

# Will Multimodal Planning Result in Multimodal Plans?

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As the multimodal planning and programming processes that are encouraged by the Intermodal Surface Transportation Efficiency Act of 1991 are developed, potential effects of open competition upon the mix of project types need to be recognized. Inherent differences between modes, as well as between different types of projects within a mode, mean that a comprehensive evaluation process will be necessary. Further, analytical processes alone cannot be relied on in weighing the relative merits of competing projects. Instead, judgments about the values attached to a variety of evaluation parameters will have to be made. The way that is done clearly will have profound effects on the mix of projects that survive the planning and programming process. To get the proper mix, some bias was introduced into what initially was intended to be an unbiased evaluation of project worthiness. That is, a high value was placed on the social, energy, and environmental qualities if certain candidate projects were to compete successfully against projects that had superior transportation mobility and cost-effectiveness characteristics. Consequently, for the foreseeable future, a combination of analytical processes and value judgments will be necessary in developing multimodal plans that encompass the full range of modes and project types.

Intermodal Surface Transportation Efficiency Act (ISTEA) requirements stipulating that every state implement a multimodal planning process are well known to transportation planners. ISTEA is, without question, the most profound transportation legislation that Congress has enacted since the legislation that produced the Interstate system. It is also most significant that the U.S. Department of Transportation chose to give considerable flexibility to each state and metropolitan planning organization concerning compliance with ISTEA. The federal rulemaking process is refreshing because it embodies the philosophy that "one size does not fit all" and acknowledges that processes adopted by individual jurisdictions should not be forced into a rigid, "no deviation allowed" format. The federal process is also challenging because each jurisdiction must select multimodal planning and programming processes that are effective and practical for it. The task is made difficult because our profession has limited experience with multimodal planning, whereby choices are made between a variety of transportation alternatives.

For many of us, ISTEA affords a most welcome and long-awaited environment in which to conduct multimodal planning and programming. However, there are some potential pitfalls that could be encountered unless we identify them now and take steps to avoid them.

## PRE-ISTEA PLANNING PHILOSOPHY

It is critical to understand the past to plan for the future. In fact, it is the past that explains why the old ways of doing transportation

planning and programming produced results that are not entirely satisfactory, and why we transportation planning professionals see opportunities in ISTEA.

Not very long ago, it was recognized that, in terms of ground transportation, highways dominated the transportation system. Instead of undertaking comprehensive multimodal planning, the nation chose to do primarily modal planning, whereby candidate projects compete with similar projects within a particular mode. Certain kinds of projects did not emerge as winners in the new planning and programming processes. For example, given open competition, most rail-highway grade crossing projects were not winning out against capacity-enhancement highway projects, nor were most bicycle projects or highway safety projects considered high priorities.

It became clear that if the United States were to have a transportation system that met a wide range of transportation needs, special provisions would be needed to recognize the value of each kind of transportation project in the planning and programming process. Value judgments were made that said a certain portion of funds would be used for different kinds of projects. The process led to more and more categorical programs. Finally, multimodal plans arose by structuring the fund allocation process to yield a variety of project types. That did not necessarily result in "balanced" or optimal multimodal plans; although plans contained certain elements for each mode, they were in reality a collection of modal plans.

## ISTEA REQUIREMENTS AND PROGRAMMING CATEGORIES

ISTEA indicates clearly that any new plans are to be multimodal in nature, and much attention has been focused on the expanded funding flexibility provided by ISTEA. However, we still have what amounts to categorical programs. ISTEA provides for safety and transportation enhancement set-asides and maintains the separate bridge program. These features clearly inhibit the extent to which projects will be allowed to compete on their own merits with other types of projects.

Neither ISTEA nor the final rules prescribe how the multimodal planning process is to be structured other than through specifications for public involvement and the consideration of specific factors in evaluating projects. Nevertheless, there are strong indications that previous programming processes, in which suballocations of funds to different types of projects are made to ensure that some projects of each type are actually selected, will not be permitted.

## EXAMPLES OF MULTIMODAL PLANNING

TRB has sponsored several efforts to identify good examples of multimodal planning. At a TRB conference in Seattle in 1993,

Michael Meyer reported he was able to find only two examples of "illustrations of close-as-you-get multimodal planning." One example was the I-15 Corridor Alternative Analysis in Salt Lake City (1). The cited process involved a project level analysis wherein more than 50 performance and impact measures were developed for 12 highway and transit alternatives.

The second study cited by Meyer was the Maryland Commuter Assistance Study, a study of 14 corridors to determine "how best to move people given the varied nature of commuter problems statewide" (2). Alternative improvements included express bus service, highway access control, roadway widening, shoulder bus lanes, exclusive bus roadways, high-occupancy vehicle (HOV) lanes, commuter rail, and light and heavy transit.

