Institutional Barriers to Implementing Light-Rail Transit

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The workshop session began with a brief description by the workshop moderator of the different types of institutional barriers that might confront localities seeking to implement light-rail transit (LRT). These include the blurred definition of LRT, especially its streetcar image, the problems of selling the concept, and perceptions of LRT as being second best; the issue of who makes the decision about LRT in view of the roles of the Urban Mass Transportation Administration (UMTA), the Environmental Protection Agency (EPA), the U.S. Department of Housing and Urban Development, local public agencies, and consultants; and the complexities of the governmental process (pressure groups, citizen influence, scarce resources, and the conflict between environmental disruption and public works projects).

LRT has suffered from the lack of a clear perception of the concept. For many, the term brings visions of noisy, cumbersome, antiquated vehicles rambling conspicuously through crowded city streets. To others, LRT represents a second-best or lesser alternative that is forced on local areas by an economizing administration. In a period when central cities are chronically short of cash and plagued by a shrinking tax base, these cities will seek to maximize federal funding possibilities. Conventional rapid transit projects fulfill this goal.

Institutional barriers at the federal level are perceived at the local level to be of a bureaucratic nature; highly specialized, regularized, and technical requirements give rise to much of the criticism. Another sticking point is the overlap between programs of different agencies. For example, EPA's Transportation Control Plan requires localities to formulate a package of often stringent measures to achieve improved air quality, but this package can contain elements that run counter to reducing air pollution over the long term and hinder the planning for long-term metropolitan transportation goals.

One of the questions raised at the workshop was how an urban area goes about achieving a consensus to ensure the implementation of capital improvements on a systemwide basis without a public referendum. One proposed solution described how Toronto conceived, planned, and built a subway in the late 1940s. A small staff within the existing transit agency (the Toronto Transportation Commission) initiated the idea, undertook to sell the idea to key decision makers and the public, and eventually financed the endeavor without federal or provincial funds or participation. It was pointed out that such an approach is no longer possible in today's environment.

One participant voiced an opinion that state departments of transportation have continued the preoccupation with highways that characterized their predecessor organizations and have failed to give support to nonhighway projects. One locality, having secured the necessary local approvals, could not elicit a matching commitment from the state department of transportation for a major transit (nonhighway) project. Rather than finding the department of transportation receptive, they found themselves in an adversary relationship. While it was pointed out that localities can appeal directly to the state legislature for relief in such cases, it would seem more logical to make major efforts to reorient the state department of transportation to a multimodal approach. Another participant pointed to the imbalance transit projects face because of state funding requirements. The local level frequently gets no encouragement from the state-level agency for transit-oriented improvements. On the contrary, the state departments of transportation (for the most part originally highway departments) are adept and well schooled in securing funding from both the Federal Highway Administration and the state legislatures and can promise localities firm funding for local highway improvements. Furthermore, highway projects do not have to undergo the alternatives analysis or public referenda for federal funding that are now required for major transit investments. Given the choice of assured funding for the highway improvement or an uncertain future for possible transit funding, localities frequently take the obvious course. Who is to play the advocacy role for transit at this critical level?

Many participants indicated that the metropolitan planning process, supposedly structured to encourage multimodal transportation planning (and subject to various federal regulations to validate the process), can be subverted by state agencies and federal funding inequities.

Many participants articulated a deep sense of frustration over the emerging framework at the federal level for the examination and evaluation of proposed mass transportation facilities. One view held that it was unfair to promulgate an alternatives analysis requirement without also requiring a similar exercise for proposed highway projects. This comment underlined the dichotomy within the U.S. Department of Transportation for administering mass transit and highway programs (two separate agencies) with different viewpoints, rules, requirements, and funding arrangements.

Another view that emerged is that the problem with UMTA is only a reflection of the problems that can be encountered in the political process. A general attitudinal change must come to the congressional leadership and to the public. The recent failure of Congress to approve a gasoline tax boost and the reluctance of cities and states to make hard choices with regard to the automobile indicate that the national mood has not significantly changed.

A spokesman from private industry voiced a deep disappointment with UMTA's lack of action in approving LRT systems. Unfortunately, private industry assumed that a policy statement issued by UMTA on LRT in 1975 would result in emphasis on LRT by the agency. Local areas must develop specific proposals and survive a series of critical analyses before funds can be committed to the desired alternative. Of the LRT project applications received by UMTA from 1975 to 1977, only one survived the examination process, and there is some question whether it could accurately be called LRT.

