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16. Abstract

Within the structure of state government, some amount of transportation planning is usually performed within separate modal administrations, which may include aviation, bus, highway, ports, and rail, as well as separate toll agencies. Some states coordinate these planning efforts through a single office responsible for statewide multimodal planning; other states work to achieve such coordination without a centralized unit (described herein as the decentralized approach).

To determine if there is value to centralizing statewide multimodal planning efforts within a single office, representatives from 50 states were surveyed regarding the utility of centralized versus decentralized multimodal statewide planning. Responses, in the form of written questionnaires and/or telephone interviews, were obtained from 41 states.

Advantages of centralization included consistency of modal plans, better modal coordination (including detection of modal conflicts earlier in the process), an ability to examine the entire transportation system holistically, collective attention brought to smaller modes that otherwise might be overlooked, economies of scale for service delivery and employee development, and a greater likelihood that long-range planning will be performed instead of being eliminated by more immediate tasks (which might occur if such planning were located in an operational division). Advantages of decentralization included greater ease of obtaining modal support for the long-range plan since the planners and implementers are in the same functional unit, greater ease of tapping modal-specific expertise, an ability to focus on the most critical mode if one such mode is predominant, and organizational alignment with mode-specific state and federal funding requirements.

Equally important were respondents' explanations of how the question of a centralized versus a decentralized approach may be overshadowed by external factors. These included constraints on how various transportation funds may be spent; the fact that having persons in the same office does not guarantee multimodal coordination; the recommendation that some efforts should be centralized and some should be decentralized; the increasing importance of MPOs, districts, and public involvement in planning efforts; and the suggestion that even after a solid analysis of alternatives, there may be cases where the recommendation is the same as what it would have been under traditional planning. In some instances, the use of performance measures may change the recommended approach.

Finally, a subset of the free responses indicated that centralized multimodal planning can be beneficial but only if four constraints are met: modal staff work collaboratively, the centralized unit has funding or other authority, necessary modal-specific planning is not eliminated, and there is a clear linkage between the centralized unit and the agencies that perform modal-specific planning such that the latter can implement the recommendations of the former.

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FINAL REPORT

MULTIMODAL STATEWIDE TRANSPORTATION PLANNING: A SURVEY OF STATE PRACTICES

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(A Cooperative Organization Sponsored Jointly by the
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EXECUTIVE SUMMARY

Overview

Within the structure of state government, some amount of transportation planning is usually performed within separate modal administrations, which may include aviation, bus, highway, ports, and rail, as well as separate toll agencies. Some states coordinate these planning efforts through a single office responsible for statewide multimodal planning; other states work to achieve such coordination without a centralized unit (described herein as the decentralized approach).

Survey of States

To determine if there is value to centralizing statewide multimodal planning efforts within a single office, representatives from 50 states were surveyed regarding the utility of centralized versus decentralized multimodal statewide planning. Responses, in the form of written questionnaires and/or telephone interviews, were obtained from 41 states.

Survey Responses

Advantages of centralization included consistency of modal plans, better modal coordination (including detection of modal conflicts earlier in the process), an ability to examine the entire transportation system holistically, collective attention brought to smaller modes that otherwise might be overlooked, economies of scale for service delivery and employee development, and a greater likelihood that long-range planning will be performed instead of being eliminated by more immediate tasks (which might occur if such planning were located in an operational division). Advantages of decentralization included greater ease of obtaining modal support for the long-range plan since the planners and implementers are in the same functional unit, greater ease of tapping modal-specific expertise, an ability to focus on the most critical mode if one such mode is predominant, and organizational alignment with mode-specific state and federal funding requirements.

Equally important were respondents' explanations of how the question of a centralized versus a decentralized approach may be overshadowed by external factors. These included constraints on how various transportation funds may be spent; the fact that having persons in the same office does not guarantee multimodal coordination; the recommendation that some efforts should be centralized and some should be decentralized; the increasing importance of MPOs, districts, and public involvement in planning efforts; and the suggestion that even after a solid analysis of alternatives, there may be cases where the recommendation is the same as what it would have been under traditional planning.

Finally, a subset of the free responses indicated that centralized multimodal planning can be beneficial but only if four constraints are met: modal staff work collaboratively, the centralized unit has funding or other authority, necessary modal-specific planning is not

eliminated, and there is a clear linkage between the centralized unit and the agencies that perform modal-specific planning such that the latter can implement the recommendations of the former.

Conclusions

- *The decision to centralize statewide multimodal long-range planning in one unit or to have it decentralized in the different modal units may have limited influence on how statewide multimodal planning is accomplished because of external factors*. The most pressing of these appears to be federal or state regulations or processes that tie some funding pots to specific modes. Four other external factors are:

    1. Some planning functions should be centralized, and some should not (e.g., shorter versus long-range planning).

    2. Having persons in the same functional unit does not guarantee multimodal coordination.

    3. MPOs, localities, or districts also influence multimodal planning, especially through a public involvement process.

    4. Multimodal considerations, such as mode-neutral performance measures, do not guarantee that a "multimodal" solution will always be chosen: there may be cases where the recommended solution is comparable to the solution that would have been obtained under traditional planning.

- *Specific advantages for the centralized and decentralized approach exist*.

    — Six advantages of a centralized approach are consistency of plans, coordination of modes given that modal staff are in the same office, an unbiased study of the entire transportation network, a greater emphasis on smaller modes (by aggregating them), better training and development for planners (by exposing them to multiple modes), and a guarantee that planning will not be forgotten.

    — Four advantages of a decentralized approach are garnering modal support is easier if the same agency developing a long-range plan implements it in the short term, modal expertise is more accessible, planning resources may be devoted to the most critical mode in general, and this approach might be preferable if multimodal authority does not exist.

    — Some states gave strong answers favoring the centralized approach whereas others articulated external factors as more relevant than this survey had initially assumed. Just one state favored the decentralized approach, with one of the state's three respondents noting that a critical level of direct contact could be lost with a centralized planning office.

    — A compilation of the states' responses is that centralization has promise but only if critical caveats can be met: (1) true collaboration among centralized staff representing

different modes , (2) funding authority for the unit, (3) continuation of modal-specific planning as necessary, and (4) clear linkage between the longer range centralized multimodal unit and the shorter term modal specific units.

- *States rated themselves on average as being more centralized than decentralized*. On a seven-point scale from centralized (1) to decentralized (7), the median ranking was 3, with nine states ranking themselves as fully centralized and two states ranking themselves as fully decentralized. No correlation was observed between these ratings and five characteristics obtained from the Bureau of Transportation Statistics: population, aviation enplanements, bus transit route miles, freight rail miles, and state highway miles.

- *States mentioned several practices that merit further exploration*. These include using a statewide multimodal planning office to provide technical assistance to other modes (even if such an office lacks funding authority or sufficient staff), using a centralized office to consider NEPA processes earlier in the planning process (thereby possibly accelerating the pace with which projects may be performed), testing alternatives through modeling or other analysis, and coordinating modal investments and land development activities.

A Recommended Decision Process

At present, Virginia has a moderately decentralized approach to long-range planning, and a dozen states clearly favor the centralized approach. Yet, this report alone does not indicate whether Virginia should change to a more centralized approach for at least two reasons. First, the report does not include all information necessary to make such a decision, such as details about how Virginia performs long-range coordination at present. Second, several respondents noted that either approach can be made to work if the rationale is carefully developed. Thus, insights from other states may be used to develop a template for considering whether creating a centralized unit will offer benefits. The template may be described in four steps.

1. *Critically consider the advantages of the centralized approach as noted in this report*. Several related practices mentioned by other states may be of interest in Virginia:

    - using a multimodal unit to perform tradeoff analyses among benefits and costs of investments in different projects without mode-specific constraints

    - eliminating conflicts between modes or between transportation investments and land development activities

    - ensuring that multimodal long-range planning is fully undertaken because it is the explicit focus of a unit

    - linking the long-range planning process and the NEPA process to improve project development (with a multimodal unit, alternative modes may be considered in the long-range planning process).

2. *Examine the challenges, as noted in this report, to making a centralized approach work.* These challenges are noted in Table 1 and Appendix B; e.g., federal or state funding requirements can constrain modal investments; having modal planners in the same unit does not guarantee their coordination; staff for the unit may be lacking. Further, a centralized unit must be tightly coordinated with the operational divisions.

3. *Critically assess whether the potential benefits exceed the risks for Virginia*. There is an information-gathering step that is beyond the capabilities of this report: given the specific characteristics of the modal agencies in Virginia, which approach, the benefits of each of which are contrasted in Table 1, is most applicable? For example, the structure of a centralized unit will determine whether smaller modes enjoy greater or smaller access to decision makers than is currently the case. In particular, as noted in the report, upon reviewing the results of this survey, one Virginia representative commented that centralization of the planning function could cause smaller modes to lose their identity, given that they currently report directly to the Secretary of Transportation (under the decentralized scenario) but would not enjoy a similar status if they were housed within a centralized entity. These Virginia-specific features would merit consideration.

4. *If a centralized unit will be established, carefully determine its scope.* Centralization is a matter of degree, and the advantages for each approach may offer insights regardless of whether a centralized or decentralized decision is made.

BENEFITS AND COSTS ASSESSMENT

There are potential benefits and potential costs of following the recommended decision process for choosing a centralized or decentralized approach. The process itself may lead to a greater understanding of the strengths and weaknesses of Virginia's current planning structure in light of the advantages of the centralized approach and the advantages of the decentralized approach. Potential benefits of a centralized approach include greater consistency of plans, greater coordination of modes, and a greater emphasis on planning. These benefits do not lend themselves to quantification as a result of this study.

The decision process carries at least two major risks. First, if not done properly, Virginia could choose the wrong planning structure. For example, it may be the case that Virginia is better served by the existing decentralized approach because of modal funding constraints. If that is the case, then changing to a centralized approach might simply add an additional organizational layer that hinders linkage between the planning and implementation functions—a risk noted by other states. Second, any type of change necessitates the use of scarce organizational energy that perhaps could be better devoted to other techniques for improving planning coordination, such as the provision of technical assistance.

FINAL REPORT

MULTIMODAL STATEWIDE TRANSPORTATION PLANNING: A SURVEY OF STATE PRACTICES

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INTRODUCTION

The concept of multimodal planning is not new; almost half a century ago a proposed six-mode center would "integrate all forms of transportation in central Los Angeles—rail, inter-city bus, suburban express bus, local bus, convertiplane, and helicopter" (Taylor, 1959, pp. 359-360). Quoting a 1974 study, the General Accounting Office (GAO) wrote "the furtherance of a balanced, multi-modal transportation system" is the reason many states chose to form a state department of transportation (DOT) (GAO, 1978, p. 9). A few years before, Wilson (1972) predicted that within the Tennessee Department of Highways, "intermodal planning will continue on a more meaningful base with divisional responsibility for the various modes being aligned under one administrative officer" (p. 9).

Such coordination is not easy. More than a decade later, Meyer (1989) wrote that the discussion group at a conference sponsored by the Transportation Research Board's (TRB) Committee on Statewide Multimodal Planning and the American Association of State Highway and Transportation Officials (AASHTO) "concluded that it was much easier to plan for multiple modes than it was to plan multimodally" (p. 2). About the same time, referring to the U.S. DOT, Hazard (1988) noted that duties "falling within a single modal province have been performed fairly well . . . [but] . . . [t]he system has tended to fall short in the intermodal area" (p. 122).

Figure 1 suggests that interest in multimodal/intermodal planning peaked twice relative to interest in planning generally—once in the early 1970s and once in the early-to-mid 1990s. However, the topic of multimodal planning (or intermodal planning) grew substantially after the passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991. Based on a search in the Transportation Research Information Service, 80% of the literature containing either phrase has been published since that time.

In Virginia, VTrans2025 is a long-range, statewide multimodal planning effort that addresses transportation planning needs and solutions from the perspective of all state agencies, thereby including multiple modes: aviation, ports, highways, intracity transit, rail, pedestrian, and bicycling (VTrans2025, 2005). Following a VTrans2025 technical committee meeting in February 2004, this question was informally posed: Within state government, where should responsibility for statewide multimodal planning be placed? Specifically, should such planning be handled separately within each mode, jointly by a single working group representing all modes, or by some combination thereof?

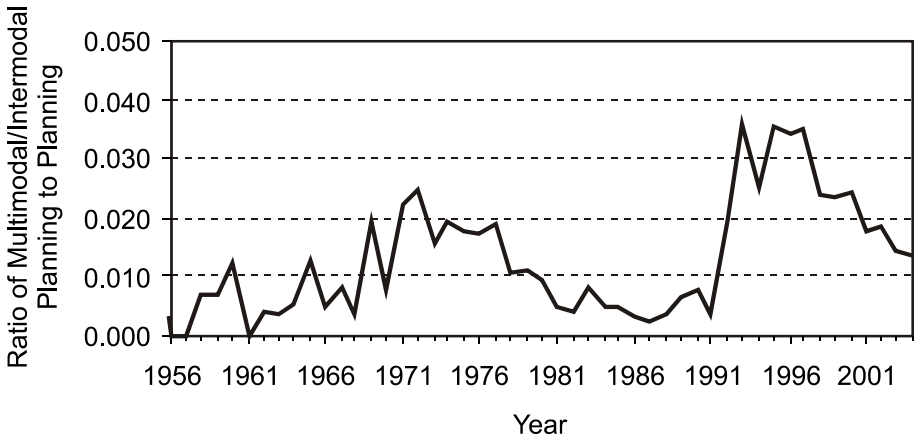

Figure 1. Ratio of Sources Containing the Words "Multimodal *or* intermodal and Planning" to Sources Containing the Word "Planning." Based on searches in the Transportation Research Information Service, May 27–June 2, 2005.

Virginia has several statewide modal agencies: VDOT (which is focused primarily on roadways), the Department of Rail and Public Transportation (which addresses bus and rail issues), the Department of Aviation, and the Virginia Port Authority. Each agency is responsible for its own long-range planning efforts. Prior to VTrans2025, statewide multimodal planning would have been accomplished through coordination among the modes on a project-specific basis or through the initiatives of specific staff. However, it is conceivable that statewide multimodal planning could be performed by staff representing the different modes but housed in a single unit—an approach followed by some other states.

PURPOSE AND SCOPE

The purpose of this research effort was to learn from the practices of other states how centralizing the statewide multimodal planning function might help or hinder planning in Virginia. Specifically, there were four objectives:

1. Determine how the 50 states are organized in terms of multimodal statewide planning functions.

2. Determine whether centralization versus decentralization is germane to the efficacy of statewide multimodal planning.

3. Determine the strengths of centralized and decentralized approaches to performing the multimodal statewide planning function.

4. Describe best practices in states that centralize and that decentralize the multimodal statewide planning function.

The scope of the research was largely limited to information provided by state representatives. In cases where conflicting responses were given, the literature was consulted.

METHODOLOGY

To accomplish the objectives of the study, three tasks were performed:

1. *A literature review of relevant abstracts from the Transportation Research Information Service (TRIS) was conducted.* Abstracts were identified through various search strings relevant to the study, such as "planning and responsibility and (location or organization or administration)," "state DOT and planning and organization,"and "(centralize or decentralize) and planning." The abstracts, or in some cases the full report, were used to refine the design of the survey or to interpret the data received from the survey.

2. *A questionnaire was developed, peer reviewed, modified, and then distributed by email to the members of AASHTO's Standing Committee on Planning (SCOP).* The questionnaire asked four major questions:

- number of staff who perform statewide modal-specific planning
- number of staff who perform statewide multimodal planning (apart from those in the above question)
- characterization of the state as having centralized multimodal planning or decentralized multimodal planning
- best practices or practices to avoid.

Respondents were given the choice of completing the survey by email, fax, or telephone.

Follow-up telephone calls were made to the 50 states if a response was not received within approximately 2 weeks or if a review of the particular survey response suggested that additional information was needed. Although the SCOP member was a starting point, in some cases, the person who ultimately completed the survey or gave a telephone interview was from elsewhere in state government. During the telephone call, respondents were given the option of answering only Questions 3 and 4 if they had insufficient time to complete the survey.

The initial version of the survey sent to states did not emphasize the importance of Questions 3 and 4; if a response was not received within 2 weeks, the version shown in Appendix A, which does emphasize the importance of Questions 3 and 4, was distributed. Thus, the initial survey and the final survey (shown in Appendix A) were identical except that the initial survey did not contain the following sentence: "If the entire survey cannot be completed, then questions 3 and 4 have the highest priority." The initial survey also did not have an asterisk next to Questions 3 and 4.

In instances where telephone interviews were conducted, the interviewer emailed a summary of the conversation back to the interviewee for verification or correction. The focus of the telephone interview was obtaining the insights of the respondent; in some cases, these respondents were not asked all the questions on the survey.

Information gleaned from the surveys and telephone calls was complemented with insights from the literature review, and clarifying remarks were obtained from state websites (as provided in Appendix B).

RESULTS

Literature Review

The literature does not indicate whether the centralized or decentralized approach is preferable. Some reports appear to suggest that the efficacy of either is substantially limited by external factors beyond the control of any transportation agency.

Constraints on Investments

With regard to how states choose to make surface transportation investments, the General Accounting Office (GAO) concluded that "while much analysis is done by states and MPOs, the results of those analyses do not appear to play a decisive role in many investment decisions, except to rule out the most problematic projects" (GAO, 2004, p. 39). The emphasis of the GAO report is that investment decisions are constrained by external forces.

Although the public involvement process is one such force (GAO, 2004), the literature notes other constraints:

- *Funding—either restrictions on how money may be spent, or an insufficient amount for new construction.* Although some programs allow states to shift funds between modes (such as Congestion Mitigation and Air Quality (CMAQ), the Surface Transportation Program, and the National Highway System, GAO notes that "most federal funding sources and programs are linked to highway or transit uses" (GAO, 2004, p. 29). Funding for new facilities also competes with other needs: Virginia observed that construction funding will need to be diverted to maintenance requirements in the future (Shucet, 2005). It has been projected that by year 2018, all of Virginia's state construction funding will have been transferred to maintenance needs (Shucet, 2005). Elsewhere it is noted that transportation funding shortages may limit the ability of a state to coordinate regions (Brown 2002). California's experience during the 1980s suggests that statewide funding shortfalls, should they lead to reliance on localities to fund transportation improvements, can contribute to "increased pressure for more local and regional control over the use of state transportation revenue" (Brown, 2002, p. 58).

