

**The Role of a Transit Agency in Station Area Development:
A Case Study of Tren Urbano, Puerto Rico**

by

Munsun Park

B.S., Conservation and Resource Studies, 1993
University of California at Berkeley

Submitted to the Department of Urban Studies and Planning
in Partial Fulfillment of the Requirements for the Degree of

Master in City Planning

at the
Massachusetts Institute of Technology

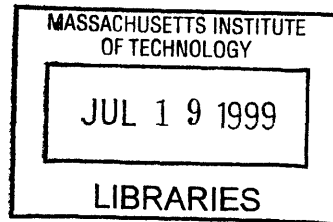
June 1999

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Signature of the Author
Department of Urban Studies and Planning
May 20 1999

Certified by
Joseph F. Coughlin
Principal Research Associate, Center for Transportation Studies
Thesis Supervisor

Accepted by
Paul Smoke
Chair, Master in City Planning Committee
Associate Professor, Department of Urban Studies and Planning



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ABSTRACT

The objective of this thesis is to examine the role of the transit agency in effecting station area development. Research for this thesis is motivated by the future operation of Tren Urbano, Puerto Rico's first urban heavy rail system with an opening date in early 2002. As the agency responsible for Tren Urbano and motivated by a number of reasons including the goal of capturing additional revenue sources, the Puerto Rico Highways and Transportation Authority (PRHTA) submitted a bill in 1998 to authorize the agency to participate in land acquisition and development activities within station areas. This thesis explores how a transit agency such as PRHTA can coordinate with other stakeholders, particularly municipalities that are seeking planning autonomy from the central government Planning Board. This thesis consequently examines how the ability of a transit agency to effect station area development may be influenced by an expansion of its development authority, as well as by the changing autonomous status of municipalities.

An attempt to simulate the changing institutional environments was made through a series of hypothetical development scenarios for two pending Tren Urbano stations in order to evaluate PRHTA's ability to effect different station area development strategies. This thesis finds that greater legal authority by PRHTA to acquire and develop additional property does not have a significant impact on developing station areas as assumed in PRHTA's 1998 bill. Additionally, this thesis finds that municipal autonomy appears to be less of a factor in PRHTA's ability to effect station area development as originally presumed in the thesis objective. The scenario analyses generally conclude that decisions regarding station area development occur at the specific parcel or property level, and that although they may require coordination between jurisdictional agencies, they are less affected by the degree of authority or autonomy as originally presumed. Additionally, property ownership appears to influence PRHTA's ability to influence land use development more than PRHTA's own legal authority and the municipality's autonomous status.

This thesis identifies a tier of recommendations to a transit agency such as PRHTA regarding its role in station area development: (1) transit agencies should reach out to neighborhood groups and residents regarding future station area plans; (2) transit agencies should coordinate visions for station areas with local and regional jurisdictions at the earliest stage possible; and (3) should transit agencies decide to actively pursue development activities, they should consider establishing a separate real estate division that would have expertise in developing packages with private developers, such as joint development packages.

Thesis Supervisors: Joseph F. Coughlin, Center for Transportation Studies
Kenneth E. Kruckemeyer, Center for Transportation Studies
Thesis Reader: Ralph Gakenheimer, Department of Urban Studies and Planning

Acknowledgements

I would like to extend my acknowledgements to a number of people and organizations for sharing their professional knowledge and support during the last several months. I am grateful to the three people who took the time to serve on my thesis review committee. Joe Coughlin at MIT's Center for Transportation Studies provided consistent professional support and guidance since research on this project was initiated in September 1998. Without Ken Kruckemeyer and his expansive experience and knowledge of Tren Urbano station areas and Puerto Rico, I certainly would not have been able to advance very far with this research. It was also very gratifying to have someone of Ralph Gakenheimer's credentials in transportation planning serve as my thesis reader, and provide insight and support on my research approach and findings. Finally, Fred Salvucci, despite his incredibly busy schedule, has consistently offered his insider-knowledge on Tren Urbano and the know-how's of Puerto Rico. On numerous occasions, at the drop of a hat, Fred has telephoned Puerto Rico in attempts to make necessary contacts for me and has generously shared relevant and captivating anecdotes of the MBTA's experience in station area development.

The professionals who have been working on Tren Urbano in Puerto Rico were exceptionally generous in offering information and their frank opinions regarding the rail project, planning and urban design visions for the stations, the complex institutional structures, and the political realities that govern actions and decisions throughout the island. Foremost, I attribute the success of the MIT visit to Puerto Rico in January to Lydia Mercado of the Tren Urbano office. Lydia is primarily responsible for organizing the two weeks of activities, ensuring that they functioned smoothly and were relevant to our research. Other people who have been working on Tren Urbano and were exceedingly helpful during meetings include Elmo Ortiz, Manuel de Lemos, Carmen Canino and other Tren Urbano staff and GMAEC consultants. My thanks also go to the guest speakers of *V Encuentro* in January 1999 to discuss other rail systems in their countries, including David Gouverneur of Caracas, Brazil whose genuine dynamism and conviction regarding the merits of planning reaffirmed the value of the planning profession.

There are other professionals in Puerto Rico who have unfailingly shared their wisdom of the historical and current planning environment on the island and its distinctive communities to me and other students, most notably Anibal Sepúlveda, Professor of Planning at the University of Puerto Rico. Other people to whom I wish to extend my appreciation to include Esteban Sennyey, Professor of Architecture at the University of Puerto Rico, and Ariel Felix and Miguel Pellot of the municipality of San Juan.

The students at both the University of Puerto Rico and MIT will leave a lasting impression with me. The planning students at UPR in particular – Lisa Fernandez, Criseida Navarro Diaz and Emilie Viqueira – shared their candid insights on the planning and political process and showed us a great time in Old San Juan.

And not be forgotten are my friends, peers and research cohorts who were with me from the onset, through the Friday Tren Urbano meetings, thesis prep, the Puerto Rico visit, and this last push to the end: Eryn Deeming, Sebastiano Parmegiani, and especially Noah Berger for his persistence and conviction that I really do love transportation. The DUSP/Tren Urbano pack... making it happen with transit.

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Chapter 1

Introduction

1.1 Background

Modern urban rail transit systems constructed in the United States since the early 1970s have been constructed in increasingly challenging physical and institutional environments. Unlike older heavy rail systems such as those found in New York City, Boston and Chicago, more recent systems have been built in urban environments that are physically less dense and geared more towards private automobiles. Although urban heavy rail systems have been operating since the 1970s in large metropolitan regions such as San Francisco, Washington and Atlanta with varying successes, their ability to maximize ridership is hampered by the patterns of low-density development in the outlying parts of the region. Constructing urban rail systems in metropolitan regions with lower densities have contributed to the cost of construction and operation; extending alignments to areas with lower densities have added to the difficulty of attracting passengers and subsequently, contributing to the total cost of the system. There are a number of other reasons that contribute to the challenges of constructing and operating these relatively recent urban rail systems. Among them are a strong societal attachment to the private automobile, the subsidies that are provided for auto travel, and the general demise in public investment in mass transit.

1.1.1 Tren Urbano, Puerto Rico

These problems are no less evident than in Puerto Rico, an island that has been plagued by patterns of low density urban sprawl and a heavy reliance on automobiles, similar to trends found in metropolitan regions throughout the United States. With a population of 3.6 million U.S. citizens, the island of Puerto Rico has 146 cars per mile of paved road, the highest ratio in the world and three times more than in the United States. The urban core of the San Juan metropolitan area alone has 4,286 cars per square mile although the population density in the metropolitan area is 3,410 persons

per square mile.¹ Patterns of low density development, a heavy reliance on private automobiles, and an inadequate mass transit system have had their toll on Puerto Rico, particularly in the San Juan metropolitan region.

In response to these mounting problems that have increasingly hampered the quality of life on the island, Puerto Rico has embarked on the construction of the island's first urban heavy rail system. Phase I, the first alignment of Tren Urbano, is currently being constructed in the San Juan metropolitan region and will traverse three municipalities and have 16 stations. Construction of Phase I and its stations is projected to be completed in 2001 with an official "Opening Day" in November, 2001.² Proposed future alignments will connect other parts of the San Juan metropolitan region, including historic Old San Juan, Luis Muñoz Marín Airport, and the suburban municipality of Carolina. Early ridership projections estimate that Tren Urbano will carry approximately 250,000 passengers by 2010.

1.1.2 Puerto Rico Highways and Transportation Authority

The Puerto Rico Highways and Transportation Authority (PRHTA) is responsible for the financing, construction, operations, and maintenance of Tren Urbano, as authorized by the Puerto Rico Legislature in the Puerto Rico Highways and Transportation Act of 1991. The Act redesignated the then-Puerto Rico Highways Authority to the current PRHTA and allowed the Authority to take on the duty of operating the island's first metropolitan heavy rail system. The Puerto Rico Highways Authority was established in 1965 as an independent public agency authorized "to construct or acquire roads, speedways, bridges, tunnels, parking facilities and other facilities necessary or desirable in connection with the movement of vehicular traffic" within the Commonwealth of Puerto Rico.³

In the 1970s, the Highway Authority's responsibilities were expanded for the first time to include oversight of the AMA bus system, the public bus system for the San Juan metropolitan region; consequently, the agency's focus was broadened from highways and roads in the 1960s to the inclusion of the public bus system in the 1970s. Tren Urbano represents an even further expansion

¹ Tren Urbano presentation, "Transit in San Juan," October 1998.

² More recent unofficial accounts project that the Opening Day may be delayed to early 2002.

of the Authority's original scope of responsibilities. The substantial reallocation of PRHTA's budget to transit has consequently motivated PRHTA to seek other sources of revenue, including plans to capture potentially higher real estate values of property around Tren Urbano stations. This issue of revenue-seeking by public agencies such as PRHTA will be explored in greater detail in subsequent chapters of this thesis. With over thirty years of experience as an Authority for highways and roads, the construction and operation of Tren Urbano requires a significant investment in financial resources and professional expertise.

One of the areas that PRHTA has had minimal experience and responsibility in its 34 years as an Authority is in land use planning and development. Recognizing the need for increased involvement in shaping land use patterns and development around Tren Urbano stations, PRHTA recently proposed legislation that would authorize PRHTA with more land acquisition and development control within a one kilometer radius of stations. The bill was presented to the Senate of Puerto Rico, 4th Ordinary Session of the Legislative Session, on November 2, 1998. The bill would amend the Puerto Rico Highways and Transportation Act and extend PRHTA's current powers to acquire, develop, lease, and/or expropriate land around its transit or transportation facilities.

This bill raises important issues regarding the role that a transit authority should have in the development and use of land and property around stations. Chapters 3 and 4 of this thesis indicate that the active involvement in station area planning and development is key to effecting any potential transit-supportive development at all around stations. However, as this thesis will also explore, the level of involvement by a transit authority such as PRHTA may be influenced by other factors such as legal restrictions, specific characteristics of the station area and the metropolitan region, and the institutional environment.

