

TRANSIT PLANNING IN SMALL URBAN AREAS

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Recommendations for Transitway/Transit Center in Green Bay, Wisconsin. Improvements are designed to make transit service more appealing to users.

The recent attempt by the federal government to phase out mass transit operating assistance, although not achieved in the Surface Transportation Assistance Act of 1982 as originally envisioned, has caused many cities to examine their basic policy toward mass transit services. Both researchers and practitioners are finding significant differences in the approaches to transit service taken by cities of various sizes. Small cities (urbanized area population under 200,000) in particular appear to have different planning techniques, needs, and approaches in the provision of transit service. The roles of transit managers and staff in relation to local decision makers are receiving renewed attention, as witnessed by the increased scope of activities for members of governing boards in the industry's trade association, the American Public Transit Association.

The small-city transit decision-making process is currently being studied under a National Cooperative Transit Research and Development Program contract (NCTRP 40-1), sponsored by the Urban Mass Transportation Administration. Planners and system operators are recognizing that the ability to present the technical, financial, and social consequences of transit options plays a key role in the implementation of workable plans; and policy makers are realizing that their constituents are more likely than ever to question the reason for the existence of a transit system in a small city, as pressures mount on local government to reduce taxes while maintaining essential services.

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RECENT TRENDS

The recent literature on performance evaluation in the transit industry has identified three areas of performance: *efficiency, effectiveness, and equity*. As part of the NCTRP 40-1 Research Project on "Simplified Guidelines for Evaluating Transit Options in Small Urban Areas," a selected group of transit managers, transit board members, and city officials (who often function as the transit board in small cities) recently convened for a seminar. Some of the insights and views of the participants in the seminar are discussed below.

Efficiency Issues

Local elected officials and other (non-technically oriented) decision makers rarely want to receive as much information about the efficiency of the transit system as is thrust on them. They may want to know how the system compares to peer systems especially those in state, but they typically do not want to become deeply involved in such issues as operating/administrative staff ratios, cost per vehicle-mile, or vehicle-hours per employee.

Attention is being focused on non-traditional ways of producing transit service: contracting with school bus operators to use equipment designed for lighter duty than is the standard transit coach; cross-training employees to maximize efficiency; maintaining the transit fleet at a maintenance base that also services other city vehicles. Accounting functions are often performed on the city's mainframe computer, although

recent developments in microcomputer technology and software suggest that in-house microcomputers may become more efficient than mainframe-and-terminal arrangements.

The amount of time that transit board and management have worked together appears to be a significant factor in the decision-making process. If board and staff have been associated for a long time, and there is mutual trust and confidence, examination of system efficiency is likely to be perfunctory. The respective roles of board and staff are usually clearly understood, and the board is less likely to attempt to second-guess the manager.

Effectiveness Issues

The need for transit in small cities appears to come from a base different from that in large cities. The direct benefits of transit are few; it is difficult to attribute reduced congestion and travel time savings to the small-city transit system. Because the transit mode split is typically very small, transit is not even likely to eliminate the need for one lane-mile of highway capacity.

Nevertheless, on the brighter side, parking requirements in major activity centers may be reduced and, under special circumstances, air pollution may be mitigated by transit. One transit system, the Greater Aliquippa (PA) Transit Authority, was designed specifically to reduce congestion, pollution, and parking needs in an EPA noncompliance area by providing an alternative mode of transportation to a steel mill employing 11,000 workers. In that case, the benefits accruing to the company were

sufficient to justify the underwriting by the company of a substantial part of the system's operating deficit. However, such a case is exceptional.

Recent evidence indicates that the need to make transit service more effective has led to nontraditional ways of providing service. Routes that operate only on certain weekdays, allowing the vehicle and driver to be used in other neighborhoods on other days, are receiving greater attention. Large loops at the ends of lines, for many years regarded as undesirable because they lengthened trip time for many users, are becoming more popular as the need increases to stretch resources to cover more geographic areas. Although transit board members may be uninterested in such performance measures as passengers per hour, passengers per route-mile, or subsidy per passenger by route segment and time of day, managers and transit planners are devoting more attention to such measures in their efforts to make the system more effective.

