

Institutional Aspects of Bus Rapid Transit

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Various facets of intelligent transportation system technology, grouped together under the rubric of Bus Rapid Transit (BRT), offer the possibility of enhancing transit bus operations and the quality of services delivered to transit riders. In concept, BRT combines the speed, comfort, and environmental efficiency of light rail systems with the flexibility, convenience, and relatively low cost of buses. Successful implementation of BRT technology in cities such as Curitiba (Brazil), Ottawa, and Pittsburgh has fueled interest in utilizing these low—or at least lower-cost—strategies to make bus transit more attractive and competitive.



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The most popular strategies for improving service are station area improvements, automated vehicle location systems, advanced passenger information systems, signal priority, and modifications to bus-stop spacing. BRT projects also are using articulated fleets and low-floor vehicles to expand capacity and reduce boarding times. With these and other implementation strategies such as electronic fare payment and automated passenger counting, improvements have been documented in terms of increased ridership, decreased travel times, and other performance measures.

Implementing BRT raises many challenging issues, technical, operational, and institutional issues. A recently completed PATH study investigated BRT institutional issues with respect to their relative level of importance and difficulty of resolution.

Our report investigates BRT through a macroscopic examination (comprising a literature review plus project members' own knowledge and experience), a survey of members of the US Bus Rapid Transit Consortium (<http://www.fta.dot.gov/brt/>) and several Canadian transit properties, and a more focused site-specific examination of three California BRT systems: the Santa Clara Valley Transit Authority, Alameda-Contra Costa Transit and Los Angeles County Metropolitan Transportation Authority.

Where appropriate and possible, our study also recommends strategies for these issues' resolution. The literature review provided insight into the history of bus rapid transit and helped identify potential institutional issues for further investigation. The survey provided information culled from the insights and experiences of planners, administrators, and engineers working for transit agencies, regional planning organizations, or highway and street departments. By design, the survey sample size was relatively small and thus even with a large response rate, survey response analysis was accomplished more descriptively than statistically. The result is an assessment of current opinions on this topic held by people who are most familiar with bus rapid transit systems in their communities, rather than a statistical or scientific study.

Survey Instrument: Design, Administration, and Analysis

By surveying field practitioners, our study gathered real-world experience and a broad understanding of the institutional issues affecting organizations involved with BRT systems. Several dozen issues were identified, grouped as follows, forming the basis of the survey instrument:

- intergovernmental and inter-organizational,
- intratransit property,
- political,
- public relations and marketing,
- funding and finance,
- labor,
- safety and liability,
- planning and land use, and
- physical environment.

The survey was administered to members of the US Bus Rapid Transit Consortium and several Canadian transit agencies employing BRT systems. Survey responses were analyzed to identify the most important and most difficult issues to resolve overall and with respect to two distinct BRT system operational settings (mixed traffic and exclusive facilities), and respondents' organizational affiliation (transit agencies, highway and streets departments, and planning agencies). Recommendations for resolving the issues were also considered.

Overall Findings

Survey responses identified several of the most common and site-independent institutional issues of bus rapid transit systems deemed to be the most important and most difficult to resolve:

- integration of multiple priorities, objectives, and agendas;
- finding political champions to support BRT;
- local and business community opposition to the removal of/restrictions on parking spaces for BRT use;
- availability and acquisition of right-of-way or physical space;
- impacts of BRT on roadway operations;
- concerns over long term funding commitments to BRT;
- gaining community support for transit-oriented development; and
- educating the public on BRT while managing perceptions and expectations.