1.1.3 Land Use Planning Environment

The PRHTA bill proposes to expand the Authority's powers to encompass real estate activities as a necessary strategy in effecting land use and development patterns around stations. Whether PRHTA utilizes its expanded control over land around stations may be affected by a number of factors. In particular, previous research on Tren Urbano suggest that PRHTA will need to

³ Commonwealth of Puerto Rico, H.B. 327, Act. No. 74, Fifth Legislature, 1st Regular Session. Approved June 23, 1965.

coordinate closely with the municipalities and island-wide Planning Board that may also have jurisdiction over station areas. The Phase I alignment of Tren Urbano crosses through three municipalities: San Juan, Guaynabo and Bayamón. Additionally, *La Junta de Planificación*, the Planning Board for the Commonwealth of Puerto Rico, exerts the most decision-making authority regarding planning and development on the island.

The current planning environment in Puerto Rico presents a unique opportunity to evaluate PRHTA's coordination tactics with municipalities and the Planning Board. Since 1991, Puerto Rico has been in the midst of a major shift from being a highly centralized Commonwealth, to a more decentralized island in which municipalities have more local autonomy over planning and fiscal responsibilities. This transition is no less evident than in the transfer of planning authority from the Planning Board to the municipalities. In 1991, *La Ley de Municipios Autónomos*, or "The Law of Autonomous Municipalities," was passed that initiated the process for municipalities in Puerto Rico to acquire more autonomy at many levels, including planning and development decision-making.

1.2 Thesis Objective

Many of the factors which have influenced development around transit stations over the past thirty years differ from those that shaped the nature of transit oriented development at the turn of the century.⁴ Construction of a rapid transit network provides the opportunity to orient local and regional development to areas in proximity to stations. However, simply providing transit access will not ensure transit oriented design around stations and complementary land uses among station areas. The factors which influence transit station area development are often the result of policy decisions on the local, regional, and federal levels that determine the nature, type, and extent of station area development.⁵ Other equally important factors, as Chapter 3 discusses, include local and regional market conditions that may determine the extent of development around stations.

The objective of this thesis is to examine the role of a transit authority in effecting station area development. Because transit authorities have traditionally been considered to be in the

⁴ Jeffrey Sriver, *Factors Influencing Land Development Around Rail Transit Stations* (Cambridge, MA: Massachusetts Institute of Technology, 1995).

⁵ Ibid.

business of operating a transit system and less so in real estate, land use planning and development activities, many authorities historically have had little experience in station area development. The general belief that transit authorities should focus on transit activities and not on planning and real estate activities is supported by existing laws that limit transit authorities' legal abilities to participate in development activities, as well as by a general public distrust in their role in development. In addition to minimal experience, the ability of a transit authority to effect station area land uses and development may also be influenced by the transit authority's ability to work with other agencies that have some jurisdiction over areas surrounding stations. However, the strategies that a transit authority chooses to implement may vary depending on the institutional environment in which it functions. Coordination with other agencies may depend on the degree of control that both the transit authority and other agencies may retain. Therefore, this thesis also examines how policies may affect agencies' actions to coordinate with each other and ultimately, to effect station area development.

This thesis examines the role of PRHTA in effecting station area development as a case study. The current situation in Puerto Rico provides a unique opportunity to evaluate the approach that PRHTA may need to pursue in effecting desired future land use patterns and development around Tren Urbano stations. As described earlier in this chapter, the island's decision-making environment regarding planning and development is currently in a state of transition for both central government agencies such as PRHTA and the Planning Board, and local jurisdictions such as the municipalities of San Juan, Bayamón and Guaynabo. This thesis will explore the impacts of the two pieces of legislation on PRHTA's ability to coordinate with municipalities in which stations are located, as well as some coordination with the central Planning Board. This thesis will also examine whether the level of authority and autonomy endowed to PRHTA and the municipalities by the two pieces of legislation – the proposed PRHTA legislation and the 1991 *La Ley de Municipios Autónomos*, respectively – will affect PRHTA's use of strategies in promoting station area development.

In addressing the research objective, this thesis will seek to answer the following questions as they apply to the Tren Urbano case in Puerto Rico:

- Can a transit authority with limited experience in land use planning and development successfully effect station area development, at least to the extent that it envisions?

- What kinds of strategies should a transit authority consider implementing in order to promote station area development provided that the political, institutional and planning environments in which the transit agency functions are in a dynamic state?

Because Tren Urbano is currently under construction with the first alignment scheduled to be open for operations in November 2001, it is impossible to determine the actual success of PRHTA in effecting station area development until several years after operation. Studies of other transit systems in San Francisco, Washington, Atlanta and other metropolitan regions suggest that many years must pass before land use changes may actually occur around stations. Such studies on station area development have often compared the land uses pre- and post-transit system development to determine any change. Additionally, the future status and potential impacts of the two pieces of legislation on station area development are currently not known. This thesis uses hypothetical development scenarios for two stations – Bayamón station in Bayamón and Río Piedras station in San Juan – that are in Chapters 5, 6 and 7.

1.3 Motivation

Transit systems continue to be considered an important instrument in improving the quality of life in metropolitan regions on numerous levels: to stimulate reinvestment and revitalization locally and regionally; to improve mobility and travel options for residents; to contribute to the improvement of the natural environment such as air quality; and to reshape public space and create more pedestrian-friendly environments. Many of these sought-after results are tied to the relationship between land use and transportation that will be examined in Chapter 3. Transit authorities are not perceived as the primary agent in pursuing land use planning that is compatible to the rapid transit network and its affiliated stations. The primary responsibilities of transit authorities have traditionally included the complex management of operations and management, whereas planning responsibilities are generally delegated to local and regional planning bodies. Although transit authorities have been involved in the joint development and leasing of property, especially excess transit property, with some authorities being more actively involved than others, the integration of transit and station area land use and development has become an increasingly larger responsibility for transit authorities. This thesis seeks to research the role that a transit authority may have in effecting station area planning and development, particularly if that authority has had minimal experience in that field.

The current construction of Tren Urbano in Puerto Rico provides a compelling opportunity to analyze the participation of a transit authority such as PRHTA in station area development. The implications of the proposed legislation that would significantly broaden PRHTA's powers to encompass land acquisition, development and leasing needs to be studied. For example, whether expanded land control endowed to PRHTA, a transit authority that has limited expertise in that field, will result in a benefit to the system for which the agency is responsible is unknown.

Finally, this thesis is motivated by the on-going research that has been conducted on Tren Urbano and its potential contributions to the San Juan metropolitan region. Although Tren Urbano is certainly not expected to be a panacea to the Puerto Rico's problems of congestion, urban sprawl, and a disinvestment in older, inner communities, it is anticipated that the pending rail system will make some contributions to the quality of life in the metropolitan region.

1.4 Methodology

This thesis makes use of information obtained from literature reviews, analyses of other transit authorities and transit systems in the United States, and information pertaining specifically to Tren Urbano including interviews conducted in Puerto Rico. PRHTA is used as the case study for analysis in this thesis. The review of literature and the experiences of U.S. transit systems is used to understand the relationship between land use and transit, the importance of station area development, coordination between stakeholding agencies, and the tools that were implemented by transit authorities and other agencies to encourage development and land use change around stations.

This thesis applies the information obtained on Puerto Rico, from the literature review, and the experiences of other U.S. rapid rail systems to a series of hypothetical development scenarios for Tren Urbano. Two stations were selected to analyze the potential strategies that PRHTA may use, how coordination with the municipalities may differ, and what potential development outcomes around the stations may be in the long-term future. The scenarios focus on parcels or areas of land that PRHTA and the respective municipality have identified for future development or improvement. Based on the development scenarios provided on the two Tren Urbano stations, findings and recommendations are provided at the conclusion of this thesis.

1.5 Thesis Organization

Following the methodology previously described, this thesis has been organized as follows:

Chapter 1: Introduction – As included herein, this chapter includes the objective of the thesis and an introduction to the Tren Urbano system, PRHTA, and the San Juan metropolitan region.

Chapter 2: San Juan Metropolitan Region – Creating a Context – Because Tren Urbano is the case study in this thesis, Chapter 2 sets a context of the institutional, political and decision-making environment in Puerto Rico. Particular emphasis is made on two pieces of policy that may influence the ability of PRHTA to effect station area development:

- P.de S. 1419 – Proposed legislation that would grant PRHTA more development authority around station areas (submitted to the Puerto Rico legislature in November 1998); and
- *La Ley de Municipios Autónomos*, the Law of Autonomous Municipalities (1991).

This chapter also discusses related issues including the potential for conflict between jurisdictional agencies, the opposing trends towards centralization and decentralization that the two pieces of legislation represent, and the potentially undermining effect of a laissez-faire attitude towards planning and development.

Chapter 3: Literature Review – This chapter summarizes a literature review on the relationship between land use and rapid rail transit networks and its implications on Tren Urbano. This chapter also delves into the myriad strategies that transit authorities and occasionally, other public agencies, have implemented to encourage development around transit nodes. Particular attention is given to joint development as a strategy commonly sought by public agencies such as transit authorities.

Chapter 4: Lessons Learned Elsewhere– This chapter is an extension of Chapter 3 as it focuses on the specific experiences of two transit authorities in the United States: Washington Metropolitan Area Transit Authority (WMATA) and Metropolitan Atlanta Regional Transit Authority (MARTA). The experiences of these two transit authorities provide useful lessons to the case of PRHTA and Tren Urbano station area development.

Chapter 5: Scenario Analyses – The lessons learned from WMATA and MARTA, and the literature summarized in Chapter 3 will be applied to two pending Tren Urbano stations in Phase I. Bayamón station and Río Piedras station are the two selected stations because of some of their similarities, such as their proximity to traditional town plazas, as well as the difference in autonomous status of their respective municipalities. Chapter 5 establishes the framework for the scenarios that are presented in Chapters 6 and 7.

Chapter 6: Bayamón Station – Bayamón station is the terminus station and is located in the municipality of Bayamón, the only autonomous municipality along the first alignment of Tren Urbano. Two hypothetical scenarios are presented in this chapter, each of which includes an examination of the strategies PRHTA may consider implementing based on varying levels of coordination with the municipality.

Chapter 7: Río Piedras Station – This chapter includes four scenarios for Río Piedras station in San Juan. Despite being the island’s capital, San Juan is still in the process of completing the complex process for municipal autonomy. This chapter identifies potential strategies for PRHTA to implement in coordinating with San Juan, and ultimately to realize particular changes around the station.

Chapter 8: Findings – Chapter 8 summarizes the findings of the hypothetical scenarios for the two stations presented in Chapters 6 and 7. This chapter discusses whether PRHTA’s role in implementing different strategies for different scenarios would potentially be influenced by PRHTA’s level of authority, and/or by the amount of planning and development autonomy retained by the municipality. General findings are drawn from the scenarios, lessons learned elsewhere, and the literature review presented in the preceding chapters of the thesis.