- *Freight movements.* Because many freight benefits accrue to the private sector (Cambridge Systematics, Inc., 2003), some states have had difficulty justifying public funds for investments that will help the freight network (GAO, 2004). Examples include the Transportation Infrastructure Finance and Innovation Act, which excludes private facilities (such as private railroads), and the National Corridor Planning and

Development Program (which excludes railroads' "heavy-use 'mainline' tracks" (GAO, 2004, p. 30).

- *State geography*. Investigators examined intermodal planning in seven states (Alabama, Arizona, Colorado, Florida, Louisiana, Mississippi, and Texas) and surveyed "knowledgeable observers of the transportation planning processes" therein (Goetz, Szyliowicz, and Vowles, 2004, p. 133). The authors found that despite evidence of organizational change in these states in favor of intermodalism, such as the creation of a new intermodal division responsible for plans, survey respondents for most states gave those states average ratings (as opposed to superior ratings) in intermodal planning. The authors suggested that particular demographic and geographic factors adversely affect a state's ability to adopt an intermodal approach: (1) a lack of ports or major freight activity, (2) a large state with mostly rural areas, and (3) low population densities.

Difficulty in Comparing Modes

The literature suggests that comparing modes may be more difficult than it would seem. Interestingly, Fleet et al. (1979) suggested four performance measures—speed, service frequency, capacity, and operating cost—that can be measured for all modes yet that do not explain why particular modes are chosen. Instead, the authors argued that other characteristics that have different units of measurement by mode explain why particular modes are chosen. Their example is a comparison of freight shipments by rail or truck, with the factors that influence the choice of one mode over the other being the "rates that can be charged for service, minimum size of shipment, union operating rules, and the degree to which modal choice is influenced by regulation" (Fleet et al., 1979, p. 3). An inference of their argument is that data-driven statewide multimodal planning requires substantially more effort than a comparison of common performance characteristics of different modes. (For example, although the cost per passenger mile can be computed for automobile and bus modes, such a measure does not fully explain why some passengers choose the bus over the automobile).

Finally, the GAO (2004) reported that "state DOTs and MPOs have expressed uncertainty about the usefulness of analytical tools in guiding their transportation planning decision-making (p. 26). Reasons include missing or old data, an inability to modify software to give useful results when data are insufficient, the need for "more useful guidelines" (p. 26), and worries regarding how to interpret or communicate the results of these technical analyses.

Benefits of Centralized Planning

The benefits of a centralized planning unit have been argued. The inclusion of transit, rail, water, aeronautics, and highway modal staff in a single "multimodal program division has promoted multimodal decisionmaking in the [Minnesota] DOT central office" (Transmanagement, Inc., et al., 1998, p. 12). A 2000 synthesis of multimodal statewide transportation planning recommends that although the process should be tailored to the needs of each state, "there is a minimum level of multimodal planning" that is necessary (Peyrebrune, 2000, p. 46). The same synthesis stated: "The state DOT may be the appropriate agency for this

process or it can occur at some other administrative level, for example, at a transportation commission or in the governor's office, if the state DOT is not chartered to take the lead in multimodal issues" (p. 46).

Perhaps a consensus view of the literature is a recently published guidebook designed to illustrate cases of successful collaboration in making multimodal decisions (Campbell et al., 2005). Its title alone—*From Handshake to Compact: Guidance to Foster Collaborative, Multimodal Decision Making*—suggests that techniques therein should address whether statewide multimodal planning should be centralized or decentralized (although this question is not explicitly addressed). The guidebook lists a series of collaborative strategies ranging from very informal to very formal, including developing a purpose and needs statement, creating ad hoc planning groups, creating task forces, developing a joint work program between agencies, assigning and rotating staff to participate in a collaborative activity, developing memorandums of understanding between agencies, and forming a new organization to perform a specific task. With regard to forming a new organization (such as a centralized unit), the guidebook offers advantages and disadvantages.

The advantages include (1) staff dedicated to this specific task at hand, (2) development of an "institutional presence" to accomplish activities, and (3) development of loyalty among staff members. Challenges (disadvantages) of a new organization include (1) startup costs, (2) the possibility that the new unit will be seen as a competitor for resources from existing agencies, (3) difficulty in communicating the new unit's purpose to other officials, and (4) a tendency for some "new" organizations to become less flexible to solving problems. These advantages and disadvantages must be considered in light of the planning needs for a particular state. For example, the advantage of having staff who are dedicated to statewide multimodal planning should be compared to the disadvantage of having to clarify exactly how the new staff should interact with existing modal staff.

Survey Results

States with More than One Response

Initially, most states provided one response. Arizona provided two responses (one from its rail and planning manager and one from its DOT), and the researcher aggregated them into a single response. Maryland provided five responses (one from each mode) and a summary response aggregated by the Maryland representative.

After the responses for all states were reviewed, there was a concern that not all modes were represented for 12 of these states. This concern arose because either "0 planners" was shown for aviation or rail or the respondent commented that he or she did not know the number of planners for those modes. Thus, 17 additional individuals in the 12 states were contacted by telephone and/or email and a survey was provided. Responses were obtained from 14 of the 17 individuals representing 11 of the 12 follow-up states.

State Response Rate

Ultimately, 41 states responded to the survey, although not all answered all questions. Of the 9 states that did not respond, 1 indicated that a response was not appropriate because of a reorganization underway in the state DOT. Of the 41 states that did respond, telephone interviews were conducted with representatives from 28. (In most cases, the telephone interviews served to probe one or more of the bulleted items in Question 4 in greater detail than had been indicated on the written survey, although 9 states provided their survey response entirely by telephone.)

Of the 41 states that responded, 31 answered Question 1, and 32 answered Question 2. These questions pertained to the number of staff who performed modal-specific planning or multimodal planning. Although some respondents left them blank, some were unclear how to answer them. Since about one third of the states that did answer these questions indicated an overlap between the modes (e.g., the same person might perform bicycle and pedestrian planning), the breakdown required in Question 1 may have been challenging.

Thirty-seven of the 41 states answered Question 3, where they ranked their states as centralized or decentralized. Two states did not answer Question 3 because they noted it was difficult to characterize a planning effort as centralized or decentralized. Of the 41 states, 39 answered Question 4, where they gave advantages or disadvantages of centralization or decentralization.

A summary of responses to Questions 1 through 3 is provided in Appendix A.

Test for Potential Bias

There was concern that the 41 states (from which at least one response had been obtained) might not be fully representative of the United States. To test for potential bias, five characteristics of each of the 50 states and the District of Columbia were obtained from the Bureau of Transportation Statistics (2004): total enplanements (aviation), mixed directional route miles (bus transit), total miles of freight railroad (freight rail), state highway miles (roadway), and population. Although these data elements do not comprehensively represent each mode in question, they give a rough indication of the magnitude of each mode by state. Then, the states and the District of Columbia were split into two groups: those that responded to the survey and those that did not (i.e., California, District of Columbia, Hawaii, Illinois, Kentucky, Louisiana, Nebraska, New Hampshire, Rhode Island, and Tennessee). The difference in each of the five characteristics for the two groups was computed and tested for statistical significance using Eq. 1. (For example, U_x is the average number of enplanements for the 41 states that responded, and U_y is the average number of enplanements in the 9 states that did not respond.)

$$Is \left| U_x - U_y \right| > \left(t_{\alpha/2, n_x + n_y - 2} \right) \sqrt{\frac{S_x^2}{n_x} + \frac{S_y^2}{n_y}} \qquad \text{(Eq. 1)}$$

The results suggest that there are no significant differences between the two groups for any of the five characteristics: population ($p = 0.85$), aviation ($p = 0.72$), bus transit ($p = 0.87$), freight rail ($p = 0.88$), and roadway ($p = 0.67$). This suggests that the respondents were an unbiased sample. Similar results were obtained when a per-capita characteristic was used, e.g., number of enplanements per person. Differences were also not significant when a proportional characteristic was used, e.g., percentage of transportation events that are enplanements.

Limitations of the Survey

Because of the broad nature of the transportation planning function, there were four limitations to the survey:

1. *Many staff handle responsibilities for more than one mode; thus, it is difficult to categorize staff by mode as intended in Questions 1 and 2*. For example, Connecticut has three staff who handle passenger and freight planning for intercity bus, intercity rail, intracity bus, and intracity rail. It was not always possible to indicate the exact proportion of staff time dedicated to each mode as originally intended. This variation is evident from the responses shown in Table A1 in Appendix A.

2. *The respondent was not necessarily responsible for all planning functions in the state*. For example, Oregon noted that planning for its ports is handled by the Department of Economic Development. For some modes, planning is handled locally or regionally. In Virginia, for example, some planning is likely performed by the specific large scale airports (such as Dulles and Richmond) that is not necessarily represented in the survey response.

3. *The views expressed are those of planners, or persons responsible for the planning function, as opposed to outside parties (citizens, governors, or other elected officials).* The weakness is that the results are thus not an evaluation of how states perform planning, but the corresponding strength is that the results reflect insights experienced practitioners have obtained.

4. *No distinction was drawn between the words "intermodal" and "multimodal."* The literature reflects a distinction but also notes they are often used synonymously. The two terms were combined in a previous survey of states (Peyrebrune, 2000).

How States Are Organized in Terms of Multimodal Statewide Planning

Tables A1, A2, and A3 in Appendix A details the results for Questions 1 through 3. For most states, highway or roadway planning has the dominant share of modal-specific planners. It was also common to share persons among modes; e.g., Alabama noted that it has six people performing planning for rural transit. The free responses that some states provided in lieu of numerical answers for Question 1 show that the modal-specific boundaries suggested in the survey are somewhat artificial. Several states remarked that it was difficult to provide an exact

answer to Question 1, with reasons attributed to the survey question itself, variation over time in terms of the peak planning workload, and the use of consultant versus in-house staff.

Of the 32 states that answered Question 2, 23 indicated they have staff responsible for multimodal planning in addition to staff who perform mode-specific planning. The number of persons performing this task ranged from 1 (West Virginia) to 25 (Maryland), with a median value of 4. Of those 23 states, 14 indicated their staff collaborate with state or local land use offices, and 2 more states indicated "limited" or "minor" collaboration.

Of the 32 states that answered Question 2, 7 indicated they have no staff performing this multimodal function (except those who were listed in Question 1 as performing mode-specific planning). Two did not fall into a yes/no category: Connecticut noted that its mode-specific staff also "perform all multi-modal functions of the Department" and South Carolina noted that although the planning office had led the development of the statewide multimodal plan, no staff are responsible for "multimodal coordination, planning or implementation."

As shown in Figure 2, the set of 37 states responding to Question 3 covered every gradation from fully centralized multimodal planning (where a single office coordinates planning for all modes) to fully decentralized planning (where planning is the responsibility of each modal agency). On a scale of 1 (centralized) to 7 (decentralized), the median ranking was 3, meaning that responses tended slightly toward the centralized end of the scale.

A few states did not answer this question or noted caveats to their answer. For example, Connecticut has a single intermodal planning office as a centralizing entity, but planning efforts are also done on a corridor-by-corridor basis. Missouri noted it is centralized in the long term (5 to 20 years out) but decentralized in the short term (0 to 5 years out). Florida and New Jersey indicated the question was difficult to answer, with the latter, noting that: Given that input from a separate transit agency is used by the planning division to formulate the long-range plan, does this mean the state has a centralized or decentralized approach?

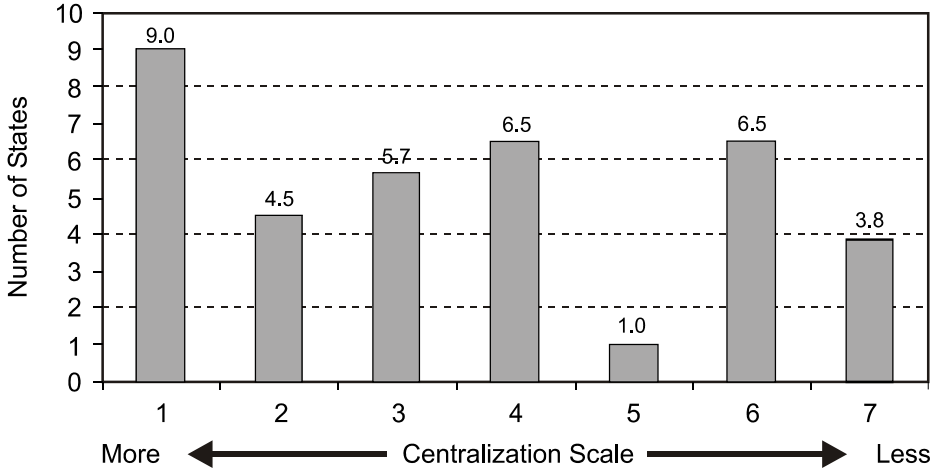

Figure 2. Centralized Versus Decentralized Multimodal Planning. Based on Question 3, states were asked to rank themselves as centralized (where a single office coordinates planning for all modes) or decentralized (where planning is conducted by each modal agency). Fractions result when different respondents from the same state gave different answers. For example, for one state, two respondents scored a 3 and one scored a 7. Each was considered one third of a response.

The state responses also suggest centralization versus decentralization is a matter of degree. Despite the author's effort to place states into one category or another, the free responses suggest that rarely is a state completely centralized in terms of having a long-range statewide multimodal planning unit responsible for all modes—the existence of private commissions, authorities, and modes that are simply outside of the state sphere will always fragment authority somewhat. Even Maryland—which Virginia planners have anecdotally considered to have a "centralized" structure—gave itself a 3—more centralized than Virginia, but not entirely so.

Extent to Which Centralization or Decentralization Is Relevant

Many states cited advantages for centralized and decentralized approaches, and some, such as Oregon, noted that arguments could be made for either case. Several respondents gave reasons the question of having a centralized multimodal statewide planning unit (as opposed to having planning done out of the individual modes in a decentralized fashion) might not be that important. The first two reasons suggest this might not be the right question to ask, and the next three reasons suggest that other factors may overshadow what a centralized unit may accomplish.

1. *Some planning functions should be centralized, and some should be decentralized*. Arizona and Massachusetts noted that the answer depends on the level or type of planning being done. South Dakota suggested that a combination of approaches might be necessary—an approach followed by Missouri, which centralized long-term planning but conducts short-term planning within the individual modes. To some extent, therefore, centralization is a matter of degree.

2. *Coordination is not synonymous with centralization*. Missouri noted that it has several modes in the same division, but for short-term planning, each mode conducts its planning (which it notes is effective for short-term planning). Massachusetts noted that housing all the modal planners in one entity does not automatically mean that multimodal planning is occurring; instead, what matters is the execution of the efforts. Similarly, Vermont noted that the key is to have the planning coordinated between statewide and modal planners. Conversely, decentralization does not necessarily equal a lack of cooperation. Massachusetts noted that collaboration can occur with separate entities. One respondent from North Carolina noted that although a centralized approach seemed useful, decentralized but coordinated planning functions are possible. Another respondent from the state noted that under a decentralized approach, modes must still communicate regarding "the overlaps, transfer points and scheduling of projects and services" that are fundamental to multimodal planning. One state respondent noted that although rail and transit are in the same DOT, there is no coordination at this time.

3. *Rules restricting how various sources of money may be spent limit the authority of a statewide multimodal unit*. Alabama, Alaska, Missouri, Montana, Ohio, and South Carolina all noted that an important consideration in creating a multimodal statewide planning unit is whether there are specific requirements for how various pots of money must be spent. These include federal regulations and statewide entities that

control how funds are spent. Montana noted one factor that enabled it to create an intermodal office was that previously the state had only two boards. Ohio noted that in the absence of funding (or with only modal-specific funding), a statewide multimodal planning office "has little raison d'etre." On a related note, some modes are required for practical reasons. In Alaska, for example, many communities rely on aviation or marine highway to move people and goods; about one third of the state's population live in communities without highway access. Indiana described instances where multimodal coordination was hampered between airports and highway modes in part because of two funding pots: in one instance, the fact that land swap was needed between aviation and highway meant the Federal Highway Administration (FHWA) and Federal Aviation Administration (FAA) requirements had to be negotiated; in another case, after a land swap, differences in the availability of funds for two modes complicated the scheduling of work. The airport obtained the necessary funding in principle and arranged for the work to be done but then realized the funds were not yet available.

4. *The role of metropolitan planning organizations (MPOs), localities, or districts may overshadow the importance of this question*. Two states—Ohio and New Jersey—have extensive MPO coverage (100% of New Jersey is within an MPO area, and 70% of Ohio's population lives within an MPO area). The planning process of MPOs thus becomes quite relevant in these cases. Further, the response of Alaska—which noted that planning is "centralized by process but decentralized geographically"—suggests that there can be cases where the planning activities in the districts (or regions) are significant. As Oregon noted, a key planning goal is public involvement, which, by necessity, often involves regional/district offices or other persons with local knowledge.

5. *Although there was much in common regarding the advantages of each approach, there was not complete agreement.* When one respondent from a state suggested that the advantages of decentralized planning include greater detail paid to individual modes and the development of modal experts, another respondent from the state indicated the same advantages applied to centralized planning. Further, two states simply indicated they did not know of any person who could identify advantages for centralized or decentralized planning. Of the state responses shown in Appendix A, 25 may be characterized as favoring fully neither centralization nor decentralization. For example, Indiana suggested that a solution would be a "middle ground" where individual modal planning was complemented by coordination for more complex projects. Included in those 25 responses are states such as Vermont, which noted "the location of the planning" is not important.

