOTs Cooperate to Develop Integrated Approach to Planning" 8, 9 (May 13).

Transportation Research Board. 1969. "Statewide Transportation Planning." Highway Research Record 264, Highway Research Board of the National Academy of Sciences, Washington, DC.

Transportation Research Board. 1989. "Future of Statewide Transportation Planning," Transportation Research Record 1243. transportation Research Board of the National Academy of Sciences, Washington, DC.

Transportation Research Board. 1995. State Departments of Transportation (Washington, DC.: National Academy Press).

U.S. Department of Transportation. 1991. Intermodal Surface Transportation Efficiency Act of 1991-- A Summary, Washington DC.: Publication FHWA-PL-92-008.

U.S. Department of Transportation. 1994. ISTEA Regional Roundtable Report and Action Plan, Washington, DC.

United States Department of Transportation, Federal Highway Administration. 1995. Highway Statistics 1993. (Washington, D.C.: US Department of Transportation.)

Vogt, W. Paul. 1993. Dictionary of Statistics and Methodology: A Non-Technical Guide for the Social Sciences (Newbury Park, CA: Sage Publications).

Wachs, Martin, Taylor, Brian D., Levine, Ned and Ong, Paul. 1993. "The Changing Commute: A Case Study of the Jobs-Housing Relationship Over Time," Urban Studies 30, 10:1711-29.

Wegman, Frederick J. and Everett C. Carter. 1972. "Statewide Transportation Planning -- A Current Review." Meeting preprint 1733 of the American Society of Civil Engineers National Transportation Egineering Meeting, Milwaukee, July.

Weiner, Edward. 1992. "Urban Transportation Planning in the United States: An Historical Overview," Report DOT-T-93-02, U.S. Department of Transportation, Office of the Secretary of Transportation, revised edition, November.

Wright, Paul, H. 1996. Highway Engineering (New York: Wiley).

APPENDICES

APPENDIX A

QUESTIONNAIRE ON STATE TRANSPORTATION PLANNING PROGRAM

Name of SDOT:_____

A. PREVIOUS PLANS AND ACTIVITIES

1. When was the current statewide plan adopted? (month/date) _____
2. When was the plan PRIOR TO THAT adopted? (month/date)? _____
3. Was the prior plan multimodal? _____
4. In your opinion, how different are the two plans (1=not different at all in important ways; 10=completely different in every possible way). _____
5. What are the two or three most important ways the new plan differs from the plan it superseded? _____

6. In your opinion, how successful was the old plan in achieving its goals and objectives? (1=not successful at all; 10=completely/unequivocally successful). _____
7. If it had not been for ISTEA, how do you think your new/current statewide transportation plan (STP) would be different than the prior plan? _____ That is, what were the most important changes caused by ISTEA in the development of your latest STP? _____
8. Do you have an approximate idea when the next major update of the plan will take place? _____

B. DESCRIPTION OF THE SDOT, ITS ROLE/SETTING/RESPONSIBILITIES

1. What functional areas is your state DOT responsible for?

   [ ] Highway planning
   [ ] Highway programming
   [ ] Highway design
   [ ] Construction supervision
   [ ] Highway maintenance
   [ ] Urban Transit Planning
   [ ] Inter-City Bus Planning
   [ ] Inter-City Rail Planning and/or Financing
   [ ] Airport Planning
   [ ] Ports & Harbor Planning
   [ ] Other (please specify)_____

2. What is the name of the governing board for the state DOT? _____
3. How many members are on it? _____
4. How are members selected _____

5. Are the appointments: for a fixed term? or, at the pleasure of the appointer?

_____

6. Has there been any significant change in the structure of how the DOT is governed in the past 5 years? If so, how? _____

_____

7. How many advisory committees does the SDOT have? _____
8. How are the members selected? _____
9. Please list the names of the committees, and the interests they represent.

	Com 1	Com 2	Com 3
a) Business Interests	_____	_____	_____
b) Minority Social Equity Groups	_____	_____	_____
c) Environmental View	_____	_____	_____
d) Modal Advocates	_____	_____	_____
e) Other (please specify)	_____	_____	_____

10. Are these standing committees, or are/were they primarily created for the purposes of developing the new STP? (required by ISTEA)_____

11. On a scale of 1 (poor) to 10 (excellent), how well has the current statewide transportation planning structure and process served the agency? _____
Are there things you would change to improve the structure and function of the organization? _____

_____

12. On a scale of 1 (strongly disagree) to 10 (strongly agree), please indicate how strongly your agree with the following statements about your statewide transportation planning process since ISTEA.

a) "Our planning process has improved the coordination between different local governments in our state." _____

b) "Our planning process has succeeded in making a closer connection between the planning activities of MPOs and the State." _____

c) "Our planning process has succeeded in making a closer connection between transportation and land use decision making in our state." _____

d) "Our planning process has succeeded in making a closer connection between transportation and improved air quality."

_____

e) "Our planing process has succeeded in reducing (or potentially reducing) traffic congestion in our state."

