

EXECUTIVE SUMMARY

Delivery of Tren Urbano Stations as Strategic Urban Nodes

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Research Objectives

This thesis project makes recommendations for the delivery of urban mass rapid transit stations. The focus of this research project is on identifying methods and techniques for the public sector, where and when appropriate, to work with the private sector to deliver rapid transit stations as strategic urban nodes. This research has been conducted within the context of : a) decreasing availability of public funds for infrastructure procurement; b) inefficiencies of public sector infrastructure procurement in the U.S. in the recent decades; and c) an increasing desire, particularly in the U. S., to create more integrated transit/city form.

The other research objective is to make recommendations for delivery of strategic urban rapid transit node stations along the Tren Urbano alignment in San Juan, Puerto Rico.

Background and Motivation

Transit agencies have at their disposal a variety of techniques and possibilities for enhancing transit running the gamut of changes in service offered, to the use of new technologies, to innovative financing techniques, to land use and zoning actions, to the establishment and refinement of appropriate and effective procurement strategies. A primary motivation for an examination of these issues is that the public and private sector each possess unique and specific skills and capabilities that, if "married" in a suitable fashion, can create a base from which to provide a prominent and economically viable product. The desire is to bring these two players to the table in such a way as to deliver urban mass transit stations that are economically viable and that meet goals and objectives of the parties involved.

Methodology

To achieve the above mentioned objectives, the existing research and literature available on this subject has been reviewed. Seven case studies have been identified and analyzed with respect to their mechanisms of delivering mass transit stations as strategic urban nodes. The findings and conclusions of the analysis are

used to make recommendations for delivery of strategic urban nodes on Tren Urbano.

Literature Review

As a framework for examining the potential of public private delivery of rapid transit stations, four key questions are addressed. How can/should government policy be structured so as to facilitate private investment in infrastructure? What motivates the private sector to invest in “public” infrastructure? What is/are appropriate delivery methods? How to align the interests of key players involved? The literature review addresses these questions and discusses about the theory and techniques used in the public – private delivery of rapid transit stations.

Case Study Analysis

Seven transit agencies, each with its own strategy for implementation, have been examined. These are : Metropolitan Atlanta Rapid Transit Authority (MARTA), Massachusetts Bay Transportation Authority (MBTA), Metro de Caracas, East Japan Railway Company (JR East), Miami Metrorail, Toronto Transit Commission (TTC) and Washington Metropolitan Area Transit Authority (WMATA).

These case studies have been analyzed to determine what measures should be taken to ensure the successful creation of strategic urban nodal stations on the Tren Urbano alignment. Each case study has been examined with respect to the transit agency’s fundamental approach to rapid transit station delivery using Miller’s quadrant analysis as a guideline. Specific techniques to deliver stations as strategic urban nodes with the private sector as a key player have been identified and evaluated.

Findings from Case Study Analysis and Literature Review

Seven case studies have been examined with respect to their station delivery strategies. The lessons fall into seven broad categories which are briefly discussed here.

The Role of Regional Planning

Strategic urban node rapid transit stations are defined in terms of their connection and interaction with their surrounding urban fabric, or their “zone of impact.” By increasing urban mobility and accessibility within this zone, a transit network has the potential to exert tremendous influence on the affected population in a variety of ways , including economically, socially, and environmentally.

As indicated in the case study of the TTC, regional planning has been a major force in the evolution of the urban mass rapid transit network. The Ontario

Provincial, recognizing the potential of the urban subway, set about an extensive planning effort to provide a framework for the evolution of rapid transit in Southern Ontario. It was within this planning context that the TTC evolved into a successful intermodal transit networks in the world.

Both Washington D.C and Caracas benefited greatly by early planning effort which consolidated visions of their respective transit systems as well as guided the creation of the key strategic nodes around which the rest of the system would be defined and delivered.