A congressional aide gave an overview of congressional intent with regard to the urban mass transportation program, pointing out that the UMTA program is one of the last big discretionary grant programs in the federal government. He noted that there are some members of Congress who advocate vesting in Congress the authority to approve or disapprove project proposals on

a case-by-case basis (as is now done with U.S. Army Corps of Engineers projects).

Another participant thought that the relative weakness of the transit industry itself was a formidable barrier. The organizations that should be initiating new proposals and policy initiatives are primarily occupied with operating what they have. In this same vein, it was felt that the industry trade association, the American Public Transit Association (APTA), has proved to be a weak advocate for transit in general and for fixed-guideway solutions in particular. Since the membership of APTA consists primarily of bus operators, the organization reflects an emphasis on the bus mode.

The workshop closed with a short summary highlighting the following points: the definition of LRT is blurred; there are different planning criteria, funding ratios (federal-local), and approval processes for highway and transit projects; state departments of transportation have a lack of commitment to nonhighway projects; and the problems do not originate only at the federal level. Barriers to implementation of both LRT and mass transit projects in general are found in abundance at all governmental levels.

Motor Vehicle and Pedestrian Interface With Light-Rail Transit

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The main issue dealt with in this session was the problem of finding the space within which to develop a surface-level light-rail transit (LRT) system. It is necessary to find sufficient, well-located space in the major corridors of a city if the challenge of providing optimal development of LRT is to be met. In the discussions of this subject, it was indicated that several American cities have primary and secondary arterial routes that no longer have as much through traffic as they used to, largely because of the expanded urban freeway system. These arterials seem likely candidates for future deployment of LRT systems.

It was asked how LRT lines could be placed into arterial or other roads of limited width. Discussion related to the use of medians in highways not built to interstate standards and to the development of side-of-road operation with and without vehicle accident barriers. The use of coupled one-way streets and curb lanes was also discussed as a way to improve the capacity of urban transport while minimizing the impact on private vehicles and the owners of abutting property. Restricting the use of narrow downtown streets to pedestrians and LRT operation was reviewed.

Every urban community must deal with the need for greater capacity in handling passengers and goods in the face of the negative aspects of increasing the width of existing surface transport networks. LRT can provide a low-cost solution to this problem, since it does not require a heavy investment in aerial structure or underground facilities. The use of existing or abandoned railroad rights-of-way and other corridors should be looked at judiciously and not perceived simply as an expedient.

LRT also provides the best potential for obtaining surface-level linear parks; it was felt that the concept of linear parks, as applied in San Francisco and various European operations, should be reviewed. There is a great need to introduce planners, architects, and community leaders to methods of developing linear parks.

The merits of substituting grass or other materials for the usual ballast-and-gravel or dirt-track foundation was discussed. Outside of mixed-traffic locations in public streets, it was felt that asphalt and concrete should be limited in their use because of their rather dull and uninteresting appearance. Some types of gravel-and-brickwork and grass rights-of-way were described that strike a balance between track-structure service life and perceived aesthetic impacts. New Orleans was cited as an excellent example of heavy landscaping of median LRT lines; there are shrubs, trees, flower beds, and visually attractive landscapes that blend the uses and the activities of the transport corridor. Such measures reduce the visual and automobile pollutants within the areas traversed.

There is some difficulty in placing LRT operation in existing streets, particularly in cities that no longer have street railway operations or laws that effectively promote LRT. In some cases, public service commissions have set unrealistically low operating standards because of their inexperience in regulating this mode. The use of mixed-traffic lanes was considered acceptable in outlying areas where congestion infrequently occurred. Within the central city area, preferential treatment through traffic signals or actual physical barriers was desired to maintain reliability and productivity for LRT operations. Speed limits for other powered vehicles were considered to be applicable to LRT vehicles within the street as long as the velocity was not more than 70 km/h (40 mph).

The participants agreed that standards for grade separation of LRT at principal perpendicular avenues and arterials should be developed. If LRT systems operate at headways of up to 6 min, there seemed to be little difficulty in maintaining surface-level crossing of principal arterials. In the case of interstate highways or expressways, more expensive solutions would be required. LRT has the ability to use variable speeds or to dampen its performance when required to do so by other considerations, although the latter should be extremely limited since greater reliability is considered a specific asset of this technology. However, in mall operation, for example, LRT should not be operated at speeds higher than 24 km/h (15 mph); there are various methods to enforce such speed limitations. In mixed traffic, some physical