Chapter 9: Recommendations and Conclusion – The previous chapter segues into Chapter 9 in which recommendations are presented to PRHTA and the institutional environment in which decisions regarding planning and development around Tren Urbano stations are made. As PRHTA plans for future extensions of Phase I and future alignments of Tren Urbano, some of the findings from this thesis may provide useful in coordinating with other agencies, and implementing particular strategies.

Chapter 2

San Juan Metropolitan Area – Creating a Context

2.1 Significance

This chapter presents an overview of the planning environment in Puerto Rico, particularly within the San Juan metropolitan region. Understanding the past and present institutional and planning structure of Puerto Rico and its respective municipalities is important in realizing the complex decision-making environment in which station area development for Tren Urbano may occur in the future. Institutional and political structures are usually in some state of transition as new policies are developed and old ones are amended. If the Puerto Rico Highways and Transportation Authority (PRHTA) is to have an active role in planning and developing land around Tren Urbano stations, it is particularly important to examine the policies that may directly and indirectly influence the transit authority's involvement.

This chapter focuses on how two pieces of legislation may have consequences on how PRHTA approaches station area development and how PRHTA interacts with different jurisdictional agencies. The first law is a bill submitted by PRHTA in November 1998 that proposes granting more PRHTA control over the use of land around Tren Urbano stations. The latter legislation, *La Ley de Municipios Autónomos*, was approved in 1991 and initiated the process for municipalities to acquire autonomy from the Planning Board, Puerto Rico's central planning agency. The objective of this thesis is to assess PRHTA's role in station area development and how these two pieces of legislation may increase, limit or not have any effect at all on that role. Issues pertaining to both pieces of legislation are discussed in the final section of this chapter.

2.2 Puerto Rico Highways and Transportation Authority

2.2.1 Puerto Rico Highways Authority (1965)

Although known today as the Puerto Rico Highways and Transportation Authority, or PRHTA as referred in this thesis, the Authority originated primarily as a highways and roads authority with no responsibilities over other modes of transportation such as buses and rapid transit. On June 23, 1965, the Puerto Rico legislature passed the Puerto Rico Highways Authority Act that created the Puerto Rico Highways Authority.

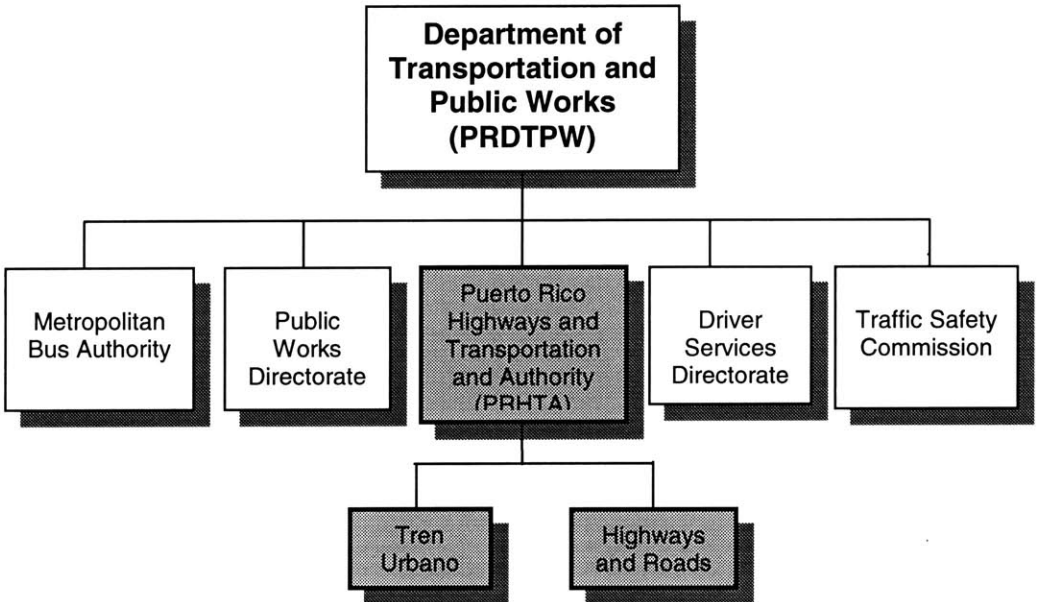
This newly created Puerto Rico Highways Authority was among the few central government agencies to be created on the island after the Planning Board was established in 1942. Although the Planning Board continued to be responsible for almost all planning and development decisions on the island, the creation of the Highways Authority represented a significant shift in how central government agencies needed to coordinate with each other.

2.2.2 Puerto Rico Highways and Transportation Authority (1991)

In 1991, the Puerto Rico Highways Authority was redesignated as the Puerto Rico Highways and Transportation Authority under the Puerto Rico Highways and Transportation Act. The 1991 Act serves as an amendment to the earlier 1965 Puerto Rico Highways Act and attributes “population growth, industrialization, disproportionate urban development, intense automobile use and the lack of parking spaces” for aggravated congestion problems that have increasingly plagued the island, particularly in urbanized areas. The 1991 Act also cites the lack of an effective mass transportation system as an additional contributor to the worsening congestion. The Puerto Rico legislature approved the Act on March 6, 1991 effectively expanding the powers of the Authority to include other modes of transportation such as bus and rail.

Figure 2-1 includes an organizational chart for the Department of Public Works and PRHTA, including PRHTA’s primary responsibilities such as highways, roads, and Tren Urbano,. The incorporation of other public transit systems such as Tren Urbano represents a significant departure from the Authority’s original responsibilities that primarily included facilities and infrastructure related to highways, roads and vehicular movement. The expansion of PRHTA’s

responsibilities raises a range of issues for central governance in Puerto Rico, as well as for the Authority itself. While expanding the responsibilities of the Authority to include public transit, the 1991 Puerto Rico Highways and Transportation Act also represents a concentration of more authority over a broad domain such as highways and transportation within a single agency. This expansion of responsibilities in PRHTA suggests a movement towards centralized governance in Puerto Rico; this movement is particularly noteworthy as *La Ley de Municipios Autónomos* seems to suggest a move in the opposition direction – towards decentralization of responsibilities on the island.



Source: Carlos Colón, "The Puerto Rico Highways and Transportation Authority: A Financial Perspective" Presentation, January 7, 1999.

Figure 2-1: Organizational Chart for the Puerto Rico Department of Transportation and Public Works (PRDTPW) and PRHTA

The 1991 Act, which considerably changed the Authority's scope, has not come without incurring other impacts on the Authority. As a public agency that previously focused only on roads and facilities directly related to roads, the incorporation of public transit also required a redistribution of PRHTA's finances. Incorporating Tren Urbano in particular has drastically altered the Authority's budget as the construction of Tren Urbano for Phase I and for future alignments, its operation and its maintenance requires an enormous financial commitment. As an agency that, prior to the 1990s, invested virtually nothing on transit, is now allocating a considerable amount on constructing Tren Urbano.

2.2.3 Proposed Legislation – P. de S. 1419 (1998)

The reallocation of its budget to public transit has not gone unnoticed by PRHTA. On November 2, 1998, PRHTA submitted a bill to the Senate of Puerto Rico proposing a further increase of its scope of responsibilities beyond the areas of highways, roads and transit. This bill proposes that PRHTA be legally authorized to acquire, develop and dispose of property around Tren Urbano stations:

To amend articles 2, 3, 4 and 5 of the Law No. 74 of June 23, 1965 as amended, known as the Law of the Highways and Transportation Authority in order to authorize this Authority to enter into accords with other entities, public or private, for the development of uses, activities and structures on lands next to the public transit or transportation facilities and in the air space over these, to participate in the income generated, and for these purposes acquire and dispose of lands and properties through sale, exchange, rental or any other manner...⁶

The bill's Statement of Motives discusses the motivations behind amending the original 1965 Puerto Rico Highways Act so that PRHTA would be legally authorized to participate in real estate and development activities around transit facilities such as Tren Urbano. This bill states that transit and transportation facilities bring new opportunities for urban development, increasing the value of properties, promoting commercial activity and stimulating construction and physical improvements in diverse sectors. Consequently, according to the bill, the realization of these potential benefits requires the adoption of measures that permit the planning and guidance of integrated development around PRHTA's Tren Urbano stations.

⁶ Commonwealth of Puerto Rico, P. de S. 1419, Senate of Puerto Rico. Submitted to the Legislative Assembly, 4th Ordinary Session, November 2, 1998.

Currently, PRHTA is restricted in how it chooses to use excess transit property for future development. Excess property is the residual land after construction of the alignment and station has been completed. Oftentimes, the excess property was acquired or expropriated from private property owners in order to construct the alignment or station by exercising the government power of eminent domain. However, public agencies in the United States, including those in Puerto Rico, are restricted in arbitrarily exercising the power of eminent domain in order to expropriate private property for public purposes. The risk of an illegal “taking” of private property runs high. This risk is particularly manifest for transit agencies that have been generally prohibited from expropriating land around station areas for real estate development, even real estate development that is deemed to be transit-supportive.

Unless PRHTA uses the excess land for transit-related uses such as park-and-ride lots and stations concessions, the previous property owner has reversionary rights to the property. Transit authorities such as PRHTA, that are legally restricted in its developmental powers, have a few options available to them regarding excess land. Rather than lose the property entirely to the previous owner, it may behoove transit authorities such as PRHTA to use excess property for transit-related uses such as parking lots and minor concessions, in essence, holding onto the property with the prospect of someday developing other uses on the site. Alternatively, the transit authority has the option of selling the excess property back to the previous owner at a reassessed value.⁷ In fact, transit authorities may find, or make the claim that the value of the property has risen as a result of the rail system, thereby commanding a higher selling value; should the previous property owner decide not to purchase back the property, the agency is essentially free to sell the land to a developer or other interested party. Some transit authorities may choose to exercise this option of selling excess land rather than developing transit-related uses on the site. If the transit authority is restricted to using the excess land to transit-uses such as parking lots, as is the case with PRHTA, it may also be in the best interests of developing a strong development environment around the station by selling the excess land. In Chapters 6 and 7 of this thesis, the hypothetical development scenarios for Bayamón station and Río Piedras station take this current legal restriction on PRHTA into account in the analyses. P. de S. 1419, as presented by PRHTA to the Puerto Rico legislature, would effectively remove the development limitation currently imposed by reversionary rights of previous property owners.

⁷ Communication with Fred Salvucci, Massachusetts Institute of Technology, May 19, 1999.

Among the various items that this bill proposes are areas of land for which PRHTA would have direct and almost unlimited authority. The bill proposes both Zones of Influence around stations. A Zone of Influence is defined as “the geographic area within a perimeter of one kilometer of the access or train stations, including the lands and structures situated inside and outside of the right of way acquired for these facilities, as well as the air space over the same... [and] includes, without being limited to, the streets, roads, pedestrian roads, public services, recreational areas, urban structures, planted areas, buildings, structures and facilities as well as all other things necessary.”