Although it was not noted in Meyer's paper, the process used by the Metropolitan Transportation Commission (San Francisco Bay Area) is probably one of the most noteworthy of the multimodal/intermodal trade-off analyses. Technical aspects of the process involve an initial screening of potential projects on the basis of selected criteria. Projects that pass the screening are processed using a scoring system that includes performance-based standards. Finally, projects are subjected to various "programming criteria to ensure that the program of projects increases mobility, cleans the air, leverages the most State and Federal resources, and is equitable" (3).

Another regional planning process that has been cited as state-of-the-practice in multimodal evaluations (unpublished report of NCHRP Project 20-5) is the Hali 2000 Study (4). It was conducted to update Oahu's Long-Range Transportation Plan; it reviewed all major travel corridors and addressed the full range of transportation alternatives, including transportation system management, HOV, bus, light rail, rapid transit, and highway improvements. The evaluation matrix contained a mixture of more than 60 quantitative and qualitative factors. Evaluation criteria focused on (a) cost-effectiveness, (b) community and institutional acceptance, and (c) measures of effectiveness related to transportation goals and objectives.

The cited examples suggest that in the foreseeable future multimodal processes will require a combination of analysis and judgment to produce multimodal transportation plans.

## PUBLIC INVOLVEMENT

Whatever multimodal planning process eventually is adopted, ISTEA requires that it be a much more open process than some planning agencies may have undertaken in the past. We need to consider carefully how that might influence the content of the multimodal plans we are to prepare.

Ohio was awarded one of the six grants provided by FHWA for the development of a "model intermodal planning process." As consultants to Ohio Department of Transportation (ODOT), Wilbur Smith Associates participated in a two-part series of outreach meetings. What the company heard from the general public, public officials, and special interest groups was very revealing. For example:

In rural areas, the dominant message was "highways, highways, highways". . . . In contrast, ODOT's metropolitan customers were far more interested in other modes—particularly public transportation and rail. (5)

A similar experience in Des Moines, Iowa, involved the primary question of how to move people and goods between the suburbs and downtown. Because there is a history of using highways to solve

problems in the community, "pro-highway" people tended to take the outcome of the study for granted and not attend study meetings. However, "no growth" and transit proponents were less apathetic. Only by conducting home telephone surveys did we determine that support at public hearings was skewed toward certain modes.

Although 71 meetings were held in connection with the "Access Ohio" project, the overwhelming majority of input received dealt with the transportation of people. Although letters of invitation were sent to freight transportation interests, typically they either did not attend or, if they did, they did not assert their positions. Only by direct contact with the freight interests was significant input obtained. Their lack of participation appears related to the historical overemphasis on highways during previous planning efforts and their reluctance to discuss private business in public. It is true that "people vote, freight does not," yet planning processes should adequately consider freight because of its importance to the country's economy.

A multimodal planning process should recognize the considerable differences in messages received as part of a public involvement program and ensure that they are put into proper context.

## CONCERNS THAT MUST BE FACED

Some believe that the current modally oriented approach to transportation planning is the preferred approach. They reason that each mode is so different that mixing them together is technically impossible.

Let's assume that we have determined we want to do truly multimodal planning. Further, let's assume that the multimodal planning process involves throwing all transportation projects into a common pot and requiring them to compete on an unbiased basis with other transportation projects. If we decide that multimodal planning is to be conducted in this manner, what are the potential challenges?

### What Would Be the Balance Between Freight and Passenger-Oriented Projects?

There is the possibility that projects that are concerned primarily with the transportation of people will dominate the program of selected projects, because of the emphasis they receive in public outreach processes. Historically, transportation agencies have had little experience with freight transportation, and there often is an attitude that freight transportation concerns should be addressed by the private sector.

Evidence of this problem already has surfaced in Florida and California, where metropolitan planning organizations have shown preference for local roadway and signalization projects over port access projects or deemed port projects "not a proper use" of federal monies, even though ISTEA specifically mentions port access. Whereas government officials state in public that all projects are weighed equally, privately they admit that public pressure for local improvements means more at decision time. (6).

### What Will Be the Balance Between Rural and Urban Projects?

Given the great differences in the intensity of use, there is a potential that, in taking a "common pot" approach, urban projects will

dominate. Many rural projects have been justified in the past primarily on the basis of providing minimum access to all parts of an area, and federal funding programs have been designed accordingly. ISTEA anticipated the problem and included provisions that guarantee funds to areas with a population of 5,000 or less, on the basis of previous secondary funding. Thus, regardless of the transportation benefits of the project, geographical allocations are required.