Precedence of "System" versus Precedence of "Discrete Elements"

Two approaches to alignment and nodal selection that emerged through the case studies. In the "system" approach, the agency and the political powers that be concentrate their efforts on determining, first and foremost, the transit alignment, after which a set of nodes is superimposed onto that alignment. In the "discrete elements" approach, the agency will actively identify the absolutely essential key nodes and then superimpose the alignment onto those nodes. The difference between these two strategies can cause highly different results as demonstrated in the cases of Toronto, Atlanta, and Caracas.

Public – Private Boundary

In the case studies there are a wide variety of interpretations of what should be planned, designed, delivered, and operated by the public and private sectors respectively. The case studies imply that the more integrated a rapid transit station is into its physical and economic surroundings, the more successful it will be at attracting ridership and increasing the possibility for bi-directional flow creating a more robust strategic urban node. Caracas has delivered a successful network of strategic urban nodes with a clearly demarcated boundary between public and private with respect to delivery.

Private Sector as Strategic Partner

The case studies indicate that private sector has the potential to play a key role in this process in certain instances. The case of the JR East Railway company is the only one of those studied in which the private sector is fully integrated into the delivery process because the private sector is the only party delivering the "public" product.

Station Area Strategy

The delivery of a rapid transit station as a strategic urban node can only be achieved through a clear and consistent station area strategy, evident in the case studies. It involves problem definition followed by taking up a station area "development potential" study as were performed by MARTA with its Transit

Station Area Development Studies. Crucial to the development of a consolidated strategy is the determination of a station functional type and a clear policy with respect to development. The effective delivery of stations is often constrained due to land acquisition problems and institutional fragmentation. These need to be effectively resolved.

Institutional Orientation of the Transit Agency

There are many ways in which the transit agency may orient itself to establish an effective means of delivering rapid transit stations. Through the case study four patterns of roles which agencies play have emerged. These are : facilitator, entrepreneur, leverager and venture capitalist. Each one has implications with regard to the institutional structure of the agency, and, in particular, the means by which the agency interacts with private sector players in the process.

The Benefits of Nodal Strategic Development

By leveraging the skills of the private sector, the public sector can focus on its own inherent capabilities to facilitate the creation of rapid transit stations that are successful with respect to mix of uses, aesthetics, environmental quality, security, and convenience. The “transit/village” model, the “streetcar suburbs” and the JR East “Station Complex” most closely fit the model of a truly integrated strategic node with private sector and public sector interests interacting intimately in the delivery process.

The Case of San Juan - Tren Urbano

The \$1.2 billion Tren Urbano system has a 14 mile alignment which will connect Bayamon and Santurce. There are many opportunities along this alignment for the delivery of strategic urban node rapid transit stations. On the basis of criteria identified through literature and case study analysis, the Hato Rey Corridor, in the first phase of the Tren Urbano alignment, has been selected for developing strategic urban node rapid transit stations.

The selected corridor has been evaluated with respect to its development potential, accessibility, land ownership, regional advantages and budget constraints.

Conclusions and Recommendations

Viewed individually, each of the stations along the Hato Rey corridor presents unique opportunities to create strategic urban nodal stations. The task for Tren Urbano is to decide how this opportunity can be leveraged and included in the delivery process. To achieve these goals, a series of options are provided both in the short term (phase I of the alignment) and in the long term (subsequent phases). These are based on the findings of the analysis of case studies and literature review.

In conclusion, Tren Urbano stations can become strategic urban nodes if they are planned and delivered properly. This will involve development of station specific strategies that serve to optimize the delivery process such that a network of strategic urban node evolves, each one integrated into its surroundings economically and physically.

The best way to ensure high ridership is to create a true strategic urban node. This requires that delivery of the station be tied to other activities and functions, some of which the transit agency or other public sector entities can perform effectively. First, the agency must determine which tasks it is best equipped to perform. It must work to coordinate and facilitate the delivery of the entire product. As a strategic urban node is a highly complex product, it requires the expertise and skills from a variety of disciplines. In this vein, the private sector can prove to be an advantageous ally in the delivery process. In this context, each sector stands to gain substantially provided it is ensured that the unique capabilities of each sector are permitted to flourish within the bounds of station delivery.

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