Equity Issues

A consultant was queried by a local elected official in a small city on the consequences of closing down the transit system. The consultant's response was that the most *visible* result would be a decrease in congestion at the city location where buses line up to facilitate transfers, which effectively reduces street capacity by 50 percent for approximately 10 minutes of each hour. The most painful result would not be as noticeable: individuals who are transit-dependent would not be able to get to their destinations as easily and inexpensively. Because these riders are, by and large, the least articulate and politically sophisticated segment of the community, the adverse impacts would go largely unnoticed.

This point was reinforced by recent discussions with transit board members and managers. Most of them contend that in their communities, without elaborate measures or indicators, the decision makers are aware of the distributional impacts of the system: who benefits and who pays. Transit boards

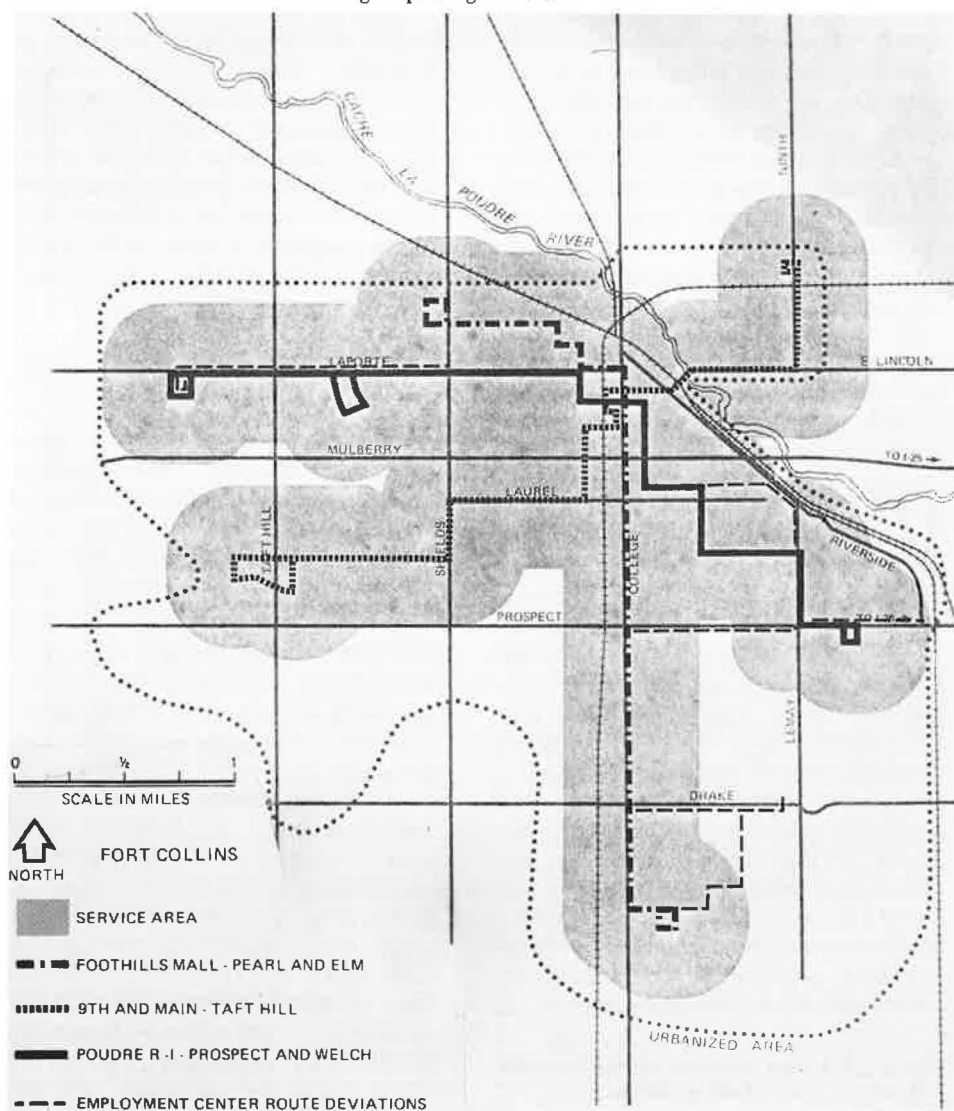
have sufficient knowledge of their own communities that a simple description of the neighborhoods affected by proposed service changes, possibly augmented by a city map showing the route changes, enables them to judge who would be favorably or unfavorably affected by changes in the service.