Generating new sources of income that could contribute to the financing of operations of Tren Urbano is emphasized as a key a motive for participating in real estate activities such as joint development around stations. As Chapter 3 of this thesis discusses, the use of joint development between public agencies and private developers is not an uncommon approach in raising revenues for public agencies. Without this proposed legislation, PRHTA would essentially be restricted from participating in joint development around Tren Urbano stations, including joint development on excess land. Without the legal authorization of joint development, as proposed, a potential source of property revenue could be lost.

Because this bill is still pending review by the Puerto Rico legislature, whether PRHTA will be able to participate in joint development projects on parcels around Tren Urbano stations is yet unknown. However, PRHTA has already identified some PRHTA-owned parcels in proximity to Tren Urbano stations for joint development in its Opening Day Action Plans. Opening Day Action Plans are preliminary plans that have been prepared by the Tren Urbano office of PRHTA that identify early actions such as streetscape improvements and land development in order to physically prepare the Phase I stations and their environs for Opening Day. The two stations that are studied in Chapters 6 and 7 – Bayamón station and Río Piedras station, respectively – have at least one parcel slated for joint development. The development scenarios presented in these two chapters take into account the possibility that existing legal conditions remain the same, or in other words, that the proposed legislation is not approved.

As of this writing, PRHTA’s proposed legislation is still awaiting review by the Puerto Rico legislature. It is likely, however, that the legislature will vote on the bill in the year 1999. Whether the bill in its proposed entirety will be approved is unknown; there is a possibility that if the bill is

not passed as it is currently written, a modified version in which PRHTA is designated some land control around Tren Urbano stations, may be passed.

2.3 Puerto Rico Planning Environment

2.3.1 Historical Land Use Planning

Land use planning that historically existed in Puerto Rico was primarily localized to individual towns.⁸ This dispersed planning is due in much part to the land use patterns that had evolved on the island. Prior to World War II, agriculture was the primary economy in Puerto Rico and was evident in the physical landscape. As sugar plantations on the lowlands gave way to urbanization and industrialization in some parts of the island such as towns in the San Juan metropolitan region, dispersed patterns of land development followed.

Although early planning on the island was controlled at the local level, policies and other government authority were maintained at the central, island-wide level. The centralized system of governance, with exceptions such as land use planning, is a manifestation of the Spanish-style of governance on this former Spanish colony.

2.3.2 Centralized Planning – Creation of the Planning Board

Despite the planning autonomy that may have been available to towns and municipalities through the 1940s, many of the smaller municipalities lacked sufficient human and financial resources to effectively plan and manage their jurisdictions. In the 1940s, Puerto Rico also began to experience major physical, economic and social changes in the post-World War II era. For example, the island made a committed effort to capitalize on a larger industrial base, subsequently leading to the industrialization of parts of Puerto Rico after the War.⁹

⁸ Meeting with Aníbal Sepúlveda, Professor, Planning Department, University of Puerto Rico, and Esteban Sennyey, Professor, Architecture Department, University of Puerto Rico, January 21, 1999.

⁹ Meeting with Ken Kruckemeyer, Massachusetts Institute of Technology, March 31, 1999.

Another impetus for major change in Puerto Rico that would ultimately have broad consequences on future planning on the island was the creation of a central planning agency. In 1942, *La Junta de Planificación*, the central Planning Board, was created by the Office of Governor Luis Marin Muñoz.¹⁰ In their report, *The Metropolitan Planning Process in San Juan: Past and Present Structure*, co-authors Dorinson and Vivoni present a thorough background behind the creation of the Planning Board. The Planning Board was created with the primary goal of leading a coordinated regional planning effort for the island. Empowered to perform both planning and permitting functions, this new agency was granted broad authority over other public agencies. With its extensive control over the use of land throughout the island, the newly created Planning Board was considered to be the fourth power of government because of its ability to influence public policy to a large extent.¹¹

In 1956, the Planning Board developed the first regional plan for the San Juan metropolitan area.¹² The *Regional Plan for the San Juan Metropolitan Area* states that the “unending urban sprawl prevalent in the San Juan Metropolitan Area should be checked and the Area changed into an organized region where urban and semirural uses will balance each other.”¹³ The Plan is also explicit in targeting the San Juan metropolitan region as the center of economic activity, investment and change; citing San Juan as the “charming capital” of the island, the Plan implies that recommendations for the San Juan metropolitan region would mean a general improvement for the entire island. Seeing the Planning Board as the agent of change and responsible for ending the sprawl that plagued the San Juan metropolitan region, the Regional Plan addressed economic and social concerns, public utilities, housing, population, land use, community facilities and transportation.¹⁴

In the late 1960s, other central-level agencies in Puerto Rico began to conduct their own planning functions independent of the Planning Board; however, because these central agencies

¹⁰ For the purposes of this report, “Planning Board” will be primarily used in place of “La Junta de Planificación,” although the agency is widely referred by both its Spanish and English name.

¹¹ Diana M. Dorinson, and Enrique R. Vivoni, *The Metropolitan Planning Process in San Juan: Past and Present Structure* (Cambridge, MA: Massachusetts Institute of Technology, May 1996).

¹² The Regional Plan was actually prepared by an outside consultant contracted by the Planning Board. However, for the purposes of this thesis, it is inferred that the Regional Plan is a product of the Planning Board.

¹³ Puerto Rico Planning Board, *Regional Plan for the San Juan Metropolitan Area* (San Juan, Puerto Rico: 1956).

¹⁴ Sepúlveda.

worked closely with the Planning Board, decentralization was not an issue at that time.¹⁵ For example, when the Puerto Rico Highways Authority was created in 1965 as a public authority, it was relatively independent of the central government of Puerto Rico, and the Planning Board could not officially direct its activities. The Planning Board subsequently adapted and became a regional coordinator for all island-wide agency plans, insuring that they were consistent with each other and in 1975 this relationship was formalized through legislation.¹⁶ Despite some of these changes that occurred in the central-level government of Puerto Rico in the 1970s, the Planning Board has continued to retain a significant level of authority over planning throughout the island.

Since its establishment, the concentration of planning powers within the Planning Board effectively removed almost all municipal authority over planning and development on the island. All decisions regarding the planning and development of land within municipalities rested with the Planning Board. All development proposals at the local level must be approved by the Planning Board whose decisions may not necessarily be consistent with the municipality's desires. The ability to overrule any plans or wishes at the municipal level represents the major shift from the dispersed local planning prior to the 1940s to the centralized planning since the 1940s.

2.3.3 Decentralization Movement – *La Reforma Municipal*

The centralization of planning authority in the Planning Board persisted for more than 40 years. In the 1980s, the movement, *La Reforma Municipal*, developed among some of the municipalities in Puerto Rico to reverse the trend of centralization towards greater municipal autonomy. The movement, *La Reforma Municipal*, focused on smaller, decentralized forms of government, specifically, among the 76 municipalities of Puerto Rico.¹⁷

2.3.4 Towards Municipal Autonomy – *La Ley de Municipios Autónomos (1991)*

As part of *La Reforma Municipal*, a group of mayors from various municipalities proposed a program that empowered municipalities with more local control of issues including planning, construction permitting and tax collection. *La Ley de Municipios Autónomos*, approved on August 30, 1991, is part of a group of laws that was passed as a result of *La Reforma Municipal*. The Act

¹⁵ Dorinson.

¹⁶ Ibid.

¹⁷ Ibid.

sought to end the dependence of cities and towns on the central government so that each municipality would eventually be able to sustain its own costs through property taxes, *patentes* on sales volume or other revenue sources. By achieving fiscal autonomy, municipalities could undertake additional responsibilities currently handled by the central government.¹⁸ *La Ley de Municipios Autónomos* also established a new planning policy in Puerto Rico, providing a potential maximum degree of autonomy to municipalities. The Act expands each municipality's potential planning capacity by transferring powers from the central government – in particular, the Planning Board – to the municipal level.

La Ley de Municipios Autónomos outlines a complex process for municipalities seeking autonomous status. Among the law's requirements are: the adoption of Territorial Ordinance Plans or land use plans; the creation of municipal planning and permitting offices; the incorporation of public participation in the planning process; the transfer of permitting and planning jurisdictions; and the provision of new tools to promote development. Territorial Ordinance Plans offer municipalities the opportunity to plan their jurisdiction, and in many cases, the first time for municipalities. These plans must be developed and revised by the individual municipality in coordination with the Planning Board and other relevant public agencies to ensure consistency with existing regional or island-wide plans. The Governor of Puerto Rico makes the final decision to approve or deny the Territorial Ordinance Plans as well as whether the municipality will attain autonomy from the central government.¹⁹

Despite the decentralization process that is laid out in *La Ley de Municipios Autónomos*, as noted by Dorinson and Vivoni, the Planning Board will continue to retain the authority to establish its own regional planning initiatives throughout the island. Such Planning Board initiatives will always have priority over any land use plans, such as municipal Territorial Plans. In fact, any affected municipalities, even those municipalities with autonomy, would have to revise their Territorial Plans accordingly to be consistent with any Planning Board initiatives.

Therefore, although *La Ley de Municipios Autónomos* promotes a decentralized planning effort, the central government still maintains a certain degree of power and can override any approved land use plan to fit its own initiatives. This overriding power allows the central government to pursue regional plans such as Tren Urbano with little or no resistance from affected

¹⁸ Pedro Ortega-Arocho, "Wanted: Municipal Reform, Part II," *Caribbean Business*, January 14, 1999.

¹⁹ Dorinson.

municipalities. However, the Planning Board's powers do not exceed those of other central government agencies such as PRHTA. As discussed earlier regarding the evolution of the Planning Board, when the Highways Authority in the 1960s, the Planning Board's authority was restricted and did not overlap onto the Authority's responsibilities. *La Ley de Municipios Autónomos* requires coordination between central government agencies such as PRHTA and the Planning Board. As the Issues section of this chapter discusses, such inter-agency coordination is not necessarily always present despite what the law may dictate.²⁰

2.3.5 Autonomous Status of Municipalities

Although the process of seeking autonomy is rather complex and long, municipalities nonetheless are pursuing planning and fiscal autonomy for the overall benefits of greater jurisdiction in the areas of planning, permitting, and property tax collection. However, as the previous section notes, this independence is also quite limited in many regards because the central government can still impose its authority in a number of ways. A notable example of a central government initiative that will continue to affect many municipalities, regardless of whether these municipalities have acquired autonomy or not, is Tren Urbano by PRHTA. Fortunately, in the case of Tren Urbano, municipalities were strongly in favor of this regional project that has been initiated at the central government level.

²⁰ Ibid.