Integration of Multiple Priorities, Objectives, and Agendas

Integrating multiple priorities, objectives and agendas is often the key to resolving institutional issues. When institutions discuss common-interest issues, each brings to the table their own organizational experiences, cultures, and goals. A "win-win" strategy might not always be achievable, but BRT project members need to acknowledge other agencies' concerns. Modal biases and agendas have historically infiltrated transportation planning. Recently, however, with the recognition that multi-modal transportation systems tend to be the healthiest, we have witnessed greater levels of cooperation. Many transportation organizations, however, still have responsibilities to their respective agencies or jurisdictions, and are still expected to protect their own interests. This enhanced cooperation and continuous dialogue should be encouraged to better under-

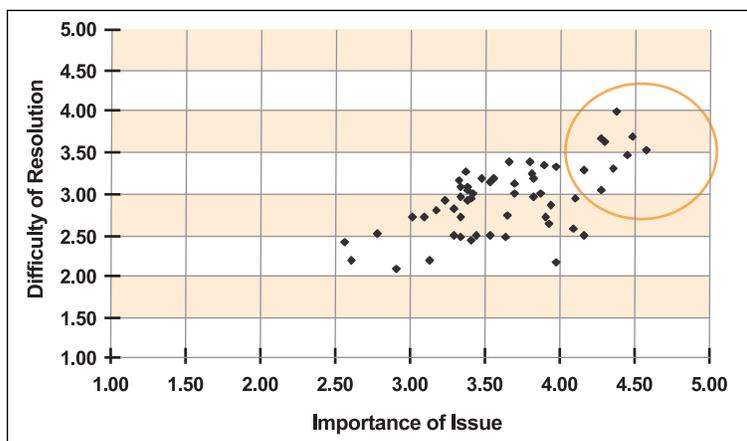


Figure 1. Survey responses were analyzed to identify the most important issues and those most difficult to resolve.

stand stakeholders' concerns and attempt to address them throughout the BRT development and deployment process.

Finding Political Champions to Support BRT

Gaining the ear and voice of influential politicians is one of the most often-cited means of achieving results in implementing a BRT system. Public support is critical though usually not attainable through transportation agencies alone. Finding a political champion to support a BRT initiative may be critical in gaining public support, since politicians are typically the final decision makers, with the clout to produce results.

Roadway-related Issues

The following three issues may be covered under the umbrella of roadway-related issues:

- Local/business community opposition to removal of/restrictions on parking spaces for BRT use
- Availability and acquisition of right-of-way or physical space
- Impacts of BRT on roadway operations

BRT is intended to provide the high-quality service associated with rail transit at a much lower price. In many BRT projects this is accomplished by providing buses with exclusive or nearly exclusive right-of-way, so operations are unaffected by urban-street congestion. However, obtaining the required right-of-way may be difficult. Most BRT projects operate at least partially in developed urban areas where physical space for transportation improvements may be scarce. In several projects this space comes from currently utilized roadway lanes or from existing parking lanes. BRT roadway facility operators (typically municipal street departments or state

continued on page 12

Bus Rapid Transit

continued from page 7



Los Angeles County Metropolitan Transit Authority and the City of Los Angeles Department of Transportation have partnered to implement new Metro Rapid express bus lines. Metro Rapid service focuses on major destinations and transfer points, with stop intervals lengthened to every 0.8 to 1.0 miles.

Expansion to corridors with exclusive busways is being considered.

Departments of Transportation) are interested in how BRT operations would affect their facilities. In cases where projects look to utilize roadway space that is currently on-street parking, businesses and residents may be opposed to the “loss” of parking, even if it is only during peak-periods. Therefore a major concern is the availability of physical space to accommodate BRT operations. Proper consideration must be given to identify if there are competing interests for space and how BRT operations may impact these facilities.

Concerns Over Long-Term Funding Commitments to BRT

Is BRT merely the “flavor of the month?” What are the implications for transit agencies should a BRT concept fall out of favor? Some BRT projects will require a great deal of capital investment, often requiring transit agencies to shoulder the risk of having greater capital to maintain without recovering sufficient additional revenue to cover those costs. Such operating and maintenance costs may make transit agencies reluctant to embrace BRT. Until there are domestic success stories and the federal government shows a firm commitment to the program, many transit agencies may proceed cautiously.

Gaining Community Support for Transit-Oriented Development

Many BRT projects have incorporated land use strategies to encourage and reinforce transit usage.