Reasons for Favoring a Centralized Approach

Several benefits of having a single working group that performs statewide multimodal planning for all modes were noted. The first three were cited frequently by many states: consistency among the planners in the single office, coordination, and a systematic, multimodal

approach to transportation needs. The latter three were a bit different: a focus on smaller modes that merit attention, economies of scale for office duties and employee development, and a mechanism for ensuring that planning is done, not overlooked.

1. *Consistency of planning efforts.* Alabama, Arizona, Colorado, Idaho, New Mexico, Oregon, South Carolina, and South Dakota explicitly noted examples of how consistency in long range planning could be achieved with a centralized office. Examples included how the planners could have a common set of principles with respect to how they look at all modes of transportation (Idaho), and consistency in these plans that are all produced by the same office (Alabama and Oregon). In fact, New Mexico noted that when asking individual modes to each produce their own plan, results ranged from single page summaries to "long treatises."

2. *Coordination of planning efforts.* Iowa, Oregon, South Dakota and Nevada also explicitly noted that having personnel in the same office facilitated coordination among the modes, especially given South Carolina's statement that such an office could bring private entities together as necessary. In fact, North Carolina used an example of an at-grade rail/highway crossing to illustrate the need for coordination between the modes. As planning for a roadway went from *systems planning* (e.g., a major thoroughfare would be constructed along a certain corridor), to *project planning* (e.g., the thoroughfare would cross a particular rail line) to *design* (e.g., the crossing would be at-grade), a conflict between the highway long-range plan and the rail long-range plan became apparent. The existing rail line was proposed to eventually become part of a high speed rail network, meaning that any highway crossings would have to be grade separated. This conflicted with the highway plan, which called for an at-grade crossing. With a compartmentalized long-range planning process, this conflict becomes apparent relatively late in the process (at the design stage) whereas with a more coordinated process, this conflict becomes apparent much earlier in the process (at the systems planning stage). Maryland had also noted that a single centralized office could help identify issues earlier in the process. New York and Idaho both noted that even if the decentralized approach were followed, that there was still a need to make tradeoffs among the modes or to have some type of coordinating body, respectively. Similarly, South Carolina noted the need for a "coordinating hub" to ensure continuity between geographical areas.

3. *A holistic examination of the entire transportation system (Appendix B)*. Arizona, Arkansas, Colorado, Delaware, Maine, Mississippi, Missouri, Montana, New York Oregon, and Wisconsin noted this advantage. Comments included the ability to coordinate the development and implementation of statewide modal transportation plans, examining all modes at the statewide scale, and identification of intermodal project opportunities. As an example, Montana explained how people and funding can be used creatively rather than for a specific mode. In the example given, a particular rail had a 110-car minimum requirement for its inexpensive shuttle trains (normally used for grain shipments), which put smaller shippers at a disadvantage. The Montana DOT has been supporting logistics studies to investigate ways that shippers who do not meet the requirement (such as pasta makers or log-home

builders) can still take advantage of intermodal transfers to make use of these shuttles. Other examples were also given, such as the purchase of street sweepers and flushers (to reduce particulate matter) and using CMAQ funds (to provide transit service in conjunction with a highway improvement). Maine similarly noted it was able to leverage CMAQ funds because of its single office and the fact that it had a financial expert who knew the details of the FHWA, FAA, and Federal Transit Administration programs and who could use these funding programs to keep projects moving forward. Mississippi noted it was "imperative" to have one multimodal office in order to identify interconnections. For example, a rail relocation study was under consideration where the benefits of relocating rail from the center of town to the outskirts were examined: the study considered both the benefits to the rail line and the benefits to the town in terms of impacts on vehicular traffic.

A subset of such a holistic examination is being able to determine particular projects that offer economies of scale. New York suggested that the primary benefit is elimination of bias in favor of a particular mode if all modes are truly considered. In this regard, a comment from Arizona is insightful: there may be projects that have a true multimodal benefit, such as an airport, that could benefit multiple modes. In that instance, there should be an individual with the necessary skills to analyze the project and, by inference, be able to state to others that such a project would have significant public benefits.

4. *Attention to smaller modes that need it*. Missouri noted that having the smaller modes (aviation, rail, transit, and waterways) in the same division provided them with a larger voice than if each was considered separately. Missouri and New Mexico noted this gave a single point of contact, which proved useful (Missouri in terms of working the legislature and New Mexico in terms of making updates to the statewide plan). South Dakota also noted increased programs for rural transit and access to rail freight facilities. However, upon reviewing the results of this survey, one Virginia representative commented that centralization of the planning function could cause smaller modes to lose their identity, given that they currently report directly to the Secretary of Transportation (under the decentralized scenario) but would not enjoy a similar status if they were housed within a centralized entity.

5. *Employee development and efficiency.* Alabama, Missouri, Idaho, and Ohio stated that this office could shift planners among activities and/or share expertise among these planners. For example, the statewide travel demand model is a common instrument that may be shared. Delaware noted that employees and customers benefit when planners gain experience with more than one mode: planners learn how to make connections between modes and broaden their horizons.

6. *Planning is accomplished because it is the focus of the centralized unit.* Oregon noted that when long-range planning is included within a modal division, it must compete with more immediate operational responsibilities such as funding requirements. Especially for long-range planning, planners from a centralized unit

have the time to gain input for developing a long-range plan rather than being under pressure to develop a shorter term project list quickly.

Reasons for Favoring a Decentralized Approach

States noted three advantages of the decentralized approach: support for implementing the results of the plan, modal expertise, and an ability to focus on the critical mode overall.

1. *Modal support for the long-range plan*. Oregon noted that if the same staff who deliver a program develop the plan, they have greater ownership of the plan. Wisconsin also noted that with a centralized entity doing long-range planning that is separate from the modal agency delivering the program, the long-range plan and the specific actions or projects that are programmed may not be linked. On the other hand, as noted by South Carolina, if a department controls both the long-range planning and the shorter term programming, the department can set priorities accordingly.

2. *Modal expertise.* Iowa, Idaho, Maryland, Missouri, New Mexico, New York, and South Dakota noted advantages of centralized planning but also advantages of decentralized planning, including fulfilling the need for mode-specific knowledge, such as federal regulations or modal design. Missouri cautioned that for short-term planning (less than 5 years), planners with expertise for the mode in question are needed, and New Mexico noted that modal units were "excellent" at developing shorter term efforts, such as operations (transit) and capital needs (aviation) plans. (Presumably, therefore, skills such as developing a particular highway or transit design are germane to a modal-specific planning unit, especially when it is time to design a particular piece of infrastructure.) New York noted that the availability of "institutional specialized expertise" is one advantage of decentralized planning. Oklahoma discussed the value of detailed modal knowledge that an employee in a centralized unit might not have, and one North Carolina respondent noted that each mode knows its needs better because of its daily contact with the operations units. North Dakota noted that a centralized unit could lose contact with the 90 public airports in the state—thereby losing a critical level of expertise.

3. *Ability to focus on most critical mode overall*. Two states, North Dakota and Virginia, respectively, noted that a decentralized approach could allow a focus on the most critical mode or bring a specific modal perspective to the forefront. Although the survey responses did not explicitly indicate whether this means the critical mode at a project level or a systems level, the nature of the responses appears to suggest that this refers to a state level. Alaska further noted that a certain degree of modal planning (aviation) is essential because some communities depend on airports for access.

A fourth advantage for favoring a decentralized approach may be implied based on responses from South Dakota, Ohio, and several other states that acknowledged the realities of

funding constraints: If a centralized planning unit lacks decision-making authority to move projects forward and is thus simply an additional requirement for intermodal projects (where such projects still had to be reconsidered by modal specific boards), this might lessen the utility of a centralized planning unit.

States also noted two factors that make decentralization appealing or should be considered should a centralized approach be followed:

1. When planning for a large geographic area, some stakeholders may fear that a particular mode is favored over another; planners must work with stakeholders to ensure these concerns are addressed (Utah).

2. If localities do not fully participate in how planning is done, a long-range plan produced by a centralized unit is "done *to* people [or localities] instead of being done *with* them" (Delaware).

Additional Best Practices and Insights

The states cited tangible examples of approaches that are direct or indirect results of statewide multimodal planning efforts. These efforts included freight studies and improvements; multimodal planning studies; participation in special studies; changes in policies; and collaboration with localities, MPOs, or other states. Appendix B details these through the state-by-state responses, but a selected few are presented here to provide tangible examples of these approaches.

Several states noted a focus on freight studies. As an outgrowth of its involvement in the Latin America Transportation Study (LATTS), South Carolina described efforts to form a freight advisory committee with representation from diverse modes, and Arkansas noted regional freight studies that examined shipping patterns and identified needs, with some of these studies culminating in "Regional Intermodal Freight Facility Authorities." Utah has a single multimodal freight planner who tackles issues as diverse as pipeline needs, rail/truck freight, and freight issues outside state boundaries. States also cited freight improvements, such using CMAQ funds to modify river bridges to handle double-stack trains or rail and highway economic development programs (Iowa).

States also mentioned multimodal planning studies, such as regional corridor studies (Arizona and Maryland), statewide multimodal plans (Colorado, Iowa, Nevada, New Mexico, and Arizona's MoveAZ effort), and participation in FHWA's survey on traveler opinion and perception (Idaho). More information about Arizona's effort is available in Cambridge Systematics, Inc. (2004). Iowa noted collaboration with other states in the form of multistate, multimodal corridor studies. An interesting description of specific infrastructure serving multimodal purposes was Michigan's rail mapping project, where the state is mapping rail lines with the goal of making this information available on the Internet. Yet the rail lines being mapped could serve up to three purposes: passenger movements, freight movements, and rail lines converted to bicycle or pedestrian trails. The state representative noted that the mapping

system showing these uses probably would not have been undertaken had the planners for each mode not been in the same office. Pennsylvania mentioned that their long-range mobility plan has involved both the state's long-range planning unit and a steering committee composed of modal representatives.

States also named initiatives that pertained to linking transportation and land use. For example, Idaho noted active participation in its largest MPO's long-range plan, with the state collaborating on transportation/land use planning in a particular county in the MPO, whereas Maryland mentioned transit-oriented development. North Carolina's recent "Strategic Highway Corridor Initiative" asks municipalities to support transportation improvements of statewide significance by developing land in a way that supports the proposed improvement. Delaware's interview response emphasized the importance of garnering localities' support, as they control land development, to integrate land use and transportation. Given that Delaware and North Carolina are two of the four U.S. states, like Virginia, that leave maintenance and construction of county (usually secondary) roads in state control instead of with the county (O'Leary, 1998), their practices may merit further examination. Florida describes the passage of a new growth management law in June 2005 that is expected to involve the Florida DOT heavily in growth management and comprehensive planning; for example, one factor that raises a project's ranking for funding is support of growth management objectives, such as infill development (Florida DOT, 2005).

Several states noted specific initiatives beyond studies that resulted from multimodal planning approaches. Iowa mentioned the development of a paved shoulder policy for safety and bicycle accommodation, Maryland described several initiatives such as bus rapid transit and express toll lanes, and New Mexico noted efforts to link planning and the NEPA National Environmental Policy Act (NEPA) process. New Mexico's effort entails speeding project implementation by considering specific projects in the long-range plan and applying elements of the NEPA process earlier (between the long-range plan and the STIP) than is currently the case. Because the approach is multimodal, project modal alternatives can be explicitly considered while the long-range plan is created; consideration of these NEPA aspects early in the process may help move projects along faster. North Carolina also describes efforts to make sure the long-range planning products are useful in the NEPA process.

At least two states suggested that even if a multimodal planning entity did not have decision making authority, it can play a useful role by providing technical assistance and consultation with modes. A West Virginia interviewee noted that his section had assisted various modes (ports, aeronautics, and others) by providing technical reviews of planning materials, such as the double-stack initiative for rail transport. This response dovetails with a suggestion by another interviewee who noted that the multimodal planner often has the responsibility of demonstrating why certain ideas are infeasible. A Massachusetts interviewee explained that the planner's job is to test the feasibility of various alternatives and to show—not simply state—why the proposed alternative will not eliminate the problem. His example was the proposal to make a light rail improvement instead of an interchange improvement, where the volume of vehicles using the interchange was greater than the ridership of the entire light rail line. The same interviewee pointed out that there are instances where examination of alternatives will lead to a different solution than what was previously considered the best approach—thus the message is

not that alternatives are never considered but rather that the planner has a responsibility to test and thus prove their feasibility or infeasibility.

West Virginia, North Carolina, Connecticut, and Minnesota suggested steps that need to be taken to ensure the efficacy of multimodal planning if it is centralized. In the aggregate, these steps may be summarized as clearly defining the mission and expectations of the unit. Minnesota noted the question of precisely defining *multimodal planning*. One element is coordination among modes, but another element may be a tradeoff analysis among modes. Another element is the extent to which these two elements are part of the duties of a centralized office. Assuming long-range planning is done in one agency and shorter term or operational planning is done in another agency, then as North Carolina notes it may be challenging to ensure that the modal agency is sufficiently involved, given that other duties may compete for staff time. Connecticut's statement that the statewide long-range plan guides decisions of the operational bureaus but is based on their input suggests that establishing this link between the centralized and decentralized units is critical. Finally, West Virginia noted that the unit needs sufficient staff; they suggested a staff of three to five people is necessary to attend to the "intricacies" of the various modal projects.

Summary

Table 1 provides highlights of the advantages, disadvantages, and mitigating factors with the centralized and decentralized approaches as expressed by the states.

In the aggregate, states moderately favor the centralized approach (or at least a centralized multimodal body to assist with coordination) without going so far as to favor the centralized approach entirely. However, a disaggregate state-by-state review shows that a dozen state responses shown in Appendix B strongly advocate the centralized approach, and only one state strongly advocates the decentralized approach. Table 2 summarizes the responses of the states in Appendix B as categorized by the author.

DISCUSSION

The concept of reorganizing to support intermodal planning is not new. In 1978, the GAO recommended that the Secretary of the U.S. DOT should "merge the Department of Transportation's modal planning staffs into a single, all-mode unit" (GAO, 1978, Few states (if any) disagree that multimodal coordination is important. The question is whether a centralized or a decentralized entity is necessary for such coordination. Clearly, either answer is supported. The majority of states either gave advantages for both approaches or stated that the question was irrelevant (or not as relevant as initially presumed by the author). Oregon captured this thought, stating: "Either the centralized or decentralized approach can work well. The two challenges are to (1) identify which of the advantages . . . are more critical for a given state, and (2) compensate for the weaknesses of either approach."

Table 1. Highlights of Advantages, Disadvantages, and Mitigating Factors with the Centralized and Decentralized Approaches

Advantages of Centralized Planning and Example(s)	Advantages of Decentralized Planning and Example(s)	Mitigating Factors
1. *Consistency*. All modal long-range plans have a similar format and level of detail (New Mexico).	1. *Focus on most critical mode. C*oordination is not yet necessary (and the focus is on the most critical mode) (North Dakota).	1. *Location is not synonymous with centralization.* Planners can be next to each other, but this does not ensure coordination (Massachusetts).
2. *Coordination.* Conflicts, such as those between a high-speed rail line and a highway crossing, are detected earlier in the process (North Carolina); possible linkage of long-range planning and NEPA (New Mexico); possible coordination between land and transportation development.		
3. *Holistic examination of entire transportation system.* SPR funds can be used to aggressively find ways to enable smaller shippers to take advantage of shuttle trains (Montana); tradeoff analysis (New York).	2. *Lack of authority*. If the multimodal unit has no funding power, it has no reason for existence (Ohio). Similarly, the smaller modes might enjoy greater access to the Secretary of Transportation under a decentralized structure than they would have under a centralized structure (Virginia).	2. *Funding requirements (federal or state) dictate how much may be spent by mode and thus limit what decisions a unit can make.* FHWA and FAA have different programs (Indiana).
4. *Attention brought to smaller modes that need it*. A single point of contact for smaller modes provides better representation when interacting with the legislature (Missouri).		
5. *Employee development and efficiency*. By enabling planners to work with multiple modes, their career horizons are broadened and they can better serve customers (Delaware).	3. *Modal expertise may be easier to obtain*. Modal-specific planners have technical and regulatory knowledge (Idaho, Maryland).	3. *Some planning functions should be centralized, and some should be decentralized* (Arizona).
6. *Focus is planning.* Planning does not get lost in other responsibilities, which might occur if it were located in an operational division (Oregon).	4. *Modal support for long-range plan may be easier to obtain.* If agency doing the long-range planning is not the same as the implementing agency, linking planning and programming may be difficult (Wisconsin)	4. *MPOs (or regional/district offices) are increasingly relevant.* All of the state is within an MPO area, and the MPOs have their own processes (New Jersey)

Examples were chosen to illustrate the meaning of the italicized phrase; other examples are given in the Results section and in Appendix B.

Table 2. Summary of Appendix B Responses Comparing Advantages of Centralization or Decentralization

Responses Appear to Favor Centralization	Responses Are Mixed or Note Critical Factors Beyond Centralization/Decentralization	Responses Appear to Favor Decentralization
Alabama, Arkansas, Colorado, Delaware, Iowa, Kansas, Maine, Michigan, Mississippi, Montana, Pennsylvania, Washington	Alaska, Arizona, Connecticut, Idaho, Indiana, Maryland, Massachusetts, Minnesota, Missouri, Nevada, New Jersey, New Mexico, New York, North Carolina, Ohio, Oklahoma, Oregon, South Carolina, South Dakota, Texas, Utah, Vermont, Virginia, West Virginia, Wisconsin	North Dakota
12 states	25 states	1 state

Categorizations are based on the author's review of free responses in Appendix B. States in all three columns, however, noted important caveats. Some states in the middle column noted benefits of centralization but in the author's judgment offered critical factors, as noted in Appendix B.