Attempts to measure the indirect benefits of transit are on shaky methodological ground. Even the time-honored claim that transit enables people to get off the welfare rolls is subject to dispute. If jobs exist, and get filled, the economy functions at the same

overall level. Only the distributional effects are different: the jobs may tend to go to those who have cars.

There appears to be growing awareness that in many small communities, transit must be viewed as a social service—one of the services to be provided to the disadvantaged. As such, it should not be subjected to cost-benefit analysis; the monetary benefits, correctly measured, rarely exceed the costs. On a cost-effectiveness basis, however, transit may score fairly high. The issue then becomes one of accurately describing the measures of effectiveness desired.

Example of initial route and service area recommendations in Fort Collins, Colorado. The city had been without public transit from 1951, when streetcar service was abandoned, to 1974, when the routes shown here were initiated using 16-passenger buses.



FUTURE DIRECTIONS

The NCTRP 40-1 Research Project on "Simplified Guidelines for Evaluating Transit Options in Small Urban Areas" was designed to answer three questions:

1. What information do transit policy makers need to make informed choices among the alternative transit plans?
2. What analytical techniques will most simply and effectively yield the needed information?
3. What is the best way to communicate information about alternatives and their impacts to decision makers?

Preliminary research results indicate that in most cases policy makers want basic financial information on the fiscal consequences of the recommended alternatives. Some boards want to be presented with a range of alternatives; others prefer only to review the manager's recommendation. In addition to financial forecasts, board members want to be informed of the details of the planned service changes, but only to the level that will enable them to judge the distributional impacts of the recommendations. In small cities, that judgment is likely to be based on the decision makers' personal knowledge of the community.

Transit planning is generally incremental, and proceeds by marginal changes to existing operations. In cases where a major change is contemplated or the future of the system is at stake, decision makers are most concerned with overall, systemwide impacts. When the decision involves relatively routine, year-to-year service adjustments, more detailed information may be requested in the context of system costs/revenues, number of passengers served, and sources of subsidy.

In addition to the information presented to transit boards in the decision-making process, the decision makers' background of system knowledge must be considered. This is commonly acquired over time, in large measure through periodic informational or monitoring reports furnished by the system manager to the transit board, city council, or other decision-making body.

ILLUSTRATIVE ROUTE ANALYSIS: GARY, INDIANA

Other Service

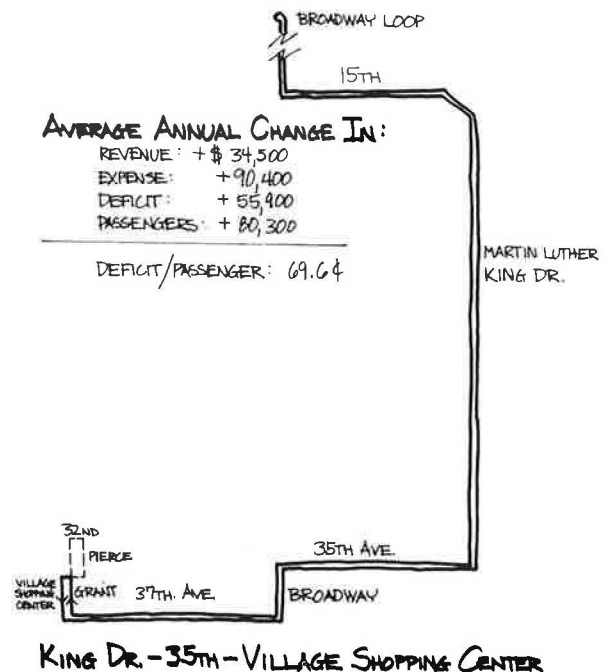
King Drive-37th Street

This route is relatively new and ridership is still increasing. At the present time, there is some difficulty in maintaining the present 60-minute round-trip schedule requirement on the route.

It is recommended that the south terminal of this route be cut back at the Village Shopping Center. This would eliminate the present loop from Grant, to 32nd to Pierce, to 35th, shortening the route so that a round trip can be accomplished in 60 minutes. The portion of this route eliminated would be served by a new route discussed later in this section. It is also recommended that the headway on this route be reduced from 60 minutes to 30 minutes in the period from 6:00 A.M. to 6:00 P.M., Mondays through Fridays.