Among the 76 municipalities in Puerto Rico, only three municipalities to date have completed the lengthy process of acquiring autonomy: Bayamón, Ponce and Carolina. Of these three municipalities, Bayamón and Carolina are located within the San Juan metropolitan region and Ponce is located on the south coast of the island and was represented by former Governor Rafael Hernandez Colón, one of the leading proponents of decentralization. Bayamón is the only autonomous municipality along the first alignment of Tren Urbano. As shown in the map of Tren Urbano in Figure 2-2, the eastern section of the Phase I alignment begins at the Bayamón station in Bayamón.

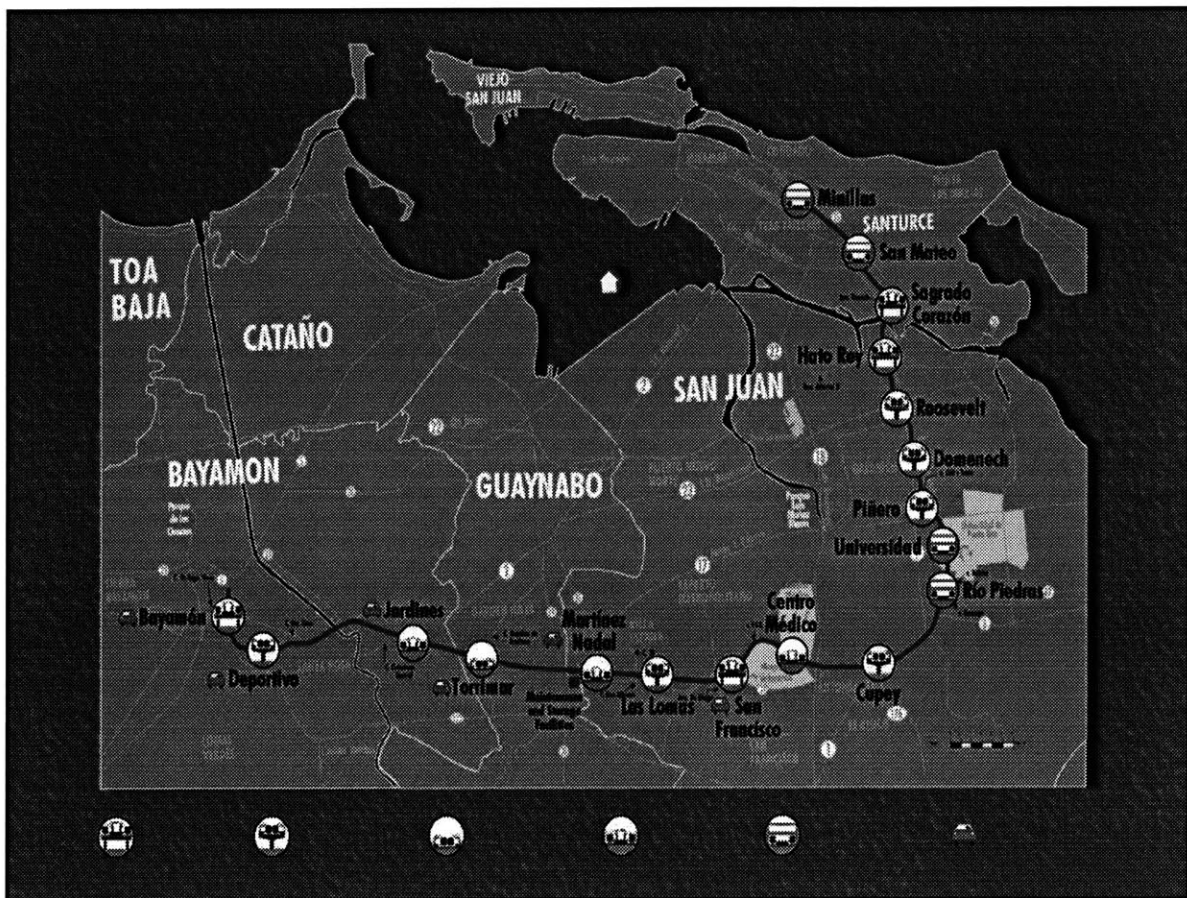


Figure 2-2: Map of Phase I Tren Urbano and municipal boundaries

Phase I of Tren Urbano also crosses through the municipalities of San Juan and Guaynabo. Although San Juan is the capital of Puerto Rico and is the largest city on the island, it has not yet completed the process of acquiring autonomy. San Juan has already submitted some of the requisite Territorial Ordinance Plans to the Planning Board; however, some of the plans have been returned for extensive revisions. The approximate date of completing this process is unknown as decisions regarding the plans rest with the Planning Board and the Governor of Puerto Rico.²¹ Various reasons have been offered by different parties for the delay in granting San Juan municipal autonomy. Despite having large, self-sufficient planning and economic development departments, the large size of the municipality in both territory and population may encumber and extend the autonomy process. Another explanation that has been frequently offered by individuals in San Juan regarding the apparent delays in the autonomy process is the ubiquitous issue of party politics in Puerto Rico. The immense influence of party politics on both small and large issues will be discussed in more detail in the Issues section of this chapter and in subsequent sections of this thesis. The issue of political party affiliation is particularly significant in how PRHTA may need to approach station area development for Tren Urbano. As evidenced by various interviews conducted in Puerto Rico, the political environment will continue to have a major influence on how the San Juan metropolitan region and the rest of the island is planned and developed.

In contrast to San Juan, the municipality of Guaynabo is relatively small in population.²² Lacking the necessary human resources and expertise to prepare Territorial Ordinance Plans within its own municipal departments, it appears unlikely that Guaynabo will complete the autonomy process in the near future. Similarly, other small municipalities in Puerto Rico lack the financial resources and planning departments to prepare the plans required of the lengthy process specified in *La Ley de Municipios Autónomos*; in fact, many municipalities have relied upon outside consultants for assistance in preparing these plans.²³

The proposed Tren Urbano network that includes the Phase I alignment and future alignments is illustrated in Figure 2-3. Although not located along the Phase I alignment of Tren Urbano, the municipality of Carolina is located along Phase II, a future alignment of Tren Urbano. With the exception of Bayamón, Carolina is also the only municipality along any of the proposed rail alignments that currently have autonomy. Other future alignments include extensions to Luis Marin

²¹ Meeting with Ariel Felix, Municipio de San Juan, Departamento de Urbanismo, January 22, 1999.

²² Kruckemeyer.

²³ Meeting with Manuel de Lemos, AIA, MdL Associates, and Consultant to Tren Urbano, January 19, 1999.

Muñoz Airport and Old San Juan, the historic center of San Juan. This thesis examines whether the degree of autonomy retained by a municipality will influence how PRHTA coordinates with that municipality over station area planning and development decisions.

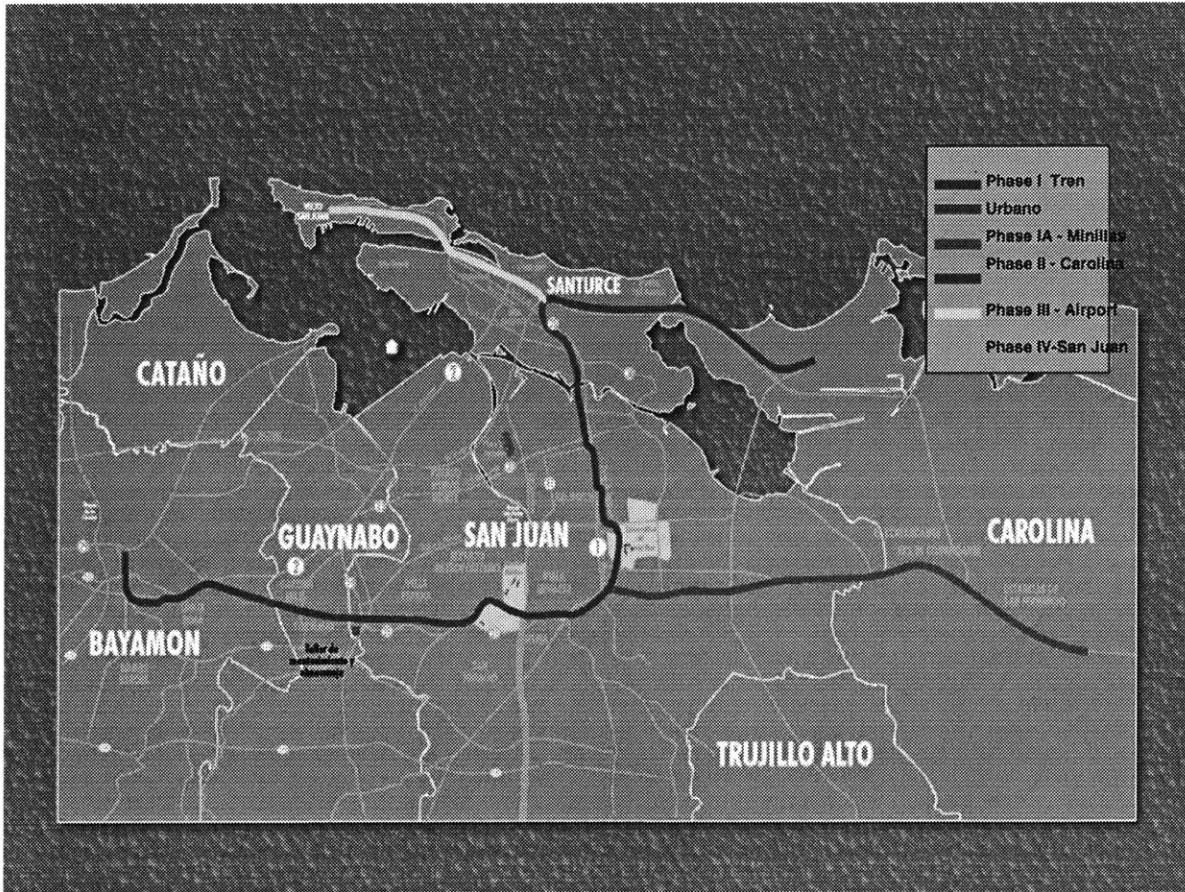


Figure 2-3: Future Tren Urbano network with proposed alignments

2.4 Station Area Planning and Development

2.4.1 PRHTA and Station Area Planning and Development

Involvement in station area planning and development has not been uniform among transit authorities in the United States. However, research summarized in the next two chapters indicates that some degree of participation by the transit authority contributes to land use change and development that is supportive of the transit system. Given that other factors such as strong local and regional market conditions foster development, the transit authority should play a role in channeling the appropriate development to station environs. This section summarizes the current efforts of PRHTA in planning Tren Urbano stations and station areas.

As shown in the PRHTA organizational chart in Figure 2-1, Tren Urbano functions as a separate division within PRHTA. Activities related to the planning, construction and operations of Tren Urbano are housed in a separate Tren Urbano office that is staffed by consultants and PRHTA employees.²⁴ For the purposes of this thesis, any references made to PRHTA and station area development generally imply the work of the Tren Urbano office.