Viewpoints are mixed concerning whether centralization increases or decreases the influence of smaller modes. Representatives from Missouri, New Mexico, and South Dakota suggested that centralization may bring greater attention to smaller modes. However, a Virginia representative noted that under a decentralized approach, smaller modes report to the Secretary of Transportation and, thus, presumably enjoy greater influence than they would under a centralized approach. Hazard (1988) implied that both viewpoints are plausible depending on how a centralized office is organized. Hazard discusses extensively the formation of the U.S. DOT and explains how "powerful modal administrators," such as those heading the FAA or the National Highway Traffic Safety Administration, retained significant authority relative to the Office of the Secretary of Transportation. Hazard suggests that a "weak" secretary's office "is in no position to balance the "needs" of the modes" even though some modes may need such assistance. Hazard goes on to discuss ways of strengthening the secretary's office, such as aligning assistant secretary duties by function (e.g., research and development, regulation review, budget) instead of by mode (e.g., highway, rail, aviation). The details of this discussion are beyond the scope of this report. The message, however, is that the manner in which the secretary's office is organized will affect whether a centralized office is likely to increase or decrease the influence of smaller modes.

As noted in Table 2, 12 states favor centralized multimodal planning—but only to the extent that four caveats can be met:

1. The staff in the centralized unit are engaged in such a manner as to collaborate actively; it cannot be assumed that placement of diverse modal planners in a single work unit will ensure modal planning will occur.

2. The centralized unit has some type of funding authority or some other reason for existence.

3. The centralized unit does not replace modal-specific planning that is necessary, especially for short term programmatic efforts.

4. How this unit should interact with units that perform modal specific planning, such that the modal-specific units are able to implement the planning, must be clearly articulated. Pennsylvania's caveat, echoed by North Carolina, is noteworthy: a centralized unit must have a close link to the operational modes to ensure the intermodal connections are realistic.

The message of Appendix B is that if these caveats cannot be addressed, having a single unit performing long-range planning loses its value.

A fifth caveat might be drawn by combining findings from the literature and a response from one of the states: Even if a single, multimodal statewide long-range planning unit is created, not every project will necessarily be "multimodal." The literature suggested that there are states where it is simply more difficult to implement multimodal solutions because of geography and demographics (Goetz et al., 2004). One respondent noted that part of planning is to prove why some ideas are infeasible. However, the respondent emphasized the difference

between *demonstrating* infeasibility through analysis or modeling and simply *stating* infeasibility. Thus a multimodal unit may engage in testing the feasibility of alternatives through modeling (or other approaches), performing tradeoff analysis, identifying connection points between projects, or critically considering how to solve problems through diverse solutions (an example provided by another state was the purchase of sweepers and flushers to reduce particulate matter). However, there may be cases where the multimodal consideration does not result in a different approach than would have been otherwise undertaken.

CONCLUSIONS

- *The decision to centralize statewide multimodal long-range planning in one unit or to have it decentralized in the different modal units may have limited influence on how statewide multimodal planning is accomplished because of external factors*. The most pressing of these appears to be federal or state regulations or processes that tie some funding pots to specific modes. Four other external factors are:

    1. Some planning functions should be centralized, and some should not (e.g., shorter versus long-range planning).

    2. Having persons in the same functional unit does not guarantee multimodal coordination.

    3. MPOs, localities, or districts also influence multimodal planning, especially through a public involvement process. A respondent from Alaska noted that a properly functioning MPO is already an intermodal agency.

    4. Multimodal considerations, such as mode-neutral performance measures, do not guarantee that a "multimodal" solution will always be chosen: there may be cases where the recommended solution is comparable to the solution that would have been obtained under traditional planning.

- *Specific advantages for the centralized and decentralized approach exist*.

    — Six advantages of a centralized approach are consistency of plans, coordination of modes given that modal staff are in the same office, an unbiased study of the entire transportation network, a greater emphasis on smaller modes (by aggregating them), better training and development for planners (by exposing them to multiple modes), and a guarantee that planning will not be forgotten.

    — Four advantages of a decentralized approach are garnering modal support is easier if the same agency developing a long-range plan implements it in the short term, modal expertise is more accessible, planning resources may be devoted to the most critical mode in general, and this approach might be preferable if multimodal authority does not exist.

— Some states gave strong answers favoring the centralized approach whereas others articulated external factors as more relevant than this survey had initially assumed. Just one state favored the decentralized approach, with one of the state's three respondents noting that a critical level of direct contact could be lost with a centralized planning office.

— A compilation of the states' responses is that centralization has promise but only if critical caveats can be met: (1) true collaboration among centralized staff representing different modes , (2) funding authority for the unit, (3) continuation of modal-specific planning as necessary, and (4) clear linkage between the longer range centralized multimodal unit and the shorter term modal specific units.

- *States rated themselves on average as being more centralized than decentralized*. On a seven-point scale from centralized (1) to decentralized (7), the median ranking was 3, with nine states ranking themselves as fully centralized and two states ranking themselves as fully decentralized. No correlation was observed between these ratings and five characteristics obtained from the Bureau of Transportation Statistics: population, aviation enplanements, bus transit route miles, freight rail miles, and state highway miles.

- *States mentioned several practices that merit further exploration*. These include using a statewide multimodal planning office to provide technical assistance to other modes (even if such an office lacks funding authority or sufficient staff), using a centralized office to consider NEPA processes earlier in the planning process (thereby possibly accelerating the pace with which projects may be performed), testing alternatives through modeling or other analysis, and coordinating modal investments and land development activities.

A RECOMMENDED DECISION PROCESS

At present, Virginia has a moderately decentralized approach to long-range planning, and a dozen states clearly favor the centralized approach. Yet, this report alone does not indicate whether Virginia should change to a more centralized approach for at least two reasons. First, the report does not include all information necessary to make such a decision, such as details about how Virginia performs long-range coordination at present. Second, several respondents noted that either approach can be made to work if the rationale is carefully developed. Thus, insights from other states may be used to develop a template for considering whether creating a centralized unit will offer benefits. The template may be described in four steps.

1. *Critically consider the advantages of the centralized approach as noted in this report*. Several related practices mentioned by other states may be of interest in Virginia, as excerpted from Table 1:

    - using a multimodal unit to perform tradeoff analyses among benefits and costs of investments in different projects without mode-specific constraints

- eliminating conflicts between modes or between transportation investments and land development activities

- ensuring that multimodal long-range planning is fully undertaken because it is the explicit focus of a unit

- linking the long-range planning process and the NEPA process to improve project development (with a multimodal unit, alternative modes may be considered in the long-range planning process).

2. *Examine the challenges, as noted in this report, to making a centralized approach work.* These challenges are noted in Table 1 and Appendix B; e.g., federal or state funding requirements can constrain modal investments; having modal planners in the same unit does not guarantee their coordination; staff for the unit may be lacking. Further, a centralized unit must be tightly coordinated with the operational divisions; the responses from Oregon, Pennsylvania, and Wisconsin (see Appendix B) indicate this necessity cannot be overstated.

3. *Critically assess whether the potential benefits exceed the risks for Virginia*. There is an information-gathering step that is beyond the capabilities of this report: given the specific characteristics of the modal agencies in Virginia, which approach is most applicable as shown in see Table 1? For example, the structure of a centralized unit and its affiliated reporting relationships will determine whether smaller modes enjoy greater or smaller access to decision makers than is currently the case.

4. *If a centralized unit will be established, carefully determine its scope.* Centralization is a matter of degree, and the advantages shown in Table 1 for each approach may offer insights regardless of whether a centralized or decentralized decision is made. For example, if only one potential benefit from Step 1 (being able to perform a tradeoff analysis among modes) and a corresponding potential obstacle from Step 2 (modal specific funding requirements might render such an analysis useless) are considered, three possible answers based solely on this example might be:

- The mode-specific funding constraints cannot be overcome, and thus a centralized unit should not be created because it would not have any real influence on modal investments

- The mode-specific funding constraints cannot be overcome, but a small centralized unit may be created because it can offer other benefits that are of interest to Virginia, such as elimination of conflicts between modes

- The mode-specific funding constraints can be overcome such that a centralized unit may be established; however, attention must now turn to ensuring that such a unit's long-range planning is tightly coordinated with the modal agencies that would be implementing such plans.

BENEFITS AND COSTS ASSESSMENT

There are potential benefits and potential costs of following the recommended decision process for choosing a centralized or decentralized approach. The process itself may lead to a greater understanding of the strengths and weaknesses of Virginia's current planning structure in light of the advantages of the centralized approach and the advantages of the decentralized approach. Potential benefits of a centralized approach include greater consistency of plans, greater coordination of modes, and a greater emphasis on planning. These benefits do not lend themselves to quantification as a result of this study.

The decision process carries at least two major risks. First, if not done properly, Virginia could choose the wrong planning structure. For example, it may be the case that Virginia is better served by the existing decentralized approach because of modal funding constraints. If that is the case, then changing to a centralized approach might simply add an additional organizational layer that hinders linkage between the planning and implementation functions—a risk noted by other states. Second, any type of change necessitates the use of scarce organizational energy that perhaps could be better devoted to other techniques for improving planning coordination, such as the provision of technical assistance.

FUTURE RESEARCH NEEDS

At least two areas of exploration should be considered in a future study:

1. *There may be some lessons that can be learned by longitudinally examining previous efforts to centralize (or decentralize) planning by mode at either the state or federal level.* The literature describes previous suggestions to create such a unit, such as at the U.S. DOT (GAO, 1978). There may also be previous Virginia attempts to coordinate modes that merit examination.

2. *As this study focused on cataloging the benefits of centralized and decentralized approaches, the practices described herein that do appear promising probably require more detail (than given in this report) before they can be applied in Virginia.* Examples include, but are not limited to, efforts to coordinate NEPA and the long-range planning process that could potentially improve project delivery (New Mexico and North Carolina), the consideration of all modal needs simultaneously in order to allocate funds with fewer modal constraints (Montana and Maine), the linkage of land development and transportation investments (Florida, North Carolina), and explicit use of results from tradeoff analyses (Delaware, New York).

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Google from the formal link at http://webapp.topikmail.com/ct_track.ts?c=29412&u=55391&i=3327&ct_attrib=http%3A%2F%2Fwww.vachamber.com%2FVDOTMaintenance.pdf which was broken on December 14, 2005.)

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APPENDIX A

SURVEY INSTRUMENT AND SUMMARY OF RESPONSES TO QUESTIONS 1-3

Multimodal Statewide Transportation Planning: A Survey of Best Practices

Most states have separate modal administrations that each perform some *transportation planning*, defined as the process for selecting projects for implementation. Modal administrations may include aviation, bus, highway, ports, rail, or some combination thereof. States may also coordinate these modal transportation planning efforts through an Office of the Secretary or equivalent.

The purpose of this survey is to determine if there is value to centralizing statewide *multimodal* planning efforts within a single office. Please take a few minutes to complete the attached survey. If you prefer to complete the survey by phone, please contact John Miller at (434) 293-1999. (Your comments that describe how multimodal planning is accomplished in your state are also welcome!)

The Virginia Transportation Research Council will tabulate the results and share them with survey respondents and AASHTO's Standing Committee on Planning. ***If the entire survey cannot be completed, then questions 3 and 4 have the highest priority.***

1. Staff who perform statewide modal-specific planning

Approximately how many people on your staff perform modal-specific transportation planning for each of these modes? Please include both in-house staff and consultants, and indicate *p* if the persons are part time.

Passenger	*Freight*		
_____	_____	aviation	
_____	_____	bicycle	
_____	_____	ferries	
_____	_____	highways or roads	
_____	_____	intercity bus	(bus travel between cities or states)
_____	_____	intercity rail	(rail travel between cities or states)
_____	_____	intracity bus	(local bus travel within a metropolitan area)
_____	_____	intracity rail	(local rail travel within a metropolitan area)
_____	_____	pedestrian	
_____	_____	ports	
_____	_____	other	

2. Staff who perform statewide multimodal planning

Besides staff who perform mode-specific planning, does your state have staff responsible for multimodal planning?

_____ Yes _____ No
_____ How many staff members perform this multimodal planning function?
_____ What work group(s) house these staff?
_____ Besides the individuals mentioned above, how many others are *informally* involved in multimodal planning?
_____ Do these staff have any collaboration with state or local land use offices?

3.✻ Centralized versus decentralized multimodal planning

Would you characterize your state as having a *centralized* multimodal planning office (where a single office coordinates planning for all modes) or a *decentralized* set of offices (where planning is the responsibility of each modal agency)?

Centralized						Decentralized
1	2	3	4	5	6	7

4. ✻ Best Practices or Practices to Avoid

_____ Can you recommend individuals in your state who can answer at least one of these questions below? Please give the name and phone/email of staff we may contact. (If you have not included yourself in those staff, then please also give us <u>your</u> insights for these three questions)

- Are there specific projects, approaches, or programs in your state that are the direct result of statewide multimodal planning efforts?
- Are there advantages to conducting statewide multimodal planning primarily through a designated multimodal office?
- Are there advantages to conducting statewide multimodal planning primarily through each specific modal agency (rather than through a designated multimodal office?)

5. Other Comments and Free Response (See next page)

The original impetus behind this survey was to determine where, within state government, responsibility for statewide multimodal planning should ideally be placed. That is, should such planning be handled (a) separately by each major mode or (b) by a single state agency? Any insights you can provide are welcome!

John Miller, Virginia Transportation Research Council, 530 Edgemont Road, Charlottesville, Virginia, 22903; (434) 293-1999 (voice); (434) 293-1990 (fax); <u>John.Miller@VDOT.Virginia.gov</u> (email)

Table A1. Responses to Survey Question 1: Number of Staff who Perform Modal-Specific Planning (Includes both in-house staff and consultants)

Mode (*P*assenger, *F*reight)	**Aviation**		**Bike**	**Ped**	**Ferries**		**Roads**		**Intercity Bus**		**Intercity Rail**		**Intracity Bus**		**Intracity Rail**		**Ports**		**Other**	
	P	***F***	***P***	***P***	***P***	***F***	***P***	***F***	***P***	***F***	***P***	***F***	***P***	***F***	***P***	***F***	***P***	***F***	***P***	***F***
Alabama	4		2				5		6 for rural transit											
Alaska	4		0.25	0.25	1				0.5				1.5				1			
Arizona	1	1	1	1					1		C	c			1	1				
Arkansas		2p	1p	1p			10p	10p			1p		2p					2p		3p
Colorado	1		0.5	0.5			10	1	0.1		0.2	0.2	1							
Conn.	2		1				4	1	3									1		
Delaware	Division of Planning has responsibility for all modes except transit route planning; during peak workload years, 25 to 30 total (in-house plus consulting) staff do this planning function																			
Florida	See Appendix B																			
Georgia	2	2	1	1	0	0			1	0	1	1	0	0	1	2	0	2	0	0
Idaho	ITD has an intermodal planning section (within its transportation planning division) that consists of six (6) staff with one manager, one GIS support staff and 4 senior transportation planners. One of the planners works primarily on bicycle/pedestrian coordination and planning, one planner primarily handles rail and freight/inland port issues and the other two planners support a variety of intermodal planning and coordination activities. Additionally there is 1 planner (Public Transportation Division), 1 planner (Aviation Division), 1 roadway planner (each district office),																			
Indiana	1		1		0		5		1		1	1								
Iowa	0.5		0.5	0.5			1	1	0.1		0.2	0.6	0.4					0.2	1	1
Kansas	2	2	1p				14	4	0	0	0	4	0	0	0	0		0.0	0	0
Maine	1		1		1			1	1 for bus and passenger rail, 1 for freight intercity rail									1.0		
Maryland	21 to 26	3 to 5	2	5	1	1	149	146	29	25	27	25	26	25	28	25	1	8		
Mass.	Noted it is difficult to define whether a person is part of the "centralized" planning office or not																			
Michigan	0.75	0.25	1.75				100		0.5		0.75	0.75	0.25				0.25	0.25	2.75	
Minnesota	1	1	5				30	6	13 for all transit and 2 for intercity rail freight									1		
Mississippi	2	2	2	2	1		12	12	4		2		3					4		
Missouri	Short term planning: multimodal division with discrete sections therein (aviation, rail, transit, and waterways/ports/ferries). Long term planning for all modes: 6-7 person team in a separate planning division.																			
Montana	See Appendix B																			
Nevada	3		2				3		4		0.5		0.5							
New Jersey	It was not easy to group staff into modes! Also there is no easy way to estimate the consultant contribution for staff time																			
New Mexico	1		1	1			1		0.5		0.5		1		0					
New York	5		2 + 1p		2 + 1p		15	3	1+1p		2	3	4		3			1		
North Carolina	1		2	1	1		45	1			2	2					1			
North Dakota	20	2					2	2				2								
Ohio	1	1	2	0	0	0	10	0.5	0	0	3+1	3	5		5+1		0	0	0	0
Oklahoma								2			3	3								
Oregon	Don't know		1						1		1		1		1				4	
Penn.	See Appendix B																			

Mode (*P*assenger, *F*reight)	**Aviation**		**Bike**	**Ped**	**Ferries**		**Roads**		**Intercity Bus**		**Intercity Rail**		**Intracity Bus**		**Intracity Rail**		**Ports**		**Other**	
	P	***F***	***P***	***P***	***P***	***F***	***P***	***F***	***P***	***F***	***P***	***F***	***P***	***F***	***P***	***F***	***P***	***F***	***P***	***F***
South Carolina	3		1		0		11		3 persons handle all bus planning and 1 person handles all rail planning								1			
South Dakota	3		1				5		2				2			1				
Texas	8p	8p	2p	2p			13p	13p			3p	3p						2p	4+ 1p	
Utah	1		1	1			13	1	The "3" in the Other category refers to rural transit programs. Additionally, there is a single multimodal freight planner.										3	
Vermont	0.5	0.5	1	1			1	1			1									
Virginia			1	1	1		50	1			2	3	5		2				3	
Wash. (state)	In WSDOT we have one centralized (headquarters) office responsible for statewide, multi-modal transportation planning: 1 Manager, 6 Staff. This work is supported by technical staff (usually 1 or perhaps 2) in modal divisions within WSDOT, and by external working groups made up of representatives from particular mode agencies or interest groups and by our state's Metropolitan Planning Organizations (MPOs) and Regional Transportation Planning Organizations (RTPOs).																			
West Virginia	1p		1p									1p				2		1		
Wisconsin	A division handles strategic long-range planning for all modes. There are also planners in the individual districts as well as system plans being done by specific modes.																			
Wyoming	2		1	1			4	2	1		1		1							

A small p means a part-time individual.