### **How Would Pedestrian and Bicycle Projects Fare?**

Relatively low utilization of bicycle and pedestrian modes could result in such projects being at a disadvantage in the programming and prioritizing processes. This may be why ISTEA still has vestiges of the old categorical funding program, specifically requiring that plans include bicycle and pedestrian elements, including provisions for enhancement projects that encompass bicycle elements.

### **Would Safety Projects Be Able To Complete Well with Other Projects?**

Certainly, safety projects have significant benefits; however, they never got much attention until categorical programs that focused attention on them were instituted. Apparently, those who wrote ISTEA thought that such projects might get less attention if a true multimodal approach were adopted. ISTEA includes requirements for a 10 percent set-aside of surface transportation programming funds for safety construction projects. Indeed, ISTEA gives even more attention to safety projects by requiring implementation of a safety management system.

### **What Would Be the Balance Between Transit and Highway Projects?**

In terms of balancing transit and highway projects, it is less clear what a true multimodal process will yield. A major influence is the Clean Air Act Amendments of 1990. In addition, funding flexibility in ISTEA provides that approximately \$103 billion of the \$151 billion provided by ISTEA can be spent on transit. These provisions could shift the balance toward transit projects, particularly in the larger urban areas.

Some argue that the environmental justification for this shift is minimal. In testimony before the U.S. House of Representatives Public Works and Transportation Subcommittee on Surface Transportation, Pennsylvania Secretary of Transportation Howard Yerusalam commented on a Bay Area \$11 billion investment: "Massive shifts in transportation investment from highways to transit . . . only works at the margins of the clean air problem." Further, he stated that many people

promote Transportation Control Measures (TCM)—things like ridesharing programs, transit improvements, park-and-ride facilities, and bike/pedestrian programs—as an answer to air quality . . . in fact, there is evidence that the impact of traditional TCMs such as these is so small, that it is below the accuracy of our measuring ability. (7)

A similar experience in the Puget Sound area indicated that extensive use of TCMs and the construction of an \$11.5 billion rail transit system could achieve only a 2 percent reduction in motor vehicle travel.

### **Would the Balance Between Bridges and Other Highway Elements Shift?**

There are different kinds of projects within each mode. Under ISTEA, there are constraints on the amount of competition to which bridge projects can be exposed because the Bridge Replacement and Rehabilitation Program has been continued. That is, completely open competition will not occur under ISTEA. One wonders what would happen if bridge projects did not enjoy this special recognition.

### **What Would Be the Balance Between Port, Rail, and Aviation Projects Relative to Highway and Transit Projects?**

ISTEA essentially addresses only highway and transit modes and some intermodal facilities. Public funding for port and rail projects often has been limited because such projects are considered commercial undertakings. Overall, there is less reluctance to fund airport projects with public funds, despite the commercial features that are apparent. If projects for these three modes were required to compete with highway and transit projects for the same funding, a change in the balance would be almost sure to occur, simply because we currently fund these projects in very different ways.

### **How Will the Balance Be Affected by Conflicting Goals?**

Clean air concerns will drive alternative analyses toward more fuel-efficient modes or modal options. The urban transit-automobile relationship already has been mentioned. On the freight side, water and rail present viable alternatives from a clean air perspective, but not from a service-oriented shipping community viewpoint. Alternatively, longer combination highway vehicles could promote fuel efficiency, among other production enhancements, but they raise considerable safety concerns.

At the heart of this issue are two key public policy questions that are often in conflict. First, should government merely respond to market demands for certain transportation improvements, or should government force the public to alter existing travel preferences to create greater efficiencies? Second, should transportation planning be used to solve various social ills?

## **LESSONS LEARNED THUS FAR**

Because this is a fairly new undertaking for most of us, the lessons we have learned have been a bit limited. Nevertheless, they are quite profound and include, at a minimum, the following key points:

- There are few working examples of successful multimodal planning processes.
- The old approach of fund allocations to each mode and to project-type category programs should not be used.
- The public involvement process cannot be relied on completely to reflect all of the value systems that should be embodied in a multimodal process.
- Most of us are relatively inexperienced with approaches that include private interests in the multimodal planning process.
- Because past planning and funding patterns were heavily slanted toward highway solutions, historical trends might be mean-

ingless in identifying future demands and solving transportation problems.

- If a balanced approach to multimodal planning is to be achieved, multimodal alternatives must be compared truly and an unbiased technical evaluation of each mode's potential contribution conducted.

- Technical analyses are only part of the answer. Value judgments are another crucial element.

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