Despite the pending status of the proposed, PRHTA has been actively planning Tren Urbano stations and station areas. Station area planning by PRHTA is occurring at two levels: for Opening Day and for the long-term future. In preparation for Opening Day in November 2001, or early 2002 according to recent unofficial accounts, PRHTA has prepared Opening Day Action Plans for each of the 16 stations along the Phase I alignment. Each plan includes recommendations for action by PRHTA in order to prepare the station and its surrounding area within 400 meters of the station for Opening Day. The major issues that the Actions Plans address include the appearance and safety of the neighborhood for Tren Urbano riders traveling to and from stations. Streetscape improvements, lighting, lot cleanup and fencing are typical actions that are recommended for separate or joint implementation by PRHTA and the municipality. The issue of potentially creating sub-centers and integrating other modes such as públicos, automobiles and buses are also addressed in these plans. The Action Plans also target key parcels of property owned by PRHTA, the municipality or a private

²⁴ As a demonstration federal “turn-key” project, the construction and initial operations of Tren Urbano is primarily led by a team of consultants. The General Management Architecture and Engineering Consultants (GMAEC) is composed of different consulting firms hired exclusively to work on Tren Urbano.

property owner that may help shape the land use form of the station area; for example, tentative proposals for mixed use developments on some parcels are identified, as well as the rehabilitation of properties in disrepair.

In contrast to the specific action items that are included in the Opening Day Action Plans, Tren Urbano has begun “visioning” the long-term land uses along the entire Phase I alignment as well as around each station. The unofficial time horizon for these visions is tentatively set at 25 years into the future.²⁵ Long-term land use plans have been progressively developed by a team of architects, planners and urban designers at Tren Urbano. These plans are prepared at a broader level than the Action Plans as they establish potentially optimal land use patterns around Tren Urbano stations in the long-term future. These plans are based on the premise that it is essential to strategically guide any future development and land use patterns through the use of a bevy of tools.

2.4.2 Municipalities and Station Area Planning

The doctrine of “home-rule” has preserved the planning rights of local jurisdictions in most states in the mainland United States. Land use regulations such as zoning and subdivision regulations are overseen by municipalities. Planning at the regional, state or federal level is generally limited to broad policies; although policies often require that municipalities comply with guidelines, local jurisdictions maintain a large degree of planning autonomy. Planning in Puerto Rico since the 1940s is shown to be quite the contrary, as discussed earlier in this chapter, in which planning and development decisions were made at the central government level. This centralized decision-making environment still occurs today, although the 1991 *La Ley de Municipios Autónomos* established the process towards more municipal autonomy and decentralized planning on the island.

Phase I, the first alignment of Tren Urbano, traverses the jurisdictions of three municipalities: Bayamón, Guaynabo and San Juan. Future alignments of the network will cross through other municipalities, including Carolina, a suburban outlying community in the San Juan metropolitan region. As noted earlier, some of these municipalities have autonomy, having completed the complex process outlined in *La Ley de Municipios Autónomos*, while others are still preparing the requisite Territorial Plans. Bayamón and Carolina are the only autonomous municipalities in the entire proposed Tren Urbano network while San Juan hopes to acquire autonomy in the near future.

Regardless of whether they have attained autonomous status, municipalities have been involved in land use planning at future Tren Urbano station areas to varying degrees. Of the three municipalities along Phase I, the municipality of San Juan has made the most concerted efforts to plan the areas around future Tren Urbano stations. San Juan hired a consultant to prepare studies on station areas including socioeconomic studies.²⁵ However, various officials for the municipality have also stated that the amount of station area planning that has been conducted to date is insufficient to the degree that will be necessary should the municipality want to optimize on the location of stations in neighborhoods, particularly neighborhoods in search of a boost to revitalization. The same officials have stated that San Juan “is behind” PRHTA’s Tren Urbano office in terms of planning for station areas. Municipalities such as San Juan are aware that PRHTA is planning and visioning the station areas although they not familiar with all of PRHTA’s proposed actions. The level of involvement that San Juan intends to have in station area planning also varies along the alignment. In the communities that are older with higher densities, San Juan has a higher propensity to develop station area plans; examples include Río Piedras station and Sagrado Corazón, the terminus station of Phase I that is located in the older, low-income neighborhood of Santurce.

Three stations are located in the municipality of Bayamón. The municipality’s approach has been markedly different from San Juan’s approach to station area planning and development. The municipality has proposed large-scale development projects near some of the stations, including a large sports complex at the Santa Rosa station, the second eastern-most station along the alignment. However, it does not appear that the municipality has prepared land use plans or socioeconomic studies specifically focused on the areas in proximity to the future Tren Urbano stations in its jurisdiction. Ironically, it appears that Bayamón, as the autonomous municipality, is not exercising its planning autonomy to conduct extensive station area plans. The plans prepared by San Juan, on the other hand, will still need to be reviewed by the Planning Board, should the municipality desire to implement some changes prior to acquiring autonomy.

The municipality of Guaynabo has one station, Torrimar station, in its jurisdiction. Guaynabo, a relatively small municipality, has not attained an autonomous status but the municipality has not made a large commitment to preparing the requisite Territorial Plans to the extent that San Juan has. Relatively small municipalities such as Guaynabo often find it difficult to

²⁵ Meeting with Ken Kruckemeyer, Massachusetts Institute of Technology, April 23, 1999.

²⁶ Felix.

acquire the financial and human resources and expertise to prepare the myriad requisite plans.²⁷ Similarly, Guaynabo has not been actively engaged in planning the area around the Torrimar station.

2.4.3 Planning Board and Station Area Planning

The central Planning Board has not been actively involved in the activities of Tren Urbano, including station area planning and has not prepared station area plans as of writing. In fact, previous research on Tren Urbano indicate that the Planning Board has had minimal involvement to date and that coordination and communication between the Planning Board and PRHTA is sorely lacking. In spite of an almost non-existent role in Tren Urbano and station area planning, the Planning Board can still exercise control over proposed municipal plans for station areas under *La Ley de Municipios Autónomos*. Earlier sections of this chapter indicate that the Planning Board virtually has ultimate decision-making authority for land use plans prepared by municipalities. For example, station area plans must be consistent with any plans that the Planning Board may have. For large development proposals, even autonomous municipalities such as Bayamón must still attain the approval of the Planning Board.

Despite being a separate public authority, PRHTA is not entirely independent of the Planning Board's wide-reaching planning authority. Land use plans that PRHTA has for its own property must undergo the same public review as municipalities.²⁸ The Planning Board is generally likely to concede to PRHTA's plans that are clearly transit-related such as park-and-ride facilities. However, the greater flexibility to develop other uses such as commercial and mixed uses on PRHTA property, as proposed by the 1998 bill, would potentially be subject to greater scrutiny by the Planning Board.

²⁷ de Lemos.

²⁸ Salvucci.

2.5 Critical Issues in Station Area Development

2.5.1 Coordinating Planning Powers among Jurisdictional Agencies

One of the key issues that this thesis studies is how PRHTA can coordinate with the local jurisdiction, and to a lesser extent the Planning Board, in order to effectively implement strategies for station area planning and development. This issue is particularly compelling in Puerto Rico as two major pieces of legislation may influence the amount of control that each agency has over land in station areas. This thesis asks whether it is possible for two agencies with some jurisdiction, notably PRHTA and the respective municipality, that may both have an interest in the outcome of land use change and development around future Tren Urbano stations to work with each other. The amount of coordination and/or conflict between PRHTA and the respective municipality may depend on how much control and influence each agency chooses to exert over a particular parcel of land. Further, the type of strategy that PRHTA selects to implement for a parcel of land may promote conflict or coordination. The key to avoiding conflict may depend on a combination of factors particularly early communication; communication of ideas for the surrounding station areas at the earliest possible stage is crucial to avoiding potential subsequent conflict over station area plans.

This thesis also questions whether the motivations behind increasing control and involvement by PRHTA and the municipalities in any way influences their abilities to coordinate with each other. Acknowledging that motivations behind the participation of agencies in planning and development are multiple and complex, this section presents merely some of the motivations for public agencies such as PRHTA and the municipalities to be involved in station area planning and development. The bill that was submitted by PRHTA in late 1998 to authorize greater land use control and development powers was motivated by two primary goals: to encourage land use and development patterns around Tren Urbano stations that may ultimately contribute to the establishment of transit-focused development and increased ridership; and the need to raise revenues from real estate activities, such as joint development, around Tren Urbano stations by capturing potentially higher property values around stations.

The motivations for municipalities to participate in station area planning and development are not universal in Puerto Rico. The patterns of development in Bayamón indicate that the municipality is strongly interested in the investment of development throughout its jurisdiction. In

addition to planning autonomy, *La Ley de Municipios Autónomos* allows the municipality to independently collect property taxes; otherwise CRIM, the central government tax agency would retain tax collection responsibility for Bayamón. Although the municipality of San Juan is interested in encouraging development as well, the municipality also appears to be approaching the potential benefits of Tren Urbano as an incentive for urban renewal. In older neighborhoods such as Río Piedras in which revitalization is necessary and the placement of a Tren Urbano station is viewed as a potentially strong catalyst to that revitalization, station area planning is considered to be necessary to encourage such revitalization in the community.

Municipalities in the San Juan metropolitan region appear to be either keenly or vaguely aware of a bill that was submitted by PRHTA to the Puerto Rico legislature in 1998 that proposes a significant expansion of the Authority's control over land around stations. Based on interviews conducted in Puerto Rico, the level of knowledge about this bill by municipal authorities seems to be mixed although generally, this bill has not been greeted positively by these authorities.²⁹ PRHTA may need to sensitively consider its coordination tactics with affected municipalities as it attempts to increase its authority into planning and development. Further, the significance of the changing future autonomous status of municipalities such as San Juan should not be underestimated. Autonomous municipalities may opt to exert their autonomy, particularly if the PRHTA's plans for development of land and key parcels around future Tren Urbano stations are not consistent with municipal station area plans.

2.5.2 Political Realities

Simply stated, the repercussions of party politics are enormous in Puerto Rico as political party affiliation seems to influence almost all decisions on the island from those on a small scale such as interpersonal relations to the grand scale such as the autonomous status of municipalities. In fact, many issues on the island, regardless of their complexity or scale, seem to ultimately be decided based on political party affiliation. Granted, the influence of political party affiliation is almost universal and can be found in many decision-making processes in the United States and other countries. However, party politics is particularly sensitive in Puerto Rico because it is also often directly tied to how Puerto Ricans shape their personal identities, the island's current identity, and the island's future identity. Puerto Rico has a turbulent and colorful history of colonialism from

²⁹ To respect the identities of these officials, the writer is keeping them anonymous.

Spanish occupation in 1493, to its transfer to the United States after the Spanish-American War, to its present state as a Commonwealth of the United States.