RECOMMENDATION:

30-MINUTE HEADWAY FROM 5:30 AM TO 10:00 PM (NOW 60-MINUTE). ELIMINATE 32ND AND PIERCE LOOP.



Source: "Comprehensive Route Study," prepared for the Gary (Indiana) Public Transportation Corporation, prepared by Barton-Aschman Associates, Inc., Evanston, Illinois, June, 1978.

Example of a route analysis performed for a small city transit system that provides recommendations.

These reports typically consist of many pages of tightly packed, detailed statistical tables. Although board members can obtain much information about the system by studying the tables, format of this material presents a formi-

dable challenge. One of the anticipated products of the NCTRP 40-1 Research Project will be a suggested format for graphically presenting the more useful details of a transit system in order to facilitate monitoring. Suggestions for

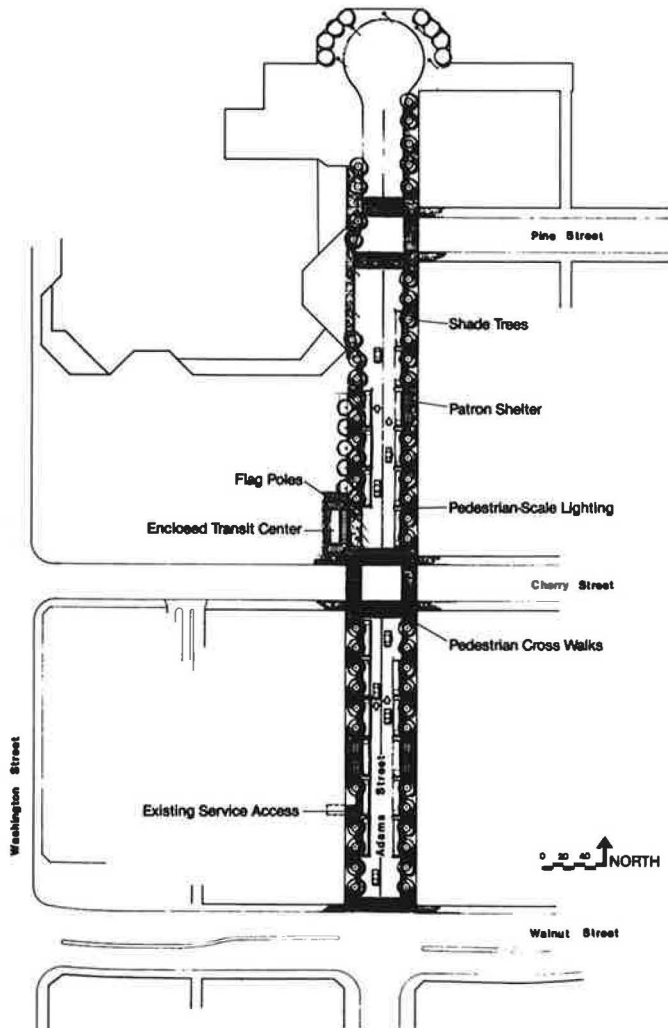
graphically presenting recommendations for major system change decisions are also part of the NCTRP 40-1 Study.

Many effective analytical techniques are available for generating the required information for planning transit options. The performance-evaluation literature and a number of other handbooks present a wide choice of methods and techniques for analysis. However, with respect to formalized evaluation schemes, evaluation appears to be of little concern to decision makers; instead they prefer to examine a handful of key variables and make individual intuitive trade-off decisions.

For improving the small-city transit decision-making process, the most important factor appears to be the pre-

sentation of information in a simple, clear, and straightforward manner, so that the decision makers can use their own best judgment. One of the heartening aspects of working in a small-city environment is that the policy makers typically know their community sufficiently well to have a good sense of both the economic needs and the political realities; their collective judgment is likely to be the most cost-effective way of making decisions, provided they have been supplied with accurate information.

Editor's note: The NCTRP 40-1 Research Project on "Simplified Guidelines for Evaluating Transit Options in Small Urban Areas" is expected to be completed by mid-1984.



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