However, for most outside the transportation and planning communities, the concept of transit-oriented development (TOD) is new. For many, higher density and mixed use means more crowding and greater congestion. Attempting to garner public support for TOD could be difficult, especially if there are not many local examples to aid the public’s understanding. Proactively educating the public on this subject may bear fruit to avoid future public opposition. Allaying fear of the unknown is often a responsibility that must be borne when presenting an untested concept to the public.

Educating the Public on BRT, and Managing Perceptions and Expectations

Transit agencies must carefully present BRT to the public and to decision-makers in order to maintain support and interest for the program. Setting unrealistically high expectations can lead to disappointment and a loss of support. Agencies must balance between “hype” and actual results.

Operational Setting

The physical setting in which a BRT system operates, whether busway, expressway, bus lanes on arterials, or in mixed traffic, is an important system attribute. We investigated whether the operational setting raised specific institutional issues. Operational types were aggregated into two distinct families: mixed traffic and exclusive facilities. Each completed survey was identified with one of these two families, based on the predominant operational setting of the corresponding BRT project (since a BRT system might have different settings along its routes).

Mixed Traffic

Survey respondents representing mixed-traffic BRT systems identified the following issues: street and highway departments having to relinquish control of their infrastructure, reaching agreement or consensus on bus stop/station area enhancements, and capital costs associated with BRT. The first two issues are clearly associated with a mixed-traffic type of operational setting. Mixed-traffic systems tend to be upgrades of existing systems. Exclusive facility systems, however, tend to be new systems (often built on unused rail right-of-way) and their costs are more likely compared to such capital-intensive systems as light rail transit, so capital costs may be of greater importance for mixed traffic systems than for exclusive facilities.

Exclusive Facilities

Survey respondents representing exclusive facility BRT systems identified the following issues: viewing BRT as a top down solution to a problem, local and community opposition to BRT, lack of empirical evidence on BRT's effects on land use, and potential developers' perception of BRT's lack of permanence as compared to rail. These are more regional than local issues. Because exclusive facility systems are generally larger in scale and scope than mixed traffic systems, especially relative to required infrastructure and capital, it is not surprising that successfully implementing these systems requires a regional perspective on planning, development, and land use.

Organizational Type

Survey participants' responses reflect their organization, its objectives, agendas, and business cultures. We examined responses by organizational type to identify differing values, priorities, and perceptions. Organizational types included transit agencies, highway/street departments, and planning agencies.

For transit agencies, issues deemed the most important and difficult to resolve included responsibility for enforcement on bus lanes/ busways, and educating the public on BRT and managing perceptions and expectations. Maintenance responsibilities for shared infrastructure and hardware/software was one of the most important associated with street and highway departments. For planning agencies, the following issues were highlighted: reaching agreement or consensus on bus stop/station area enhancements, educating the public on BRT and managing perceptions and expectations, gaining community support for transit oriented development, and perceived or actual competition of BRT with rail transit.

Recommendations for Resolution of Issues

Respondents recommended action to help resolve their most important issues. They emphasized marketing and public relations, public outreach and education, stakeholder participation, creation of new institutional entities, and studying land use and planning policies. Reference was also made for the need to quantitatively document the impacts, both benefits and costs, of BRT. Calls were also made to develop solutions to various potential negative impacts or disbenefits of BRT, such as excessive noise, vehicle emissions, and safety-related problems.

Respondents also thought it would be very important for study findings to be fully communicated both to local jurisdictional decision-makers and the public who live in the communities or along a specific corridor most impacted by a BRT system implementation. Also of particular import, from the respondents' perspective, is the need to welcome and solicit input from a multitude of stakeholders to build as large as possible a constituency of political supporters within the affected community for a proposed BRT system.



Conclusions

Our study gleaned the insight and expertise of individuals who have experienced these BRT issues. The results should offer guidance in anticipating future problems and developing strategies to solve them. Follow-on work in this area will include in-depth site-specific case studies of BRT systems to more thoroughly probe into the institutional environment of bus rapid transit. In this way, our research should be able to offer guidance to practitioners involved with bus rapid transit systems. ■

References

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In Silicon Valley, the Santa Clara Valley Transit Authority's Line 22 "Bus Rapid Transit Corridor" intersects the north-south Guadalupe Light Rail Line.