There are currently three political parties on the island that are aligned with what each hopes will be the island's future status in relation to the United States: the Popular Democratic Party (PDP) that runs on the *status quo* ballot in which Puerto Rico should retain its Commonwealth status; the New Progressive Party (NPP) that believes that Puerto Rico should become the 51st state of the United States; and the Independence Party that seeks to gain complete independence from the United States. The arguments raised by each party will not be discussed in this thesis although the issues raised by the parties are exceedingly complex. The PDP and the NPP are the two major parties on the island acquiring almost equal percentages of the island's plebiscite vote of approximately 48-49% each. The Independence Party is the clear minority party, usually attaining approximately 5% of the island's official votes; however, it appears that many Puerto Ricans on the island privately sympathize with the Independence Party although they are officially registered with one of the other two parties.

The issue of the island's political status is raised every few years as a separate ballot item and through the elections of major political positions such as the Governor of Puerto Rico and the Mayors of municipalities. Every few years, the NPP has attempted to win the statehood vote only to lose by a close margin to the ballot item on maintaining the existing Commonwealth status. Often concurrently, elections for major leadership positions also carry the weight of future decision-making at the local and island-wide levels. As head of the central government of Puerto Rico, the political party of the Governor represents the political party for the central government for that political term; similarly, the political party of the mayor of a municipality represents the political party for the municipality for that term. Any agency representing either the central government or a municipality is considered to be politically aligned with the governor or mayor; for example, the Planning Board and PRHTA, as central government agencies, are considered to be politically aligned with the Governor of Puerto Rico.

Current Governor Pedro Rosselló is a member of the New Progressive Party (NPP) that consequently is the political party of PRHTA and the Planning Board. The current Mayor of San Juan, on the other hand, represents the Popular Democratic Party (PDP), the opposing party. Herein lies a major source of conflict, at least according to many officials working for the municipality of San Juan. As noted throughout this thesis, San Juan has not yet attained autonomous status despite

being the capital of the island; until the municipality gains autonomy, many of its decisions will be subject to the authority of central government agencies such as the Planning Board. Bayamón, on the other hand, is among the few municipalities on the entire island to attain autonomy. According to some San Juan officials, the opposing political parties of the Mayor of San Juan and the Governor of Puerto Rico is often cited as the major reason for the delays in responding to or approving the Territorial Ordinance Plans, the requisite plans under *La Ley de Municipios Autónomos*. The final approval of these Plans, and ultimate granting of municipal autonomy, will be that of the Governor's; it has been suggested that the difference in political parties will continue to delay San Juan's chances of attaining autonomy at least during the current political term.

As a central government agency, PRHTA is politically aligned with the NPP, Governor Rosselló's party. However, it should also be emphasized that employees of an agency or municipality may not necessarily subscribe to the same party of the current administration of either the central government or municipality. The affiliation between an agency and the current administration is carried down to the level in which decisions regarding agency responsibilities such as Tren Urbano are made and generally not the individual level. Exceptions to this rule are the appointments of high-ranking officials within an agency. Although PRHTA is generally aligned with the political party of current Governor Rosselló, it is not entirely known how much influence this political party affiliation plays in PRHTA's ability to effect station area development or whether that role will vary between municipalities that have autonomy, such as Bayamón, and municipalities that currently do not, such as San Juan. In the station area analyses presented in Chapters 6 and 7, the influence of political party affiliation is not directly discussed. However, the strategies recommended for implementation by PRHTA in the hypothetical development scenarios presumes the existence of political realities.

2.5.3 Decentralization versus Centralization

The two pieces of legislation that are summarized in this chapter – the 1991 *La Ley de Municipios Autónomos* and the bill submitted by PRHTA in 1998 – represent two opposing trends in Puerto Rico. As discussed earlier, the move towards municipal autonomy signifies a general movement towards a decentralization of planning and fiscal functions on the island. The bill submitted by PRHTA, on the other hand, suggests a move in the opposite direction towards a centralization of powers albeit within PRHTA. Since 1965 when PRHTA was first established, amendments to the Puerto Rico Highways Act has progressively increased PRHTA's responsibilities

from highways and roads to public transit such as the bus network and Tren Urbano. The bill submitted by PRHTA in November 1998, if passed, would expand PRHTA's authority to encompass planning and real estate activities around Tren Urbano stations, and consequently allocating a range of activities within a central government agency.

If the bill is passed, it is unlikely that PRHTA will assume control over public land owned by the municipality. However, the potential for conflict may arise in the use of private property, particularly if PRHTA can assert its authority over the acquisition, expropriation, or general use of private property. This assertion of authority may not necessarily be consistent with the municipality's land use plans. In this case, extensive communication and coordination will be necessary between the public agencies.

The issue of decentralization versus centralization within institutional structures also raises the question of less or greater bureaucracy in government. An argument that was used in the *La Municipal Reforma* movement in favor of *La Ley de Municipios Autónomos* was that municipal autonomy would minimize government bureaucracy at the central level. However, whether bureaucracy has been significantly reduced at the central government level is questionable because the Planning Board still retains supreme planning authority while a few autonomous municipalities are also creating their own governmental structures for planning, development, taxation and other autonomous responsibilities. Although PRHTA's bill primarily covers development functions and not planning functions, there is a possibility that some municipalities may be skeptical of development powers being centered in another central government agency.

2.5.4 Laissez-Faire and Market Forces

A major problem that has been cited by planners and other officials in Puerto Rico is the tendency to not follow existing land use plans that have been prepared at the local, regional and island-wide levels. The Planning Board has been accused of not adhering to its own plans for the San Juan metropolitan region. The lack of adherence and consistency has been a source of frustration for some planners and officials, particularly those working in areas that have either been neglected or have been negatively affected due to the patterns of investment that have gone to the low-density suburban municipalities in the region. Allowing developers dictate the patterns of investment and development in the region may undermine efforts to concentrate future activities around stations. As Chapter 3 discusses, the clustering of residential, office and commercial

development around stations is a key factor to ensuring ridership levels on the system. If development continues on its dispersed path in the San Juan metropolitan region, efforts to cluster investment will be challenged. Conceivably, if some planning authority is devolved to municipalities such as San Juan who may find the revitalization of decaying older neighborhoods to the interests of the entire municipality, the power of *laissez-faire* planning may begin to dissolve.

The Planning Board is not the only agency that has been identified for not consistently adhering to existing plans. Municipalities such as Bayamón are cited for their flexibility in following their plans often allowing development to occur in areas not necessarily designated for the proposed development. Therefore, successful station area development will be dependent on the cooperation of municipalities, particularly autonomous municipalities, and the Planning Board.

Chapter 3

Literature Review

3.1 Significance

This chapter examines literature that has been written about the relationship between rail transit systems, transit stations and their surrounding environs, as well as the roles that various stakeholders have played in promoting that relationship. The literature that was reviewed indicate that public agencies need to be involved in promoting station area development. Stakeholders that are of particular focus include the transit agency and local and regional governments that have key roles in positively affecting both the transit system and the land uses around the transit system and its stations.

This chapter focuses attention on the different tools that may be available for a transit agency, such as the Puerto Rico Highways and Transportation Authority (PRHTA), to use in encouraging development around future Tren Urbano stations. The array of techniques that has been used by public agencies in the United States is explored. In particular, the popular concept of joint development is given special consideration in this chapter. In addition to being a well-cited mechanism for revenue-generation in the reviewed literature, joint development is targeted as the primary strategy for station area development in PRHTA's bill. PRHTA is not alone in the potential it finds in joint development. There is a growing interest in joint development and some transit authorities have been documented to be quite successful whereas others agencies have had moderate success. The following Chapter 4 will therefore delve into the experiences of two transit agencies in station area development and joint development.

3.2 The Land Use and Transportation Connection

The amount of effort that has been invested by PRHTA in station area planning, including the bill submitted by PRHTA in 1998, is based on the assumption that there is a relationship between the transit system and the land uses surrounding the stations. One basic assumption in PRHTA's bill

is that future Tren Urbano stations will raise property values around station areas. With passage of its proposed legislation, PRHTA hopes to capture property values by acquiring land around stations – through purchase, transfer or expropriation –and generate additional revenue from real estate activities. The bill also suggests that participating in station area development is necessary to encourage transit-supportive land uses that will subsequently contribute to the ridership figures on Tren Urbano. The ability of development to significantly contribute to the transit authority’s coffers – indirectly through higher ridership and farebox revenue and directly through real estate activities – has been greeted with keen skepticism by some professionals.

Are PRHTA and the municipalities basing their efforts in station area planning on the wrong assumptions? Clearly, they are not alone in their thinking as public agencies throughout the United States and in other countries have attempted to build and strengthen the relationship between land use and transportation, or in this case, land use and transit. This section attempts to dissect the extensive literature that has been written about this potentially mutually beneficial relationship. At best, almost endless literature can be found on this topic, whether it be the impacts of transit on land use, or the impacts of land use on transit ridership. At worst, the cause-effect relationship between land use and transit has been controversial; while some researchers have argued that there is indeed a strong causal relationship, others have concluded that the relationship is not necessarily a given. More recent studies by researchers, such as Robert Cervero who is cited significantly in this chapter due to his extensive work in this area, appear to indicate that the answer can be found somewhere in between.

3.2.1 Transit Supportive Development

Transit-supportive development has been defined differently in various studies. While some studies are based on a relatively small area immediately surrounding the transit station for which site-level analyses are conducted, other studies have examined the land uses within a wider distance from the station. The area that would fall under transit supportive development is often defined based on how far one considers the walking distance to stations to be. A number of studies have examined ridership by walking proximity to stations.³⁰ For example, Stringham found the “walking

³⁰ Robert Cervero, *Transit-Supportive Development in the United States: Experiences and Prospects* (Berkeley, CA: University of California at Berkeley, Institute of Urban and Regional Development, 1994).

impact zone” to be as far as 4,000 feet from a station.³¹ Although the actual distances that have been cited that most pedestrians will walk to stations vary there seems to be one unanimous conclusion: walking distances can be stretched considerably by creating pleasant urban environments.³²

There is also variability in literature regarding what types of land uses are considered to be transit-supportive. Generally, high density, mixed use land use patterns are found to be the most transit-conducive. However, this is not always the case as stations are located in a wide gamut of neighborhood mixes from low-density residential neighborhoods to high-density urban centers. The following section elaborates on the discussion of impacts that land use form may have on transit usage.

3.2.2 Land Use Impacts on Transit

Research conducted on the impacts of land uses on transit ridership levels suggest a correlation between the type of land uses around a station and transit usage. The kinds of urban landscapes that are found to be most conducive to transit riding are those that are fairly compact, made up of a variety of land uses, and are attractive to pedestrians.