A small c is confirmation that an individual knowledgeable about this mode confirms that planning for this mode is not done in the state.

Table A2. Responses to Survey Question 2: Staff who perform statewide multimodal planning

State	Besides staff who perform mode-specific planning, does your state have staff responsible for multimodal planning?	Number of such staff	How many others are informally involved in multimodal planning?	Do these staff have any collaboration with state or local land use offices?
Alabama	N			
Alaska	Y	24.5		
Arizona	Y	6	0	Y
Arkansas	Y	3p	0	
Colorado	Y	3	15	minor
Connecticut	The staff noted in [question (1) of the survey] perform all multi-modal functions of the Department [of Transportation]. They are assigned to the Intermodal Planning Office, under the direction of an assistant planning director. This staff performs the mode-specific planning and multimodal planning.			
Delaware	See Appendix B.			
Florida	See Appendix B.			
Georgia	N			
Idaho	See Appendix B.			
Indiana	N			
Iowa	Y	4	7	N
Kansas	Y	12	0	Y
Maine	Y	2	all	[a](see below)
Maryland	Y	19	10 to 15	Y
Massachusetts	See Appendix B			
Michigan	Y	2.5	Limited	Limited
Minnesota	Y	5	30	Y
Mississippi	Y	12	0	Y
Missouri	See Appendix B			
Montana	See Appendix B			
Nevada	N			
New Jersey	See Appendix B			
New Mexico	Y	4	3	Y
New York	Y	6	See Appendix B	Y
North Carolina	Y	2	45	Y
North Dakota	N			
Ohio	Y	5	3	Y
Oklahoma	Y	1	4	Y
Oregon	Y	Varies by workload		Y
Pennsylvania	See Appendix B			
South Carolina	See Appendix B			
South Dakota	Y	2		N
Texas	Y	8	[b]***(see below)***	Y
Utah	N			
Vermont	Y	2	8	Y
Virginia	Y	4 (VDOT) or 2 (VDRPT)	20	N
Washington	Y	6	10	Y
West Virginia	Y	1	3	N
Wisconsin	See Appendix B.			
Wyoming	N	0		

[a]In Maine, collaboration takes place by Bureau of Planning and Environmental Services.

[b]Texas' response is "Many. All TxDOT engineers are encouraged to evaluate multimodal solutions to transportation problems."

Table A3. Responses to Survey Question 3: Characterize your state as having centralized (1) versus decentralized (7) planning

State	Response
Alabama	1
Alaska	4,7
Arizona	3, 3, 7
Arkansas	3
Colorado	5
Connecticut	1
Delaware	1
Florida	Difficult to determine (see Appendix B)
Georgia	6
Idaho	4
Indiana	7
Iowa	2
Kansas	3
Maine	4
Maryland	3
Massachusetts	4
Michigan	1
Minnesota	6
Mississippi	1
Missouri	Centralized in the long term, decentralized in the short term
Montana	1
Nevada	1
New Jersey	See Appendix B
New Mexico	3
New York	3
North Carolina	6
North Dakota	7
Ohio	2
Oklahoma	2,7
Oregon	4
Pennsylvania	6
South Carolina	6, 7
South Dakota	6
Texas	4
Utah	1
Vermont	2
Virginia	6
Washington	1
West Virginia	4
Wisconsin	See Appendix B
Wyoming	2

APPENDIX B

SELECT FREE RESPONSES BY STATE

For some states it was necessary to contact more than one person to obtain fuller modal representation. In those cases, this is noted.

Alabama (one respondent with verification from a second respondent)

- Alabama DOT uses a centralized planning approach, but the only modal sources of funding controlled by the DOT are roads and transit. (This is the opposite of the situation in Florida.)

- There are at least two advantages of the centralized approach to multimodal planning. First, there is greater control of the plans: they are more uniform and there is a common mission for the office in creating the multimodal plans. Second, there are some economies of scale in the creation of the plans.

- However, a practical constraint is the funding situation: is there funding for a multimodal office or is funding separate for each mode?

Alaska (aggregated by the author from two different responses)

Alaska DOT&PF plans primarily from a multimodal perspective. Planning is generally centralized by process, but decentralized geographically, with each Region office responsible for planning within its area. Some mode-specific planning is done of practical necessity due to the character of the state's transportation infrastructure and the degree of mode-specific funding employed. For example, the large number of communities dependent upon state-owned airports in their community for access creates a practical need for staff to plan, manage, and coordinate aviation capital improvements in addition to multimodal planners. Additionally the state manages a modal program to plan improvements to port/harbor facilities for Alaska's many small coastal communities. Modal planning incorporates both passenger and freight considerations.

- Much of Alaska is considered remote, with little transportation infrastructure. About one-third of Alaska's residents are not connected to the road system. By necessity planning must encompass the three main modes: aviation, marine highway (ferry), and roads. This reflects a historic reality that challenged Alaskans prior to statehood (1959) and well into the subsequent years. The Alaska Marine Highway System's name recognizes its role as an essential marine transportation conduit, not simply a collection of ferries. Most of coastal Alaska is supplied by tug and barge service from the Seattle/Tacoma area, and the Port of Anchorage is the major entry point for goods and services moving to the interior of the state via road or rail. Alaskan North Slope crude oil is transferred by pipeline to Valdez where it is exported (primarily to U.S. ports) by tanker. Anchorage is a major international air cargo hub for the Pacific Rim region.

- Alaska's statewide transportation plan consists of a statewide policy plan and several area transportation plans, each of which covers a particular geographic area of the state. (These area plans cover portions of Alaska not reflected by the two MPOs.) The area plans recognize the vast differences in character between various regions of the state due to population, geography, prevailing climate, resources, infrastructure and economic development.

- The lion's share of the highways budget goes to the NHS [National Highway System]. However, NHS funds can be used either for roadway or marine highway (ferries) [which provides some flexibility to shift funds between these modes].

- Aviation funding has grown over the past ten years (which is a result of recognition that a substantial portion of the state depends on aviation as the primary mode of transportation). Alaska DOT&PF owns or operates over 250 airports around the state, include Anchorage and Fairbanks international airports. Most of these are community airstrips that are considered vital, as they may be the only practical means of moving people and goods in or out of the community.

- Centralized vs. Decentralized Multimodal Planning is rated as "7", fully decentralized. I did this from the perspective of the Alaska Railroad. We are a sister state agency to our Dept of Transportation but are independent from the state. While the DOT has a "Rail Coordinator" he is primarily focused on other duties pertaining to trails and bicycles. The Alaska Railroad is responsible for its own planning but we do work closely with the DOT as well as other modal agencies when our paths cross. The Alaska Railroad participates in MPO's that we operate through and works closely with the State STIP process.

- [Regarding approaches that are direct results of statewide multimodal planning efforts.] We are currently working DOT and other local government agencies on a number of alternate corridors which are being initially developed as "joint" corridors. By default this has occurred in the past as the railroad came first and the highways generally followed our alignment and in many cases is permitted to be within our ROW. However, as growth in our communities has surged the need for alternate alignments has become increasing important and we have determined there are advantages to one public process, environmental documentation and funding efforts if we join forces and work together.

- [Regarding advantages of a designated multimodal office or using each specific modal agency:] I combined these two because in my mind this success is as much based on institutional history in a state as it is on the benefits of decentralized vs centralized. I believe that POLICY is best overseen by individuals at the highest level. Therefore a POLICY group composed of the leaders of each modal agency should responsible for ensuring individual modes are not off-track. This group acts as a "board of directors" and can resolve policy issues and are held accountable for executing the policy within their individual's agencies. This also gives you an opportunity to bring in private directors such as major trucking companies, railroads, shippers, carriers, businesses, ports, airports, etc. What we are really saying is that if the MPO process is working properly you should already have the "multimodal" agency working together. However, the individual expertise in each modal

agency is critical to the success of implementing each agency's diverse mission and that expertise is either diluted or lost when there is a "multimodal" agency.

Arizona (aggregated by the author from three different responses)

- [Regarding approaches that are direct results of statewide multimodal planning efforts:] First, the MoveAZ project is a multimodal planning process that deals with long range planning and is approved by the State Transportation Board. The Public Transportation Division participates in this process. Second, we now conduct corridor studies at a regional level and include all state highways and those modes that interact with them.

- [Regarding advantages of a designated multimodal office:] it depends on the level of planning that you are doing.

- [Regarding advantages of using each specific modal agency there are two answers:] One is that the advantage to MoveAZ (cited above) is that is provides an opportunity to coordinate with other transit agencies regarding long-range state planned commitments. Another is that I believe coordination gets lost and we could get too specific.

- Multimodal planning issues need to be centrally located in that when an agency determines a multimodal situation might be worth considering that someone with skills in this particular area could be advised of the situation and analyze the potential (or non-potential). As it works now, if one of our airports could establish a multimodal facility that would benefit all parties, there is no one to pursue the project to determine its feasibility. Or maybe there is but we are unaware of the process. As a Planner, I don't know where to take this idea and especially when it involves state and federal agencies. In other words, who steps in and says, "this is an excellent multimodal project and will benefit the public and the agencies in the long run."

Arkansas

Regional freight studies have been conducted that examined an area's existing freight transportation system, current shipping patterns and identified freight transportation needs. In some cases, the studies resulted in the formation of Regional Intermodal Freight Facility Authorities. The purpose of an Authority is to develop the freight shipping capabilities in a region.

The major advantage of a centralized office is the ability to coordinate the development and implementation of statewide modal transportation plans.

Colorado

- [Regarding approaches that are direct results of statewide multimodal planning efforts there are] (1) the Strategic Investment Program that identified statewide strategic projects funded from a specified source of funds, (2) Corridor Visions as foundation of statewide plan, and (3) Statewide Plan addresses all modes/transportation needs.

- [Advantages of a centralized approach include] (1) Coordination/consistent policy approach statewide; (2) identification of opportunities that cross regional boundaries, (3) coordination between modes/identification of intermodal project opportunities, and (4) reduction in modal "turf wars."

Connecticut

The staff noted in 1) [question 1 of the survey] above perform all multi-modal functions of the Department. They are assigned to the Intermodal Planning Office, under the direction of an Assistant Planning Director. This staff performs the mode-specific planning and multi-modal planning.

- Connecticut is split into five bureaus: the Bureau of Policy and Planning (which is centralized and has all the modes in one division) and four operational bureaus (which is then split into separate modal divisions: Aviation and Ports, Public Transportation, Engineering and Highway Operations, and Administration).

- The Policy and Planning Bureau conducts multimodal studies such as the statewide Long Range and State Master Plans. Generally, the results of these planning studies then guide the development of corridor planning studies and project implementation decisions made by the modal-specific operational bureaus. The Connecticut Long Range and master Transportation Plans can be found on the Department web site through http://www.ct.gov/dot/site/default.asp.

- It should be emphasized, however, that the manner in which the planning bureau develops the plans is through input from the modal agencies. The specific operational divisions thus influence how the statewide plan is created, but once this is done, the statewide plan guides their decisions.

- The planning process can be characterized as both centralized and decentralized. Although the single intermodal planning office is a centralizing entity, there are also planning efforts that are done on a corridor-by-corridor basis, which involve individuals from the operational bureaus. Examples of such corridor studies may be found at <http://www.i95southeastct.org/> and <http://www.i95newhaven.com/poverview/>; note that these studies have significant highway and transit components.

Delaware

- Delaware's Division of Planning has responsibility for planning all modes, with the exception of transit route planning which is still done by the transit group. During peak workload years (e.g., when comprehensive plans are being updated), there are probably a total of 25 to 30 persons (internal staff plus consultants) performing this planning function.

- For the benefit of both employees and customers, it is healthy to have planners gain experience with more than one mode (rather than working in one modal area only). Such an

approach improves results for customers (plans are developed with a better understanding of how to make connections between modes) and it provides greater career growth for staff.

- Delaware has a completely centralized approach to multimodal planning [it would score a "1" in response to question 3 at the bottom of the first page of the survey]. In practice, this means central staff perform data collection and data analysis, but approach municipalities with the question of "what is it that you want?" Provided this full participatory approach is used, then centralized planning offers an *advantage* of enabling the public to see at a broader scale [than would be the case with decentralized planning] what would be the costs and consequences of various transportation choices.

- If the full participatory approach of localities was *not* central to how planning is done, however, then the centralized planning approach would have a *disadvantage*: the resultant long range plan could wind up being "done *to* people [or localities] instead of being done *with* them." Given that the 57 municipalities in Delaware control land development, their input into the planning process is critical for ensuring that the centralized planning approach succeeds.

- When one considers practices to avoid, there are at least two examples. *First*, plans need to be integrated with other aspects of transportation. A negative instance is a focus on safety that leads to roads being continually made wider and straighter: ironically, such an approach has ensured that greater safety would not be achieved. (An opposite positive instance is the integration of a transit plan with a locale's land use plan: although one can take two separate plans and identify ways to integrate them, a better result is achieved if transit and land use are integrated throughout the planning process.) *Second*, plans need a realistic implementation mechanism when multiple jurisdictions are involved. An example is the Mid-Atlantic Rail Operations Plan (MAROPS) which, although it identifies a useful multi-state rail project, is hindered from implementation because there is no mechanism that will force all states to cover their costs. (There is nothing to prevent all states from going ahead with initial agreements and then, as the project gets underway, some states from indicating they have insufficient funds to complete their portion of the effort.)

- We do our very best to plan in close and real partnership with those units of government that are responsible for land-use decision making which in Delaware are the county and municipal governments.

Florida

Florida DOT has undergone considerable change over the past few years. The Department has completed a five-year 25% staffing reduction which has required significant changes in both our Central Office and District Offices. It would be very difficult to distinguish mode-specific versus multimodal planning staff and the degree of centralization versus decentralization. Much emphasis has been placed on public and partner involvement at the statewide and district levels.

Two developments have been key to recent and future changes in Florida. The first is the designation of the Florida Strategic Intermodal System (SIS) and adoption of the SIS Strategic

Plan. The department is currently working with its partners to implement the SIS Strategic Plan. Details on the SIS are available at: www.dot.state.fl.us/planning/sis. The other development is the enactment of the Governor's landmark proposal to overhaul Florida's growth management law. The new law strengthens the department's role in growth management activities and local government comprehensive plans. The department's involvement in the comprehensive planning process will increase dramatically over the next several years.

For further information on transportation planning in Florida, go to: www.dot.state.fl.us/planning.

Idaho

- Idaho falls right in the middle of the scale (a "4") between centralized and decentralized planning. In one sense it is *decentralized*, with one planner in its public transportation division, one planner in its aviation division, one roadway planner in each of its district offices. In another sense, Idaho is *centralized*: it has an intermodal planning section (within its transportation planning division) that consists of six (6) staff with one manager, one GIS support staff and 4 senior transportation planners. One of the planners works primarily on bicycle/pedestrian coordination and planning, one planner primarily handles rail and freight/inland port issues and the other two planners support a variety of intermodal planning and coordination activities. Idaho is probably more intermodal now than it was five years ago in terms of how it handles transportation planning. Each Division of the Idaho Transportation Department and their respective Boards or Advisory Councils ultimately reports to the Idaho Transportation Board.

- *Advantages of centralization* are twofold. First, there is an economy of resources in terms of being able to shift planners among activities. Second, it is possible for these long range planners to become "jacks of all trades" and thus have a common set of principles with which to do planning-which in this case include a long range vision that looked at all modes of transportation.

- There are at several examples of what multimodal planning has accomplished. The first is the recently completed Long Range Transportation Vision that has helped to infuse all statewide and MPO planning. Key principles are the integration of the transportation system and mobility for all users. As a result of the Long Range vision the Department has participated in the FHWA's survey on Traveler Opinion and Perception (TOP). Idaho joined in the survey buying additional samples and also added questions to help understand the importance of modal transportation in Idaho. Additionally, the long range vision has also led to Idaho's participation in the state's largest MPO's long range plan, where the state provided funding to develop a larger Regional Transportation Plan and has also collaborated with additional planning to link transportation and land-use within Ada County called "Blueprint for Good Growth." [This MPO is the Community Planning Association of Southwest Idaho, or COMPASS, and the Blueprint for Good Growth is described at <http://www.blueprintforgoodgrowth.com/default.asp>]

- [Advantages of decentralized planning] include fulfilling the need for some modal expertise when doing mode-specific planning. However, there is still a need for some coordinating body among the modes. One such coordinating body is the Intermodal Working Group that meets three times a year with a membership that includes mode specific and more generalized transportation planners from the state DOT, each MPO and transportation planners representing tribes and local units of government. The group is a coordinating body (no specific authority) that assists transportation planning activities in the state.

Indiana

For question 1, note that the bicycle/pedestrian planner has a third duty of overseeing trails, corridors, and the state trail plan and aligning requests for transportation enhancements with the state trail plan. Note that intercity bus is also covered through a contract with greyhound, and intracity bus/intracity rail are generally handled locally in terms of planning. Finally, ports are handled by a separate Port Commission.

As for whether there are advantages to having a centralized process, the answer depends on the modal players.

There are some challenges to having a decentralized process. Examples have included the following

- Long range planning may not always make the most effective use of funds. For example, we performed a widening of a road [from two to four lanes] extending five miles away from the city limits. However, this widening may have been unnecessary—we are not certain if the growth [that would necessitate the widening] will come immediately or 30 years from now. A better approach would have been to just perform the widening for one mile and then see if further work is needed.

- Another example involved two different modes: aviation and highway. An airport served a local university, and it was decided that the road needed to be widened [to facilitate better ground access]. The widening would have been fine as an isolated event, but the proposed right of way interfered with potential flight paths and angular approaches of the aircraft. Further, some of the needed land was on airport property—meaning the FAA [Federal Aviation Administration] had jurisdiction instead of the FHWA [Federal Highway Administration]. This meant that to successfully accomplish the widening, FAA and FHWA would both have to be involved (e.g., swapping land from FAA to FHWA) which greatly complicates matters.