_____

13. How many Metropolitan Planning Organizations (MPOs) are there in your agency's jurisdiction? _____

14. On a scale of 1 (none) to 10 (great), what is the extent of your agency/MPO cooperation? _____

a) Number of MPOs actively participating in your activities _____

b) Number of MPOs which reconcile their plans with the statewide transportation plan (STP) _____

C. PLANNING ISSUES AND THE PLAN DOCUMENT

1. What does the plan identify as the three or four most pressing problems currently facing your state? (rank in importance, if that is done in the STP)
_____
_____

*2. How has the plan responded to each of the ISTEA 23 "Planning Factors?"
_____
_____

*3. We noticed your STP didn't cover? _____
_____

4. Does your state intend to maintain the seven ISTEA management systems, even though they are now optional? _____
If so, which ones? _____

5. Is the plan intended to shape growth? or primarily to accommodate existing/market trends? _____

6. How does (or will) the Plan drive the state Capital Improvement Program (CIP)? _____
_____

7. What do you think is best about your plan (or planning process)? _____
_____

8. What do you think is weakest or least well done in your plan (or planning process)? _____
_____

9. On a scale of 1 (lowest) to 10 (highest), how would you rate the effectiveness of your agency's process to improve transportation mobility and air quality in your state? _____

10. What suggestions do you have for improving the SDOT planning process?

a) Within your State _____

_____

b) Throughout the Country _____

_____

D. PLANNING PROCESS & PLAN ORGANIZATIONAL ISSUES

1. In retrospect, what thing would you have done most to improve the planning process? What would you have done differently? _____

_____

2. Was your plan subject to an environmental review process or impact analysis? _____

_____

E. DATA SUFFICIENCY AND ANALYTICAL TOOLS

1. What kind of data collection and travel monitoring and databases were available to support the plan? _____

_____

Analytical tools available:

a) Where do long range population/employment forecasts come from? ___ _____ how are they developed?

_____

b) Is there a statewide traffic forecasting model?

1) Is the model multi-modal, or traffic (vehicle) forecasting only?

_____

2) Was the statewide or urban element of the Census Transportation Planning Package (CTPP) used? _____ If so, for what purpose(s)? _____

c) Are population estimates reconciled with either national (e.g., Bureau of Labor State) or lower level (e.g., COG/MPO)? _____

d) What kind of performance measures and standards has your agency developed as part of your planning process?

[ ] Traffic LOS
[ ] Transit system performance
[ ] Land use and/or accessibility
[ ] Other (please specify) _____

e) Who prepares the financial forecasts for the STP? (the SDOT, or another state agency). _____

f) Does the STP include a financing/funding element? _____
If so, what information does this element provide?

[ ] Finance performance measures or standards
[ ] Facility inventories
[ ] Passenger vs. freight data
[ ] Cost of traffic data collection program
[ ] Other (please specify) _____

g) What data was NOT available to you in the plan preparation, that you think would have been the most valuable to you if you had had it?

_____

_____

h) Are highway projects ranked/scored independently of non-highway projects, or are all projects ranked together? (i.e., is the evaluation process multi-modal, or mode specific?) _____

_____

i) If a multi-modal ranking process is used, could you send us details on it? _____

j) How important is the role of metropolitan organizations in the ranking/programming of STATE HIGHWAY projects in their respective metro areas? (1=not at all; 10=largely or solely responsible).

_____

k) How is the relationship with MPOs handled? How much involvement has there been? Would you characterize the planning process as "bottoms-up" or "top-down" in nature? _____

F. PUBLIC/INTEREST GROUP INVOLVEMENT

1. What interest groups were involved? _____

_____

How many meetings held? _____ Were all meetings held at one stage of the plan? or were they spread out (scoping, mid-term, final report, etc.). _____

2. How was outreach made to special groups, such as low income, minority, disabled, and other communities? _____

_____

3. Were there any novel/unique approaches to outreach and community involvement and input? _____

_____

4. What techniques do you think were successful/not? _____
Overall, how successful was your public involvement (1=not at all; 10=exceptionally)? _____
What would you have done differently? _____

_____

How many "general public" meetings or public hearings were held on the plan? _____

5. In your opinion, how controversial did your plan turn out to be? On a scale of 1 (weakly) to 10 (strongly), how was the plan viewed?

   a) less controversial than had been expected _____
   b) about as controversial as expected _____
   c) more controversial than expected _____

What were the principal causes of controversy, or issues over which conflict occurred? _____

6. On a scale of 1 (poor) to 10 (excellent), what is the degree of cooperation with other significant agencies?

   a) Other SDOTs _____
   b) Air Quality District _____
   c) Regional Transport Planning Agencies _____
   d) Land Use Agencies/ Growth Management _____
   e) Environmental Agencies _____
   f) Transit Operators _____
   g) U.S. Department of Transportation (e.g., FHWA, FTA) _____

G. RESOURCE REQUIREMENTS

1. Was the statewide plan organized as a separate task unit, with individuals assigned to it on a full-time basis? _____ or were regular staff members used part-time to contribute to the plan?_____ Did consultants prepare any of the elements of the overall plan?_____

2. How long did it take to complete? _____ How much time was there for public participation? _____ What month/year did it start? _____

3. Should more time have been allowed for completion of the plan? _____
_____

4. Approximately, how much did the plan cost your agency to prepare? _____ How many staff were assigned: full/part time?
_____

5. What percentage (roughly) of your state's tax on motor fuels is rebated/transferred to other governmental units (this may include other state agencies, as well as cities, counties, special districts, or transit operators)? _____

6. What is annual budget for all of SDOT's planning activities? _____
What is department's total OPERATING (staffing/admin) budget? _____

7. What resources are, being devoted to the STP process on an ongoing basis.
_____

8. For STP activities, where does the money come from? How much is received? And how adequate is this support for your agency and MPOs in your state? (for FY 94/95) & FY 95/96). If not readily available, please mail this information to us as soon as possible.

		For SDOT	For MPOs
a)	Where From	_____	_____
b)	How Much	_____	_____
c)	How Adequate	_____	_____

* Ask question if not covered in Information Matrix.

THANK YOU.