BUS RAPID TRANSIT EVALUATION

PROBLEM STATEMENT

In 1972, a special taxing district determined by a referendum for the purpose of encouraging redevelopment planning and programming was assigned to the Downtown Development Board (DDB). Into the early 1980s, Orlando continued to express interest in promoting downtown revitalization and determined it would be achieved by providing adequate infrastructure development, including parking. Understanding the importance of pedestrian accessibility and increased development capacity needed to encourage redevelopment in the centralized downtown core, the DDB and the Community Redevelopment Agency emphasized the concept of perimeter parking. Once this idea was adopted, the need for a quick and reliable transportation alternative was eminent, and it ultimately resulted in the conception of the LYMMO Project.

Research was thereafter needed to evaluate, document, and analyze the Lynx LYMMO Bus Rapid Transit (BRT) project. Only through careful evaluation of the effects of the LYMMO BRT project and its unique features will it be possible to determine which features are the most effective in certain contexts (e.g., type of service offered, level of transit demand, size of the region, passenger amenities used, and ITS).

OBJECTIVES

The objective of the evaluation was to document and assess the Lynx LYMMO Bus Rapid Transit (BRT) service as one of the newest and most innovative applications of BRT in the US. The first goal was to provide a comprehensive profile of LYMMO system, from inception to operation. The second goal was to evaluate the performance of LYMMO by identifying current performance strengths and weaknesses, customer satisfaction, effectiveness of technology in meeting original project goals, and benefits of LYMMO to the Downtown Orlando and Central Florida community. The third goal was to assess LYMMO's various technology applications, its financial feasibility as compared to alternate public transit modes considered for Downtown Orlando, its operational performance, and its overall performance in meeting the original goals of the project and of the Federal Transit Administration's BRT Demonstration Project.

FINDINGS AND CONCLUSIONS

The results of the evaluation demonstrated that the Lynx LYMMO BRT project has been successful at meeting all of its original goals and objectives. The project has

- reduced congestion (i.e., vehicular trips) in downtown core
- lessened demand for parking in downtown core
- encouraged more transit use and pedestrians in downtown
- increased mobility and accessibility to major downtown destinations
- enhanced quality and public perception of Downtown Orlando
- allowed for additional downtown development capacity

In addition, the evaluation revealed that the Lynx LYMMO BRT project has been successful at meeting all of the objectives of the FTA's BRT Demonstration Program. The project has

- improved bus speeds and schedule adherence
- increased ridership as a result of improved bus speeds, schedule adherence, and convenience
- minimized the effect of BRT on other traffic
- isolated the effect of each BRT feature on bus speed and other traffic
- assessed the effect of BRT on land use and development

BENEFITS

This project has resulted in many lessons learned and in the identification of the system's features that are transferable. The BRT features that contributed to the success of the LYMMO BRT project and that are most likely to succeed in other locales are simple route structure, frequent service, headway-based schedule, less frequent stops, level customer boarding and alighting, public art vehicles, bus-only signal phasing, exclusive bus-only lanes/right-of-way, coordinated land-use planning, no fare to ride, enhanced bus stations, clean fuel vehicles (compressed natural gas or CNG), low-floor vehicles, Passenger Advisory System/Automated Vehicle Location, Transit TV Network, passenger information kiosks at stations, arrival time of next bus, extensive street-scaping and beautification of route, and peripheral parking.

Since its inception, the LYMMO BRT system has enjoyed considerable success. Nevertheless, system partners need to continue working together to better manage service, improve the consistency of the service, and look for ways to improve the customers' overall riding experience.

The most important aspect of a proper evaluation is the availability and reliability of data. The staffs from Lynx, the City of Orlando, and the DDB were helpful in providing assistance and much of the data during the evaluation of the Lynx LYMMO BRT system. However, it became apparent during the evaluation process that historical and performance-related data were not always available and, when available, were not in sufficient detail. This data gap caused many of the tasks of the LYMMO BRT project evaluation to be more subjective than objective in nature than as originally scoped. While historical data related to the construction of the project was available, data was not systematically collected since service inception. The collection of such data would have allowed for before and after comparisons of the performance characteristics of the previous Downtown Orlando circulator (*FreeBee*) and the LYMMO BRT system. One valuable lesson learned from the LYMMO BRT evaluation is that (particularly as the FDOT and the Federal Transit Administration move forward with funding for the planning, construction, and operation of BRT systems) there is a critical need for data collection to begin immediately and systematically in order to allow for a detailed evaluation of the effectiveness of specific BRT components and the effectiveness of the overall BRT system.

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