- Possibly a solution is neither extreme [e.g. not all centralized planning nor all decentralized planning] but rather a middle ground, where you have individual modal planning [where appropriate] but then coordination is sought for more complex projects that need coordination. (An example might be Indianapolis Airport, where widening the adjacent interstate caused a conflict with the luminaries in the flight path.)

- A practical problem for centralizing planning is that different modes have different funding mechanisms. One example was a land swap between an airport and highway; while the airport had proposed the land swap and the highway section had agreed, the airport realized after the swap that to avoid flight interference, it needed the new interstate to be depressed. Funds had not been set aside to do this. The airport obtained the necessary funding in principle and arranged for the work to be done, but then realized the funds were not available at that point in time of the road construction [they would be available in the future].

- The fact that the Port Commission has a separate planning structure apart from INDOT raised an interesting twist, where the Port Commission was performing planning (for inland ports) yet had not coordinated fully with INDOT regarding landside access such as rail to the Port.

Iowa

- [Regarding approaches that are direct results of statewide multimodal planning efforts:] Development of paved shoulder policy for safety and bicycle accommodation. Rail and highway economic development programs. Using CMAQ funding for multimodal projects including modifying river bridges to handle double stack trains. Development of state long-range transportation plan. Involvement in multi-state/multi-modal corridor studies.

- [Regarding advantages of a designated multimodal office:] Yes, long-range plans, policies and programs can be coordinated among modes to reach common goals.

- [Advantages of decentralized planning:] There are none, but each modal office should be involved in the planning because they bring their specific knowledge/experience about the mode to the process. The level of involvement can vary by mode based on different factors and still be successful.

Kansas

- Kansas has been working for about a year and a half to elevate multimodal planning from a bureau level to a division level (such that there would be a multimodal division within the Department of transportation). Within the Department from the Secretary onward, there is support for this division. The legislature has not endorsed the creation of this division yet (the last legislative session was unsuccessful).

- The lack of a multimodal division does not mean multimodal coordination cannot occur, in fact, such coordination does occur at present. However [without the division] coordination among the modes depends on the good working relationships that have been established over the years.

- There are at least four other reasons for favoring the creation of a multimodal division. First, the existing modal work units have different sizes—for example, the division of aviation has two people whereas the Bureau of Transportation Planning has 96 (14 work of rail and public transit). These two modes can coordinate, but organizational it does not make sense to have such disparate sizes without having a single multimodal division. Second, this multimodal

emphasis appears to be the direction FHWA and others are heading. Third, with a tightening of funds, there is a need to deliver services as efficiently as possible. Fourth, it may help with freight planning [because freight relies on multiple modes].

Maine

- It is difficult to coordinate multimodal activities without some centralization. Maine DOT's assets are allocated to the *Bureau of Planning* (traditional highway/bridge now broadening into transportation policy), *Office of Passenger Transportation* (coordination of air, rail, transit, ferries, bike/ped, multi and intermodal planning), and the *Office of Freight Transportation* (coordination of rail, ports, air, and highway movements).

- Every aspect in terms of transportation passenger planning can be linked to the Explore Maine transportation plan [available at http://www.exploremaine.org]. This plan seeks to promote alternative means of travel throughout Maine. This plan is supported by the Office of Passenger Transportation which is relatively small: there is one airport planner, one bicycle planner, and one person (the interviewee) who does planning for the other modes. The office is supported by two engineers and its own financial person.

- Having a centralized planning office has been critical for supporting funding for alternative means of travel. The reason for this is that CMAQ [Congestion Mitigation and Air Quality] funds can be used to initiate programs, such as transit or rail service, but CMAQ funds only last for three years. However, given that the office has a financial person who understands details of the very different FTA [Federal Transit Administration], FHWA [Federal Highway Administration], and FAA [Federal Aviation Administration] funding programs, that Office is able to move funds from one project to another in order to keep various projects moving forward. (In fact, the interviewee noted that a colleague had said "you can spend money three times" in reference to adept use of various funding opportunities.)

- The centralized planning office has also been helpful for coordinating programs by geography and by mode. (Geographically, the state only has two MPOs with transit planners; by performing transit planning in the centralized office there is a coordinated rail service among the different locations. Modally, the different modes are in the same office and thus there is communication between the aviation planner and the transit planner, or the transit and the rail planner, etc.)

- The same office produces the 20 year long range plan, the six year program, and the two year program for the DOT.

Maryland

[Regarding approaches that are direct results of statewide multimodal planning efforts:] Bus Rapid Transit initiatives, Express Toll Lane initiatives, Transit Oriented development initiatives, I-270/US 15 Multimodal Study.

[Regarding advantages of a designated multimodal office:] early identification of issues.

[Advantages of decentralized planning:] mode specific design issues/federal requirements.

[Maryland also provided the following information with the survey.]
The Maryland Department of Transportation (MDOT) is the only transportation department in the country that directly provides its citizens with the complete range of modal choices. The Department's responsibilities span all major transportation modes – highway and bridges, transit and rail, airports, ports, and bicycle and pedestrian facilities – as well as operation of the State's Motor Vehicle Administration. The Department's vision is *to provide a transportation system that works for the people* and its fundamental mission is *to facilitate the safe and efficient movement of people and goods across all transportation modes.*

The MDOT sets the State's overall transportation policy and oversees five modal administrations: the Maryland Aviation Administration (MAA), the Maryland Port Administration (MPA), the Maryland Transit Administration (MTA), the Motor Vehicle Administration (MVA) and the State Highway Administration (SHA). The Maryland Transportation Authority (MdTA), while an independent body, is affiliated with the Department, with the Secretary of the Department, serving as its Chair.

Maryland Aviation Administration (MAA):
- Supports, Develops, Regulates Statewide Aeronautics.
- Operates and Develops Baltimore Washington International (BWI) and Martin State Airports.
- Provides Assistance to Local Communities in the Development of Airport Facilities and Services.

Maryland Port Administration (MPA):
- Responsible for stimulating the waterborne commerce through Maryland's Port of Baltimore in an economical beneficial manner to the State.
- Owns and operates landside port facilities in Maryland's Port of Baltimore (1,000 acres of land, over 2 million square feet of warehouse and office space - including the World Trade Center, and over $ 500 million worth of equipment).
- Responsible for providing or assuring infrastructure that enhances Port's competitive position (access to rail lines and highways as well as ensuring navigable waters).

Maryland Transit Administration (MTA):
- Responsible for public transportation, operating and maintaining the Baltimore area public bus, subway and light rail and commuter rail (MARC) systems.
- Provides funding, support, and oversight to the Washington Metropolitan Area Transit Authority (WMATA) to meet the public transportation needs of the Washington's Maryland suburban communities.
- Gives technical and financial assistance to develop or improve public transportation in small urban and rural areas throughout the State (LOTS).
- Oversees the operation of short line rail freight services over MDOT rights of way.

Motor Vehicle Administration (MVA):
- State Regulatory and Licensing Agency for Varied Activities Affecting Motorists.

- Licenses Drivers.
- Registers and Titles Vehicles.
- Administers Motorcycle Safety and Automobile Insurance Programs.
- Regulates vehicle sales through Licensing Programs.
- Manages the Vehicle Emissions Inspections Program (VEIP).

Maryland State Highway Administration (SHA):
- Ensures a safe, well-maintained and attractive highway system that offers mobility and supports Maryland's communities, economy and environment.
- Responsible for 5,200 miles of interstate, primary and secondary roads, and over 2,400 bridges.
- Plans, designs, builds and maintains these roads and bridges

Maryland Transportation Authority (MdTA):
- Public enterprise, which develops, finances, and maintains toll facilities and other transportation systems/services.
- Responsible for the overall operation and management of the State's seven (7) toll facilities.
- Governed by the Secretary of Transportation as chair and six members appointed by the Governor with Senate approval.
- Authorized to issue bonds to support its capital program.
- Must rely on its revenues for construction operation, and maintenance of its facilities.

In accordance with applicable State and Federal laws, transportation planning in Maryland is completed through a long-range planning process that generates a series of planning documents to help guide decision-making. The Maryland Transportation Plan (MTP) sets forth a vision, with goals and policies designed to guide State transportation decisions over a 20-year period. The MTP is updated every three years, with the most recently completed document issued in January 2004. Beginning in 2000, the Maryland General Assembly set forth requirements for annual reporting that measures performance in meeting the goals and objectives identified in the MTP.

Implementation of the 20-year plan is achieved through funding commitments set forth in the six (6) year Consolidated Transportation Program (CTP). The CTP for Fiscal year 2005-2010 projects State-wide expenditures of $9.303 Billion to enhance Maryland's transportation system. While each modal administration, and the Transportation Authority, has their own planning office, coordination is conducted between these agencies as needed on specific projects, coordination is also done strategically through the Maryland Department of Transportation's Office of Planning & Capital Programming.

There are several projects that are unique in nature, in that they require several modal agencies to work together on feasibility studies or NEPA studies, or that are strategically looking across all modes. Here are a few for your information:

- Bus Rapid Transit (BRT) initiative – conducted strategically out of MDOT OPCP, but looked at individually by the MTA with other modal input.

- Express Toll Lane (ETL) initiative – conducted strategically out of MDOT OPCP, but being evaluated on several projects at SHA and MdTA.

- Transit Oriented Development (TOD) initiative - conducted strategically out of MDOT OPCP, and being evaluated on specific potential areas by MDOT, but also being evaluated individually by the MTA on specific projects with other modal input.

Massachusetts

Trying to characterize multi-modal planning as being appropriate for a centralized entity or for modal agencies is difficult and perhaps not that useful. It really depends on what the activity is. For example, development of a multimodal state transportation plan is often the responsibility of a centralized entity, while the development of studies/plans may be appropriate for a modal agency. Planning at different levels is done by different entities.

In addition, planning is usually a collaborative effort, perhaps led by one entity, but often with participation by both planning and modal operating entities and departments. And even if all the separate modal planners are housed in one entity, that does not automatically mean that multimodal planning (if it can be defined) is occurring.

- There is nothing wrong with having a single entity take a multimodal approach to planning; in fact it can be a good idea. There are, however, some practical considerations that should be kept in mind.

- *Having modal staff physically housed in the same division or functional unit does not guarantee centralized planning decisions*: one can still have such staff planning for their specific modes. What matters is the execution of those planning efforts.

- *The use of mode-neutral performance measures does not guarantee substantially different results*. Such measures may have initial appeal as a way of evaluating transportation improvements from a multimodal perspective [e.g., instead of level of service, one might examine number of people moved in order to compare how transit and highway solutions improve throughput]. However, the result of using such measures may not change the improvements that would have been identified based on traditional approaches. For example, for an interstate in another state, such an approach was followed; ultimately, however, the highway planners picked the best highway improvement and the transit planners picked the best transit improvement.

- *Often it is the job of the multimodal planner to show (not just tell) why certain ideas are infeasible*. There is a particular cloverleaf interchange in the state [where volumes are greatly in excess of capacity] and thus improvements are needed, and one suggestion was to increase the capacity of an adjacent rail line instead of making geometric improvements to the interchange. A comparison of the numbers, however, suggests this approach will not solve the problem: the number of vehicles moving through the interchange is greater than the ridership of the entire rail line! However, it is necessary to work through the modeling of

this particular alternative to show why increasing rail capacity will not eliminate the problem. In fact planning is often showing that some ideas will not work.

- *There are, however, instances where examination of the alternatives in fact does lead to a different solution being chosen*. One example is a city in Massachusetts where local officials and the business community strongly supported a downtown connector which would provide an alternative route to an existing route. A two year planning process culminated in the finding that a better solution was to improve another existing route rather than to construct a brand new connector-an example of the "highway department" finding that new road construction was not the optimal answer. (Similar findings have resulted on the transit side as well).

- *Other considerations may influence the extent to which funds may be flexed between modes*. Massachusetts historically has been a leader in terms of using federal funds for transit as opposed to highway improvements. However, at one point in the past, about 70% of federal road dollars went to the Central Artery project, which places incredible pressure on the remaining highway funds to be used for highway improvements.

Michigan

Centralization vs. Decentralization. The planning for most transportation modes are housed in the Department of Transportation which has been the case for some 25 years. This includes aviation, carpool parking lots, ferries, highways, intercity bus, intercity rail, local transit, non-motorized, ports, and trucking. Further, the planning for most of these modes is housed in the Bureau of Transportation Planning which is one of the five bureaus comprising the Department of Transportation. Further, planning for most non-highway modes is housed in the Intermodal Policy Division which is one of four divisions in the Bureau of Transportation Planning.

Some planning takes place outside the Bureau of Transportation Planning. The two highway bureaus do some planning for highways and the Multi-Modal Transportation Services Bureau does some planning for the non-highway modes. Also, in recent years, the Department of Transportation has established seven regional offices throughout Michigan. Some planning functions, primarily highway, have become the responsibility of these regional offices.

Staffing. We are responding to this survey assuming that multimodal planning is defined to include more than one mode. Consequently, we have focused on the staff group responsible for intermodal policy and planning within the Michigan Department of Transportation (the Intermodal Planning Division). The figures presented in response to Question #1, with the exception of highways, pertain only to the Intermodal Policy Division. The Division does much of the planning for the various non-highway modes, and also deals with intermodal issues. In addition, the Division addresses environmental issues, border issues, and legislative matters.

- A centralized office offers at least a couple of advantages. First, *it is useful to "have one place to go"* in terms of planning requirements or other sources of organization.

- Second, it is *possible to truly address issues from a multimodal perspective*; for example, there is a rail mapping initiative that is produced web-based maps of the rail network.

However, not all rail lines serve the same purpose: some serve freight movements, some serve passengers, and others have been abandoned and converted to pedestrian or bicycle use. The maps will show each of these separate uses of this rail infrastructure. However, had the rail planner and the bicycle/pedestrian planner not been in the same office, then it is doubtful that this mapping project (that reflects multiple uses of these rail lines) would have been completed. (Another example is with intermodal terminals in the southern urbanized tier of the state, where bus feeder routes are linked to Amtrak lines.)

- A practical challenge is getting the regional office to consider other modes (as the state has historically been highway oriented) and linking the long range plans to the shorter term operational plans. However, overcoming these challenges is not really related to the organizational structure but instead depends on the priorities of agency management. In Michigan, multimodal considerations and linking the five year program to the longer range plans have been a priority.

Minnesota

- MnDOT has six divisions. One of these divisions is the Program Management Division. It includes the Office of Investment Management which is responsible for statewide planning and programming (long range Statewide Transportation Plan and STIP, etc.) The Program Management Division also houses three modal offices: Aeronautics, Freight and Commercial Vehicle Operations (includes rail and waterways), and Transit (covers planning outside the Twin Cities Metro Area- which is done by the Metropolitan Council, the MPO. Bike and Ped planning is also a section within the Transit Office).

- The District Operations Division includes the 8 District Offices. These Districts' primary responsibility is managing the highway system. But each District has a transit coordinator who works as the link between the Transit Office Within that division, coordination is performed through the Investment Management Office.

- The six Division Directors act as a corporate management board for the Department, reporting to the Commissioner and Deputy Commissioner.

- The Modal Offices are responsible for developing their own plans and programs. They do so in a collaborative manner with the Districts, other modes, and operating agencies. It is their responsibility to reach out to the other modes and Districts to make the linkage between various modes.

- The Office of Investment Management Office (OIM) also participates in the development of the modal plans, primarily to ensure that they are linked and coordinated with the Statewide Transportation Plan. OIM ensures consistency with statewide policy primarily through "indirect management." OIM staff participate in planning team/task force meetings, review draft documents, make recommendations, etc. They do not "approve" the Modal Plans. If they see issues, they provide comments to the Modal Office. If there are major issues that cannot be resolved collaborative, the Division Director will provide direction.

- There is a practical question of the precise meaning of multimodal planning. Certainly some aspects are clear; for example, coordination between aeronautics and highway is needed (e.g., there must be a highway connection that gets travelers to the airport). However, at a *statewide scale*, there is not the large tradeoff analysis that one might have at the regional or corridor scale. (For example, in one particular region, the long range plan was developed based on a doubling of transit ridership in the future. We think trade-off between modes is probably at a regional/corridor level. Also, funding is not fully flexible, so that has a big impact too.)

- Interestingly, freight needs are matching passenger needs; for example, the highways that are problematic for shipping freight due to congestion are the same ones that affect passenger travel. Freight connectors, between the major state highways and the major freight generators and ports/terminals, are also an issue. Most of these are on the local systems.

Mississippi

- Mississippi is organized into five divisions: planning, rail aeronautics, ports, and transit. While the modal divisions handle the day-to-day operations, all long range multimodal planning is done out of the planning division.

- This centralized arrangement is absolutely critical because in order to consider the impacts on multiple modes, one needs a single entity that can consider all the modal areas. A good example are rail relocation studies being conducted for the cities of Hattiesburg and Tupelo to assess the feasibility of moving the rail lines from the center of the city to the outskirts of town. To evaluate these alternatives, the planner needs to consider impacts on the rail line [in terms of efficiency, speed, etc.] and the traffic impacts [in terms of delay, safety, etc.]. If done separately by two different modal units, then either traffic or rail impacts would be eliminated. Other multimodal studies have included a statewide rails analysis and a statewide ports analysis.

- [Regarding approaches that are direct results of statewide multimodal planning efforts:] The foremost example is for the development of the Multimodal Capital Improvement Program. It is a state funded program that came about as a result of a statewide comprehensive ports study that we conducted.

- [Regarding advantages of a designated multimodal office:] Yes, in order to be able to identify areas of interconnectivity, it is imperative that one office handle the multimodal function.

- [Regarding advantages of conducting planning through each specific mode:] I don't see it as an advantage at all.

Missouri

- Missouri might be characterized as decentralized in the short term (0 to 5 years ahead) but centralized in the long term (5 to 20 years ahead). For *short term planning*, Missouri has a

multimodal division that contains discrete sections (aviation, rail, transit, and waterways/ports/ferries) and those sections develop and implement the 5-year State Transportation Improvement Program (STIP). *Long range planning for all modes*, however, is lead by a six to seven person team under a separate planning division, with liaison involvement from the multimodal division.

- Having the modes together in the multimodal division provides them with a larger voice than would be the case if each mode was considered separately, and the director of that division is a point of contact that legislators can access if they have any multimodal issues. Bi-weekly staff meetings with staff from the various modes enables the exchange of ideas and sharing of resources. The division director keeps the department director informed about multimodal issues through a weekly executive management team meeting.

- Advantages of centralized long range planning include (1) an ability to identify intermodal connection points, (2) the sharing of resources, and (3) the sharing of expertise. However, it should be clarified that this applies for the long range planning program (5 to 20 years ahead) where there is more flexibility in terms of how funds should be spent.

- In the short term (0 to 5 yeas) there are two reasons for a decentralized approach. One is funding constraints (e.g., FTA has specific funding requirements that must be followed). A second is one of practicality: when one gets to the point of designing specific projects, such as an airport runway, one needs staff with specific modal expertise [e.g., although a highway engineer may include curb and gutter on a two-lane road, such curb and gutter is not part of an airport runway]. Experience has shown that one cannot place "general" transportation planners in the role of doing short term modal-specific planning, unless those planners have expertise with the mode in question.

- A challenge is better understanding freight movements: how much freight is moving from point A to point B [and what are the modal options for accommodating freight demand?].

Montana

Montana is a highly centralized state in terms of having a single multimodal planning office, where a single office coordinates planning for all modes. There are at least three advantages to this centralized approach as noted below.

With a single office, you have the opportunity *to perform critical thinking about the best approach to solving a problem given limited resources*. The opportunity to explore different modal approaches is afforded by that single office. For example, in a corridor in the western part of the state where roadway construction was initially considered, comments were received during the public input process that the state should not construct the roadway due to environmental concerns. As a result, the solution was to provide seed money to create a TMA [Transportation Management Association] and to establish transit that was included as part of the overall corridor development plan. Capacity was ultimately added, but the TMA has also grown annually and now also provides service on other high volume rural corridors in the area. In fact CMAQ [Congestion Mitigation and Air Quality] funds were used for this effort. In short,

the single multimodal planning office enabled the development of effective multi-modal solutions.

A second advantage of the single office is that *when you have the same people in the same office working on different topics, there are opportunities to consider some creative solutions* that otherwise might not be considered when each mode is planned separately. For example, the DOT is purchasing [street] sweepers and [street] flushers to address the problem of PM_{10} (particulate matter less than 10 microns in diameter) in order to be proactive and keep and prevent any other non-attainment designations from happening.

A third advantage is that *resources* [people and funding] *can be used creatively and strategically rather than in a modal specific manner*. For example, the BNSF [Burlington Northern Santa Fe] rail line has not been stopping in Montana for intermodal transfers due to congestion on its main east-west line; rather, the trains simply aim to get through the state as quickly as possible. The BNSF has a 110 car minimum requirement for its shuttle trains (normally used for grain shipments), which puts smaller shippers at a disadvantage. Accordingly Montana DOT has been supporting logistics studies out of its SPR [State Planning and Research] funds. These logistics studies investigate ways that shippers who do not meet the 110 car requirement [such as pasta makers or log-home builders] can use a combination of commercial trucking approaches to build 110 car intermodal shuttles to get these products to out of state markets.

A practical challenge to the centralized intermodal office is existing modal-specific boards and commissions, because such boards and commissions tend to have their own funding authority. Compared to other states, however, Montana had an advantage in that prior to the creation in 1991 of the Department of Transportation, that transferred rail, transit, aeronautics, and highway traffic safety functions to the previous department of highways there were just two such boards: an aeronautics board and a highway commission (which has been broadened to a Transportation Commission to include the other modes except aviation). With the creation of the intermodal planning office, all modes (except the aeronautics board) are now represented by that office.

Nevada

[Regarding approaches that are direct results of statewide multimodal planning efforts:] Statewide Transportation Plan, Western Nevada Transportation Study and Southern Nevada Transportation Study.

[Regarding advantages of a designated multimodal office:] Yes, easier coordination, ability to stay in contact with major projects.

New Jersey

Introduction and Survey Caveats

- Relative to the how other states accomplish transportation planning, New Jersey is unique for two reasons. First, every square foot of the entire state is covered by one of three MPOs. Second, all transit funding from FTA comes through the statewide transit agency, New Jersey Transit.

- A caveat to the survey questions are in order. Regarding question 1, it was not easy to group staff into modes; in fact, some of the mode splits do not make sense. There is also no easy way to estimate the consultant contribution for staff time [for questions 1 or 2]. Finally, for question 3, one can debate whether the situation described in New Jersey is centralized or decentralized as discussed in the bullets that follow. Given that input from New Jersey Transit is used by the Transportation Planning Division to formulate the long range plan, does this mean that New Jersey has a centralized or decentralized approach?

Centralized versus Decentralized

- NJDOT includes most of the modes except transit. All planning occurs at the Trenton headquarters. Except for the statewide long range planning, planning is largely decentralized by bureau and section. NJDOT has units for aviation, freight, bicycle/pedestrian, and waterborne. In terms of statewide planning, other entities also provide input into the statewide plan; these other entities include New Jersey Transit, port authorities (e.g., Port Authority of New York and New Jersey), and toll road authorities. The three MPOs (all of which do regional planning and corridor studies) also provide input into and receive direction from the state long range plan.

- Advantages of *centralized planning* include sharing of resources and "one stop shopping" for planning needs. Advantages of *decentralized planning* include greater detail being paid to the individual modes, the development of "staff mode experts," and "smaller focused staff" [presumably staff who focus on a specific mode]. However, another respondent from this same state noted that these same advantages could be applied to centralized planning as well. [Thus, these three advantages of decentralized planning may be more of a matter of perception, at least based on this particular response.]

Practical Questions

- NJ Transit at present does rail and bus planning which raises an interesting question. At the time that NJ Transit was established as an entity apart from NJDOT, it was to be an operational agency that specifically would not perform long range planning. In practice, however, it has taken the initiative in developing new transit projects.

- Because every location within the state is covered by an MPO, the role of MPOs in the planning process takes on heightened significance. In New Jersey they have been charged with the planning process, as memorialized in their multi-modal long range plans, from

which regionally significant projects should evolve. There have been some nascent progress in that respect, but for the most part the MPO planning process has focused on adopting into the MPO plan projects whose genesis is outside the metropolitan planning process. However, the machinery is in place (e.g., regional needs inventories and MPO corridor studies) for the MPOs to produce handoffs to the implementing agencies, and the situation should change in the near future. The MPOs have direct access to the state's management systems.

- The MPO can be viewed as a line of defense against "bad" projects: while the MPO alone cannot move a project forward, [under ISTEA and TEA-21] it usually has sufficient authority to stop a project [barring projects which do not require federal funds.]

New Mexico

[Regarding approaches that are direct results of statewide multimodal planning efforts:] linking planning and NEPA.

[Regarding advantages of a designated multimodal office:] updating the Multimodal Statewide Transportation Plan.

[Regarding advantages of conducting planning through each specific mode:] particularly when it involves short range or operations planning.

We have found that when long range planning is handled by each major mode there is no consistency in the approach, planning criteria, goals or background data. When we asked each modal section to develop their portion of the long range plan we received long treatises from one area and a one page summary from others. For long range planning where you are addressing every mode for the Statewide Plan update, it is much better to have one point of contact who is coordinating all of the modes, and providing guidance and technical assistance to the other modal planners.

For the short range planning efforts such as developing an operations plan for a new transit system or developing the 5 year capital needs plan for aviation we found that the modal units were excellent at this type of work. They have more detailed expertise on the short range needs of their transportation providers and they can work closely with them and provide technical assistance and support.

New Mexico is trying to speed project implementation by considering specific projects in its long range plan and applying elements of the NEPA process at this earlier stage. For each project in the plan, a project evaluation report will be developed along with a preliminary purpose and need statement. Then, projects will be prioritized based on this project evaluation report. The goal of this approach is to obtain critical information at an earlier stage in the process. (The earlier stage is actually between the Long Range Plan and the STIP and the information from the Project Evaluation Reports and the preliminary Purpose and Need will be used to advance projects into the STIP where a more detailed analysis will begin.) New Mexico notes that the long range plan now has a greater number of projects under consideration; the

previous plan had about ten and the current plan has about 100 projects. The advantage of the multimodal aspect is that project modal alternatives can be explicitly considered while creating the long range plan.

New York

Question 1

- In reference to the fact that 15 persons are shown as doing passenger planning for highways or roads: All numbers relate to D.O.T. staff in our central office. As discussed below additional planning activities are conducted in our 11 Regional Offices by staffs that are also engaged in project development and implementation activities and in other agencies. Consultants are also utilized but generally on a project specific project rather than a general retainer. The people cited for highways and roads include people engaged in data analysis including census data, road conditions etc that are primarily related to highways but could involve all modes.

- In reference to the fact that three people are shown as doing freight planning for intercity rail: approximately 25 others do mostly project development not planning

- In reference to the fact that four people are shown as doing passenger planning for intracity bus: approximately 10 others are involved primarily in project development, grant administration, and not true planning

Question 2

- Yes [we have staff responsible for multimodal planning besides staff who perform mode-specific planning]. We have adopted a corridor approach and thus often look at multi-modal solutions to challenging corridor problem. Although we have mode-specific experts on staff, it is necessary to consider all modes and the best way to have them mesh in an appropriate solution. Therefore one of the approximately six staff people that most closely examine multi-modal solutions will be involved. This group is one of the subgroups in our Policy and Strategy group which has responsibility for broad planning and implementation strategies including statewide planning. Many of the staff cited above are located in various modal offices in the Department, not in a central planning office. The Statewide Transportation Policy and Strategy Division has the overall responsibility for the statewide multimodal planning effort. Other groups in the Department have most of the modal specialists as needed. The Policy and Strategy Division fulfills this statewide multimodal role , one of the Department's requirements in the transportation law.

- Although there is a centralized planning function in our central offices there is applied planning conducted in our eleven regional offices (some in rural or small urban areas, some in large cities like New York and Buffalo) and generally there would be between three and ten plus people in these offices who could be said to be at least informally doing multi-modal planning as part or their duties.

- Land use is an important consideration and department staff often works with county and other governments concerned with land use and zoning issues.

Question 3

Planning is conducted in many places including at major state authorities (Thruway, Metropolitan Transit). Although all our agencies work closely together much of the coordination effort is the responsibility of the State Department of Transportation and this role has been made clearer by our recent plans for what we refer to as Transformation where we recognized that our customer didn't care who operated the facility they were traveling on but wanted a safe, comfortable and no hassle trip. Thus on the provided scale New York could be considered a "3" slightly more centralized than decentralized.

Question 4

- [Regarding approaches that are direct results of statewide multimodal planning efforts:] Many including I-87 corridor study, Administration of the Section 5311 non-Urbanized Area Formula Program; ITS/Technology efforts, and the Intercity Bus Program.

- [Regarding advantages of a designated multimodal office:] The primary benefit of conducting statewide multimodal planning primarily through a designated multimodal office is that it ensures that all modes are considered as possible solutions to a transportation problem and there is potentially less bias in determining the optimum solution.

- [Regarding advantages of conducting planning through each specific mode:] The primary benefit in working through a specific modal agency is that the institutional specialized expertise may result in better solutions for a given mode. There is still a need for a multi-modal approach to make tradeoffs between and among modes.

North Carolina (aggregated by the author from two responses)

1. Multimodal planning at NCDOT is decentralized within the individual departments. Fixed rail and light passenger planning is conducted by regional transit agencies outside the MPOs and NCDOT. The Transportation Planning Branch (TPB) of NCDOT is responsible for the Statewide Long Range Multi-modal Transportation Plan. It is a high level policy document that directs investments in the future. We are currently working on several implementation items from it. The TPB tries to coordinate the multi-modal planning activities between the Department and its planning partners (MPOs, RPOs and municipalities). While the focus of much of the planning is highways, we are looking at other modes, in concert with the other Departments. NCDOT's Comprehensive Transportation Plan (CTP) is multi-modal in nature, where appropriate.

2. As part of the CTP update, my staff coordinates planning activities with local planning and land use planning officials. NCDOT is in the process of an FHWA environmental streamlining initiative where we are looking at ways to integrate transportation planning into the project development process. This does not mean that we are moving NEPA into long

range planning, only that we are looking at strengthening the products from long range planning and making sure they are useful in the NEPA process. One of the processes that are being detailed is the development of the CTP and LU is a major sub-process of this effort. See the following website for more information on the integration project: http://www.ncdot.org/secretary/envsteward/performance/integration/

3. I think we have found that coordinating multi-modal planning through a central office is advantageous. However, I don't believe all the functions have to be under one office. A process can be developed to leave the functions decentralized, but coordinated.

   - North Carolina is moving toward incorporating and coordinating modal information up front. The nature of the long range plan has shifted from highway oriented planning towards comprehensive transportation planning. The long range transportation plan is still based on the travel demand model [a sequence of mathematical steps consisting of trip generation, trip distribution, mode choice, and travel assignment]. In the past, the planning process resulted in a black and white map designating highway type by the width of the line (e.g., a major or minor thoroughfare). Today, the new comprehensive transportation plan (CTP) is a fully color coded map shows more than one mode and also includes modal overlays within existing modes. For example, roads are still shown but are classified as four types (freeway, expressway, boulevard, or thoroughfare), and the boulevard may include a median with light rail transit; similarly, bicycle and pedestrian connections are shown.

   - In the long run, this centralized approach offers an advantage of coordination of modes. One example of how this coordination translates into tangible benefits was illustrated with an explanation of an at-grade rail crossing. As planning for a roadway went from *systems planning* (e.g., a major thoroughfare would be constructed along a certain corridor), to *project planning* (e.g., the thoroughfare would cross a particular rail line) to *design* (e.g., the crossing would be at-grade [presumably because of cost]), a conflict between the highway long range plan and the rail long range plan became apparent. The existing rail line was proposed to eventually become part of a high speed rail network, meaning that any highway crossings would have to be grade separated. This conflicted with the highway plan, which called for an at-grade crossing. With a compartmentalized long range planning process, this conflict becomes apparent relatively late in the process (at the design stage) whereas with a more coordinated process, this conflict becomes apparent much earlier in the process (at the systems planning stage).

   - A challenge for implementing the more coordinated approach for long range planning is engaging the modal agencies in long range planning, as these agencies are often focused on grants [or other operational responsibilities] that detract from the long range planning function.

   - North Carolina has recently advanced a new Strategic Highway Corridor initiative. Under this initiative, local municipalities are being asked to support transportation improvements of statewide significance by developing land in such a way that supports the proposed improvement.

- We are beginning a freight planning effort that is a collaborative effort between highway and rail.

- [Advantages to centralized planning:] It could help address the traffic flows from one mode to the next and help identify where modal shifts may need to take place and infrastructure and equipment are needed to support the total trip.

- [Advantages to decentralized planning.] I think each mode knows their needs better because they work directly with the operations issues and problem daily. If statewide planning housed all the planners, I don't believe the planning would be as good. This does require that modes communicate and understand the overlaps, transfer points and scheduling of projects and services that are critical to multimodal planning success.

- I think this should be by mode but there needs to be a collaborative effort between modes to reach the appropriate multimodal plan. This should be coordinated by the person responsible for producing the statewide plan in conjunction with the mode planning managers. Having established goals and objectives that relate to multimodal transportation would help facilitate that effort.

North Dakota (aggregated by the author from three different responses)

- For North Dakota it works well to have the individual modes handle their own planning. We do not have to coordinate often, but do not have issues we do need to coordinate.

- North Dakota has a decentralized approach to transportation modal planning. Aviation and transit are key players but on a much smaller scale than highways. There is some coordination now, such as pass through money for transit and the utilization of these entities in the development of the highway long range transportation plan. But right now there is not a lot of need for coordination as there is not a lot of interaction between the modes. As transit and aviation grow and the interaction between modes develops there will be a need for more frequent and detailed coordination. A practical benefit is that it allows a focus on the most critical mode, which is currently highways.

- In the future there may be benefits to coordination, but for now the decentralized approach is sufficient.

- Note that of the two rail people, one is the state rail planner and the other works with the Section 130 highway safety rail crossing program. Keep in mind that North Dakota is a small state in terms of population (642,200 people). The only passenger rail service is the Amtrak Empire Builder, which has no state component. ND rail planning involves mostly freight railroads and highway - rail crossing safety.

- [One of the three North Dakota respondents indicated that] there are no advantages to centralized planning but there advantages to decentralized planning.

- Whenever (over the past 25 years) working for North Dakota Aeronautics Commission, [I have observed that] in statewide multimodal studies, Aviation has not been analyzed well and generally negative…like higher airfares and low competition. General aviation and airports don't get well documented. Our agency assistance to NDDOT for state studies and goals are included in the statewide plan. We have had great relationships with NDDOT planning and share information when needed. Our agency does statewide airport pavement ratings, aviation economic development plans, airport system plans, airport master plans, environmental reviews, state airline service studies, aviation business studies, mesiport planning, airport directories, and aeronautical charts for past work. I don't think a centralized planning office would be better in North Dakota as it takes way direct contacts to 90 public airports and would leave a level of expertise missing.

Ohio (aggregated by the author from two different responses)

[Regarding approaches that are direct results of statewide multimodal planning efforts: One respondent indicated the following:] Not directly. Statewide planning activities provide a basis for comparative analysis, leading to projects. Alternately, many project have local sponsors or interests, and their project application must be weighed on a comparative basis against other project applications. However, on a statewide basis most projects are oriented toward highway improvement because other modes are funded differently. Finally, one must keep in mind the importance of the metropolitan planning process for identifying projects in urban areas; 70 percent of Ohio's population lives within an MPO boundary. [A second respondent noted that] there is a rail passenger planner whose focus is on intercity/interstate passenger rail planning.

[Regarding advantages of a designated multimodal office:] There are statewide planning tools, such as our statewide travel demand model, that are integral to statewide studies and comparative analysis.

[Advantages of decentralized planning:] Probably from a funding perspective, if each agency has a funding source or program. Without a designated funding program a statewide multimodal planner, or multimodal planning office, has little raison d'etre.

[A representative from the Ohio Rail Development Commission also offered a perspective as a passenger rail planner, noting that ORDC] does not address multimodal planning however it is addressed with regard to separate projects or studies. The passenger rail planner will do this work when it is needed. [The same respondent clarified that ORDC] is an independent agency within the Ohio Department of Transportation. Intercity bus service (feeder bus) is an important part of ORDC's proposed Ohio Hub intercity passenger rail system. Planning for feeder bus service is addressed in the plan, however there is no specific staff support for this area.

Oklahoma (aggregated by the author from two different responses)

- An advantage of performing long range planning in a single office is a focus on integration of the modes—something that is not emphasized when the individual modes do their own long range planning. (Except for highways, they are woefully under funded such that they are focused on day to day survival.) In fact, there are three specific examples Oklahoma can cite

that illustrate how a single long range planning office could integrate the modes—something that would not be feasible if the planning was done out of separate offices. (Except for the Boeing bullet, we have not done any of these actions, but the study points out the need for the actions. We have no money for proactive actions, just trying to catch up with deteriorating infrastructure.) All three of the examples pertain to using transportation for economic development:

- Attracting the secondary market for auto parts. Oklahoma would like to attract manufacturers for replacement automobile parts, and these manufacturers would like to find locations outside of the urban areas (partly because they wanted to avoid union labor and partly because they wanted to good rail access). The state owns substantial class 2 (short line) rail road systems, but the state also needs to improve roadway systems in the outlying areas.

- Attracting an airplane manufacturer to the state. The state wanted to bring a Boeing assembly plant to the state, but the manner in which the planes were assembled meant that they would be shipped in large crates—too large for road or even rail transport. Because Tulsa has good water access, however, the state was able to point out the value of its water network (in addition to some supplemental rail and highway improvements) to bring the plant to Oklahoma. The waterway allowed us to compete with the coastal cities and ports. It was a tremendous advantage to have multiple modes available for economic development and really demonstrated to many of our decision-makers the importance of our infrastructure.

- Shift agricultural production from wheat to canola/flax. The state has been trying to get farmers to change from growing wheat to growing flax (which has a substantially higher profit margin). To make this economically feasible, however, the state will need to make improvements to its short line railroad system so that the flax could be transported to an in-state processing plant; further, the state has identified deficient bridges that needed repair.

- The one disadvantage to performing long range planning out of a centralized unit is that one does not have the opportunity to acquire all knowledge about a specific mode. For example, even though the long range planning unit has familiarity with how railroads work, there is still a need for railroad experts who have extensive contacts with the private sector and who focus only on that particular mode.

- [Another respondent indicated that] "I would think" [there are advantages to centralized planning and that there are] probably [advantages to decentralized planning. The same respondent noted that] Oklahoma DOT has 2 modes, rail and transit separate, but under one roof. Consideration of efforts would be a plus but is not available now.

Oregon

[How many staff members perform this multimodal planning function?] This is dispersed both from central headquarters and our region planning staff. The majority of our long range planning is multimodal and involves the use of both in-house and consultants. It is difficult to put a number to it as it varies depending on the work load issues.

[Besides the individuals mentioned above, how many others are *informally* involved in multimodal planning?] Most of the planning staff at the state and regional levels and our planning analysis unit which does the transportation modeling and alternative analysis NEPA; From an HR classification there are approximately 65 planners statewide. There is about 15 folks in the planning analysis unit.

[Do these staff have any collaboration with state or local land use offices?] We work with the Department of Land Conservation and Development, Economic Development, Dept of Environmental Quality and when an airport is involved the Dept of Aviation.

The centralized function of planning is responsible for the Oregon Transportation Plan, and the Highway Modal Plan. The other ODOT Divisions of Safety, Transit, Rail and Bike/ped develop their own modal plans consistent with the policies in the Oregon Transportation Plan and with assistance from planning but we do not take the lead. The Aviation plan is handled by the Dept of Aviation which is not a part of the Transportation Department. The local multimodal plans and the coordination with the MPOs is handled at the region/decentralized planning. However, the central function is responsible for the development of guidelines and other documents to enhance consistency statewide.

There is no easy answer here and I believe it needs to be framed around the decision making process. In the state of Oregon there is a great deal of emphasis on local decision making and one of the statewide planning goals is centered around citizen involvement. Therefore, when working with local governments on their plans it is advantageous for our regional offices to be involved. They are more knowledgeable of the local politics and can be more involved as travel is easier. There is however benefit in putting together guidance documents that provide some statewide consistency.

- There are pluses and minuses to both the centralized approach (where all planning is done within a single unit) and the decentralized approach (where planning is done within the individual modal sections or agencies). In fact, Oregon DOT followed the centralized model until a few years ago when, as a result of a reorganization, planning was decentralized to the modal agencies.

- There were at least four advantages to the centralized approach, where the modal planners were housed within one office. First, *coordination was easier to accomplish:* the long range plans were consistent, owing in part to the fact that they were produced by planners in the same office. If a connection was needed between aviation and transit, those two planners could ensure such a connection was identified. Second, *long range planning was actually done* because it was this single office's explicit responsibility. By contrast, when long range planning is the responsibility of a modal agency, such long range planning must compete with other responsibilities such as operations, funding requirements, and strategic programming (e.g., the six year project document). Third, the plans were much more *balanced*: no single mode was favored more than warranted relative to another mode. Fourth, there was a greater incentive to obtain *input on the development of the plan from agency management*. Because the horizon is much longer than would be the case with a

strategic budgeting document, planners have the time to gain input and use such input to develop a plan, rather than being under pressure to quickly develop a project list.

- There is at least one advantage to the decentralized approach: Ownership is garnered from the agency staff that have to deliver the program if they are involved in the development of the plan. They often have a deeper understanding of the complexities of the modal issues and have relationships with many of the stakeholders.

- Some types of modal planning that had never been successfully undertaken before became feasible within centralized planning as they did not have the direct relationship with the stakeholders and in some ways could be more dispassionate and balanced when approaching plans.

- Either the centralized or decentralized approach can work well. The two challenges are to (1) identify which of the advantages shown above are more critical for a given state, and (2) compensate for the weaknesses of either approach. For example, the decentralized approach can be successful, but there may still be a need for a central office to provide more guidance on how to accomplish planning.

Pennsylvania

- It is certainly good to have a central location for long range multimodal planning; such a unit can serve as champions for long range planning efforts, ensure consistent methods for doing long range planning, integrate the modes, and be focused on longer term planning as opposed to the day to day operations the modal agencies must address. Such staff can address a number of multimodal issues that arise. For example, central long range multimodal staff have been able to look at a route might have varying levels of access (from being limited access to signalized) and identify ways to make access consistent; data can also be shared among various agencies.

- There is, however, an important caveat to having a centralized unit. *It is absolutely critical that such a unit not be working in a vacuum but instead have a close link to the individual modes, in order to ensure that the long range plans and intermodal connections specified therein are realistic*. Contrast two cases—one where this coordination was in place and one where this coordination was not in place:

- One instance where there has been good coordination has been with the state's long range mobility plan. The four-person long range planning unit is involved with this effort, but they themselves are not alone developing the plan. Instead, they have put together a steering committee comprised of representatives from the various modes; this steering committee has actively set the scope of the plan, identified modal needs that should be addressed, and worked with the consultant to develop a long range plan.

- One instance where there was not good coordination occurred in another state (where the interviewee had worked as a consultant). The particular planning effort involved a port improvement, where there was not good communication between one of the state's district

planners and one of the state's long range planners. Unfortunately, the major port improvement was not even being included in the state's long range plan. It was this lack of communication that hindered the effectiveness of that planning effort.

South Carolina (aggregated by the author from two different responses)

We have a statewide multimodal plan and the planning office took the lead in putting that together. No one is assigned to multimodal coordination, planning or implementation. We have some processes being developed that will improve coordination within the DOT, as well as with other transportation providers.

[Regarding approaches that are direct results of statewide multimodal planning efforts:] There is one indirect example that arose from our statewide multimodal plan and our involvement in the Latin America Transportation Study (LATTS). We are trying to create a freight advisory committee (FAC) with representation from rail providers, airports, the state ports authority, and the state commerce department. In addition, we are beginning a statewide corridor study that will identify the most strategically significant transportation corridors (in addition to interstates) and evaluate them in terms of multimodal needs. The plan could evolve into a funded process to implement multimodal projects.

[Regarding advantages of a designated multimodal office:] There could be some advantages in that at present (with a decentralized structure) we have several public and private entities to coordinate with on transportation issues. Thus, a common office could bring these groups together.

[Advantages of decentralized planning:] When such planning is done in-house (e.g., within the DOT as opposed to by a separate intermodal office), then the planning is directly helpful to the agency's mission, the DOT can influence the way that the planning occurs (e.g., can influence how the planning is implemented) and can set priorities from that process (e.g., prioritize which projects should be done). In states where the DOT has more comprehensive modal authority (e.g., airports, ports, rail, etc.), they may be very effective at doing this intermodal planning in-house).

Federal transportation legislation requires that DOTs and MPOs implement a multimodal planning process. The challenge is when the state DOT does not [legislatively] have authority over all modes of transportation.

The 3 areas of responsibility for the 3 planners are planning, construction, and maintenance. Regarding question 4, there are advantages to both. However, one needs some sort of coordinating "hub" to ensure that there is continuity from one area to another (for example, suppose a bicycle path goes from one Council of Government to the next, one needs to ensure that there is some linkage). A problem with aviation is that right now it is under the wrong department: it is under Commerce rather than under the Department of Transportation. Fundamentally, the aviation department's mission has been changed as well: it used to be to foster aviation in South Carolina, but now it serves the Governor's staff and Commerce Staff. Further, although the Department of Aviation participated in South Carolina's long range

planning process, unfortunately Aviation was not fully represented in the Plan except in a paragraph regarding funding.

South Dakota (one respondent with verification from a second respondent)

There has been increased programs for rural transit and access to rail freight facilities [as a result of statewide multimodal planning efforts].

There is an advantage that efforts can be better coordinated through a central office [advantage of a designated multimodal office].

There is an advantage that modal specific agencies have a better understanding of their specific modal problems [advantage of conducting planning through each specific modal agency].

- Regarding the question of doing statewide multimodal planning through (a) a single, centralized unit or (b) individual modal agencies, there are advantages to both methods.

- An advantage of the centralized approach is that coordination between modes is easier as personnel are in the same office; [to an extent, coordination between staff in the same office is easier than coordination between staff from different offices all other things being equal].

- An advantage of the decentralized approach is that there is expertise housed within the various modal agencies, and thus one can tap this expertise more readily if planning is done with those personnel.

- A practical consideration of the centralized approach is that even if there is a single modal office, a true multimodal project still requires approval from the different modal boards (e.g., in South Dakota these are the railroad board, the aeronautics board, and the highway board). In an ideal world, the approach would be to have a project go to one decision making body for approval.

Texas

- Texas has a partially centralized and partially decentralized approach to statewide multimodal planning. Regarding freight in particular, however, the state has a centralized approach that focuses on rail, highway, and waterway.

- Generally the state has an idea of the large freight generators in and around the ports, thus it is advantageous to be able to coordinate which modes (rail, highway, or waterway) can move that freight effectively. While Texas's centralized freight planning approach is relatively new such that definitive results are not yet available, there are several initiatives underway that seem to be taking advantage of this approach:

- In both the Houston area and the San Antonio area, the joint consideration of rail and highway modes has allowed Texas to evaluate the utility of relocating rail lines. In particular, with respect to the Trans Texas Corridor, the state believes that by being able to

look at freight comprehensively across multiple modes, they are able to consider how shifting freight from existing lines to new lines [in the Trans Texas Corridor] will free up existing rail lines for other modal uses.

Utah (aggregated by the author from three different responses)

- Although Utah indicated a "1" for centralized planning, this refers only to planning for three modes: bicycles, highways, and transit. Other planning responsibilities are addressed elsewhere. (General aviation planning is handled through the aviation division, major airport planning is the responsibility of the appropriate MPO [metropolitan planning organization], and railroads are planned separately (although one intermodal center is coordinated between the modes).

- An advantage of centralized planning is that it enables a system-wide look at the transportation system as a whole.

- A disadvantage of centralized planning is that when dealing with a large geographic area, there may be some fear [from stakeholders] of favoring one particular mode over another. This concern has been noted in some locations, and thus Utah has had to work with various [localities] to ensure that their concerns are addressed.

- The [aeronautics] plan for the statewide system is issued through the Aeronautics Division (which has 1 planner and 1 engineer) with approval of the FAA for funding.

- Note that the state has a single multimodal freight planner. This individual examines issues as diverse as pipeline needs, freight issues outside the state boundaries that impact the state in question, and the combination of truck freight and rail freight.

Vermont

Vermont has a State operations advisory council which advises VAOT [Vermont Agency of Transportation] on multimodal issues.

The location of the planning is not important but to have the planning coordinated between statewide and modal planners is the key to success. Here are some examples of what that sentence means:

- Formerly, Vermont had several non-highway modes (rail, aviation, public transportation, and bicycle/pedestrian) organized under one division in order to give them higher visibility.

- Now, Vermont has two staff who serve in the policy and planning division that perform the multimodal planning function for Vermont. One of the contributions of these staff is to prepare modal policy plans for each mode, where the policy plans each list specific goals and that the modal manager is to accomplish over the next few years. Typically a modal manager aims to satisfy all of the recommendations from the policy plan and when this is accomplished, then a new policy plan is sought from the multimodal planning coordinator.

- The modal plans also include performance measures.

- The staff have also helped to create modal working groups as the modal policy plans are produced with input from the modal manager (an example is attached and summaries of some multimodal planning efforts are available at http://www.aot.state.vt.us/planning/MultiModal.htm).

- Finally a wrinkle in funding these modal policy plans has developed. Until this past year, FHWA SPR [State Planning and Research] funds could be used to develop these plans. This year, however, FHWA issued a rule indicating that SPR funds could only be used to develop public transportation, bike/ped, and highway plans. Under the new rule, rail and aviation plans may not be developed with SPR funds.

Virginia

Yes [there are specific projects, approaches, or programs that result from statewide multimodal efforts.]

Yes, if it is staffed and funded [there are advantages to a designated multimodal office].

Yes, it brings specific modal perspectives to the forefront [there are advantages to conducting statewide multimodal planning through each specific modal agency] .

Washington

In Washington State Department of Transportation (WSDOT), we have one centralized (headquarters) office responsible for statewide, multi-modal transportation planning: 1 Manager, 6 Staff. This work is supported by technical staff (usually 1 or perhaps 2) in modal divisions within WSDOT, and by external working groups made up of representatives from particular mode agencies or interest groups and by our state's Metropolitan Planning Organizations (MPOs) and Regional Transportation Planning Organizations (RTPOs).

[Are there specific projects, approaches, or programs in your state that are the direct result of statewide multimodal planning efforts?] Yes, there will be—some will continue from successful past programs, others are new projects, programs, initiatives, and policy/strategy development.

[Are there advantages to conducting statewide multimodal planning primarily through a designated multimodal office?] Yes—primarily a system-wide approach to addressing problems and trends.

West Virginia

- Ideally a single office in the DOT that serves as a clearinghouse or coordinator for individual planning efforts makes sense. It is difficult for one group to keep tabs on the intricacies of every mode. If a central office is to be effective it needs to have considerable backing from

senior management and enough staffing to handle the job. Without these two items each mode just continues to do what they want with little or no coordination.

- In 1999, West Virginia created a new Intermodal Planning Section which would get all the modes together. Over time, however, it became apparent that 95% of the planning work involved the highway mode; furthermore, the new Section was staffed with just one person. For a single individual, it is impossible to keep track of the thousands of projects done by the various modes. Given that this individual will soon be leaving for a new position, there is no continuity within this section created several years ago.

- Another practical impediment to a centralized planning entity is that it is difficult to make long range planning a priority when funding for existing projects is limited. As long as the federal government does not mandate specific, tangible planning products, it is likely that planning will continue as it has been done in the past. (For example, new federal requirements may mandate that each state have a "freight manager." The single person who staffs the Intermodal Planning Section has been informed that he will become that freight manager as well.)

- However, one contribution that the new section has done has been to provide assistance to the Port Authority, the Aeronautics commission, and others who need technical reviews of planning materials, such as the double stack initiative for rail transport. Thus even though the section may not be coordinating planning efforts, it is a resource for modes who need engineering assistance.

- If a state were to form and sufficiently staff a centralized multimodal planning entity, an initial estimate is that three to five people would be needed to keep track of what is occurring with other modes. However, this estimate depends on what the centralized unit is expected to accomplish.

Wisconsin

Wisconsin has a division that does handle strategic long range planning for all of the modes. There are also planners in the individual districts as well as system plans being done by specific modes (e.g., a separate Aeronautics system plan) but there is a statewide group that performs policy planning for all modes. [An example is Wisconsin's 2030 long-range plan, called *Connections 2030*, available at http://www.dot.state.wi.us/projects/state/connections2030.htm.]

An *advantage* to this centralized approach is that it enables one to represent, comprehensively, all modes in the transportation system at the state level. [For example, Wisconsin's 2030 Long Range Plan identifies specific corridors and then shows how these corridors might include elements of freight rail, intercity bus, bike trail, principal highway, and so forth. An example of such a corridor is available at http://www.dot.state.wi.us/projects/state/docs/corridor-foxvalley.pdf.]

A disadvantage of the centralized approach is that it is hard for the long range plan to attract the attention of modal staff who are making shorter term planning and programming decisions.

Because those modal staff do not report directly to the office performing the long range planning, there may be a disconnect between policies identified in the long range plan and specific actions taken in the six year programming document. (A solution is to identify specific techniques to coordinate modes at the corridor level, which is one of the goals of *Connections 2030*). http://www.bts.gov/publications/state_transportation_profiles/state_transportation_statistics_2004/index.html