In addition to quantifying the ridership impacts of specific transit-focused developments, Cervero also examined which factors appear to most directly account for the travel choices of people living, working and shopping near rail stations. The principal conclusion is that if transit-focused development is to reap significant mobility benefits, then most kinds of trip origins and destinations must be *clustered* around rail stations. A variety of urban activities need to be concentrated near transit facilities if significant shares of trips are to be won over to transit.³³ The clustering of residences and workplaces near rail stations is concluded to have the highest influence on travel behavior among all land use factors. To the degree that both ends of trips are clustered around a rail station, such as work, home and retail, the odds of traveling by rail transit increase sharply.³⁴

Studies have also attempted to quantify the impacts of specific development projects, such as joint development projects, on ridership levels. There appears to be scant research on ridership

³¹ M. Stringham, “Travel Behavior Associated with Land Uses Adjacent to Rapid Transit Stations.” *ITE Journal* 52(4), 1982.

³² Cervero.

³³ Robert Cervero, *Ridership Impacts of Transit-Focused Development in California* (Berkeley, CA: University of California at Berkeley, Institute of Urban and Regional Development, 1993).

contributions of singular projects primarily because it is difficult to quantify the impacts of single developments on transit usage. The minimal existing literature conclude that the contributions of joint development on ridership is small.³⁵

3.2.3 Transit Impacts on Land Use

The other body of research that has been conducted on the relationship between land use and transit examines the impact that a transit system may have on shaping urban form around a particular station or within the metropolitan region as a whole. These studies are often based on a before-and-after methodology in which many years are allowed to elapse in order to reasonably allow for changes, if any, to occur. Any changes in urban form are often based on changes in land uses within a specified study area and the difference in square footage of a particular use, such as office development. In many cases, there was a clear change in the type and concentration of land uses around stations as a result of the station placement in the neighborhood. Studies also indicate that more development, such as office or commercial development within a central business district or mixed-use neighborhood to be greater within proximity of the station than in areas further away from the station; new development constructed after the station was found to decline as distance from the station increased. Further, the value of property before and after the station was placed in the neighborhood was also measured in some studies. In more compact neighborhoods, particularly neighborhoods with mixed uses or a central business district, the value of property was found to be higher after the station was placed; property value increases were also found to subside as distance from the station increased.

Studies also emphasize the challenge in directly attributing any growth or land use change to the transit system alone. According to Davis et al, there is difficulty in establishing a cause-and-effect relationship between a transit station and subsequent development.³⁶ One of the difficulties in singling out transit as the sole reason for development or a change in land uses is that there are myriad, endless factors that may have also contributed to a change in urban form; further, these factors tend to be different based on the unique characteristics of metropolitan regions with transit systems.

³⁴ Ibid.

³⁵ Robert Cervero, Peter Hall, and John Landis, *Transit Joint Development in the United States* (Berkeley, CA: University of California at Berkeley, Institute of Urban and Regional Development, 1992).

³⁶ E. Davis, I. Brown and R. Holmes, *Transit-Linked Development: A Case Study of Atlanta's MARTA System* (January 1985).

Despite the difficulty in attributing development *solely* to transit, studies have generally concluded that the existence of a transit station have *contributed* to, if not resulted in, the change in land use patterns such as increased development, and a change in property values. Before transit contributes to a change in the urban form around stations, a number of factors must be in place. Cervero identifies factors that are contributors to a transit system's impact on land use and urban form. A prerequisite is a healthy regional and local economy. According to Cervero, if transit is to have a positive impact, there needs to be growth to channel. Regardless of how much pro-active planning occurs or public-sector money is spent, transit will exert negligible land use impacts in areas with weak regional and local economies.³⁷ Experiences in other transit metropolises indicate that the timing of transit investments also matters as land use impacts are greatest when transit investments occur just prior to an upswing in regional growth. Further, transit generally tends to redistribute growth rather than actually create growth in transit metropolises.

It should also be noted that land use impacts that may be attributed to transit are not necessarily always positive. Regional transit investments have been found to reinforce decentralization trends. Studies also indicate that improving accessibility to different corners of a metropolitan region with a rail transit network appears to encourage patterns of suburbanization, to some degree. While growth might be funneled in a particular direction as a result of new transit services, more often than not this direction will be outward as these outlying regions become more accessible by transit.³⁸ This decentralization pattern in land uses has been observed in different metropolitan regions across the United States such as the San Francisco Bay Area and its Bay Area Rapid Transit (BART) system.

Finally, as Knight and Trygg emphasize in an older 1977 study, there is nothing inevitable about urban development in the vicinity of transit facilities. A combination of actions, policies, coordination, and good fortune such as strong market conditions are necessary for transit to benefit from land use and vice versa. The participation of public agencies is vital to implementing strategies, carrying forth policy, and coordinating with each other. The next section summarizes the literature that has been written on the roles of transit authorities and planning agencies, followed by a section that summarizes the multitude of tools that may be available for implementation.

³⁷ Robert Cervero, *The Transit Metropolis: A Global Inquiry* (Washington, DC, Covelo, CA: Island Press, 1998).

³⁸ Ibid.

3.3 Public Agencies and Station Area Development

Public agencies have been increasingly participating in station area development in the United States. Their growing role in station area development can be attributed to a mix of reasons including increasing support for the land use and transportation connection that is reinforced by federal, regional and local policies. The 1990s has seen a number of important federal laws that have been passed to reinforce coordinated transit and land use planning. For example, the 1991 Intermodal Surface Transportation Efficiency Act (ISTEA) emphasizes the importance of increasing transit ridership in major urban centers. ISTEA requires state departments of transportation and metropolitan planning organizations (MPOs) to assess transportation and land use decisions in relation to each other.³⁹ Enhancing the land use and transit relationship by public agencies, including the transit authority and local and regional planning agencies, is found to contribute to the mutual benefits in both urban form and ridership.

Public agencies, particularly transit authorities that participate in station area development, are also motivated by other reasons including building a potential new source of revenues from real estate activities. Many public agencies are tapping surplus or underutilized real estate assets for new sources of revenues. Running the gamut from transportation agencies to school districts, public entities are realizing that they have valuable assets that can generate revenues to support public services and programs without raising taxes. In order to reap these revenues, public agencies are taking on new roles and new risks, including participating in joint development projects, sharing capital and/or operating costs, and arranging long-term ground leases with developers. Transit authorities in particular have increasingly been searching for new sources of funds for both capital and operating costs as fares are unlikely to approach the levels necessary to cover operating costs, let alone the high capital costs for constructing a new system or future alignments.

³⁹ Cervero, *Transit-Supportive Development*.

3.4 Tools for Station Area Development

It is generally accepted that construction of an urban rail system will not guarantee development. It is also true that combined with comprehensive planning, supportive zoning and financial incentives, an urban rail system can play a substantial role in guiding land use and development around stations.⁴⁰ This section summarizes some of the various strategies that have been used to encourage development around rail systems in the United States. Although transit systems in other parts of the world have been very effective in encouraging station area development, the range of strategies are influenced by different legal and regulatory structures; therefore, because U.S. laws pertain to Puerto Rico, tools that have been implemented by various transit authorities in the United States are the subject of this review. The host of strategies that are presented in this section, in concert with the experiences of the two transit authorities reviewed in Chapter 4 in carrying out some of these strategies, will segue into the scenario analyses in Chapters 5 through 7.

The following tools that may avail themselves to transit authorities such as PRHTA are discussed in the order in which they are emphasized in the bill submitted by PRHTA. Having the authority to acquire and develop property is one of the top priorities in the proposed legislation. Because the bill also emphasizes joint development, there is a separate review of the extensive literature on joint development. Other strategies that transit authorities have also implemented with varying success are considered here including land use regulations and benefit assessments. The ability to influence land use regulation and traditional land use controls are important because PRHTA may not have the means – legally, financially, institutionally, or politically – to exercise all of the tools presented in the following discussion. This chapter concludes with a brief discussion on public policy initiatives that may need to be pursued simultaneously with station area development efforts. Although not necessarily a tool for transit authorities in effecting station area development, public policy initiatives, such as transportation demand management (TDM) programs, are necessary in encouraging the type of urban form and transit usage that are discussed earlier in this chapter.

⁴⁰ Davis et al.

Table 3-1 includes a list of the tools that are subsequently discussed, and the stakeholding public agency that has authority over the tool. In many cases, more than one public agency has the authority to implement the tools that are included in this chapter.

**Table 3-1:
Station Area Development Tools and Stakeholding Public Agencies**

Station Area Development Tools	Transit Authority	Planning Agency	Other Public Agencies
Land Acquisition (through purchase, transfer, expropriation) for Transit Properties	✓	✓	✓
Leasing or Selling Air Rights	❖	❖	❖
Leasing or Selling Excess Property	❖	❖	❖
Developing Air Rights or Excess Property	❖	❖	❖
Joint Development	❖	❖	❖
Land Use Regulation and Control			
Comprehensive Plans/ Specific Plans	✓	✓	✓
Zoning Changes and Amendments	⊕	✓	⊕
Incentive Zoning	⊕	✓	⊕
Overlay District	⊕	✓	⊕
Taxes, Assessments and Service Charges			
Tax Increment Financing	✓	✓	✓
Special Benefit Assessment/ District	✓	✓	✓
Transit Impact Fees	✓	⊕	⊕
Public Policy Initiatives	✓	✓	✓

- ✓ = Implementation is generally included within the agency’s general responsibilities.
- ❖ = Implementation may depend on legal authorization.
- ⊕ = Implementation is unlikely or is unknown.

3.4.1 Land Acquisition

Public agencies such as transit authorities can acquire land through a range of methods including purchase, transfer or expropriation, or excess condemnation, as it is sometimes referred. In the case of public transit authorities, land is often acquired through purchase and expropriation, the latter of which the power of eminent domain is sometimes exercised. Eminent domain authorizes most public agencies, such as transportation authorities, to expropriate land for “public purposes”

when the private property owner is unwilling to sell the land at an assessed market value. In many cases, the acquisition of private property for large uses such as the construction of a major transit system involves the assemblage of property. For example, construction of Phase I of Tren Urbano alone required the expropriation of 140 private properties.⁴¹

Acquiring land through expropriation methods for public purposes such as transportation systems is already controversial as it often requires the displacement of people from their homes or businesses. Acquiring land for uses such as station area development is even more sensitive for a host of reasons. Among them, it involves granting a transit authority the power to expropriate land that is not specifically for the agency's main responsibility which is the construction, operations and maintenance of a transportation system. When the power to expropriate land is used for real estate development, albeit transit-supportive real estate development, the public reaction is generally not sympathetic and is oftentimes suspicious. Despite a resurgence in building the relationship between land use and transit, there is still skepticism on the extent of the methods that should be used to ensure that relationship.

For that reason, transit agencies and local governments in the United States have been prohibited from acquiring supplemental land for the purpose of developing transit-supportive development, except in unusual cases where odd-shaped remnant parcels are left after project construction.⁴² Recent steps have been taken in the United States, however, to allow transit agencies to be more entrepreneurial in leveraging land development. In 1997, the Federal Transit Administration introduced a Joint Development Policy that permits U.S. transit agencies to lease or sell land previously acquired with the help of federal grants to private developers if it can be demonstrated that the resulting development will be transit-supportive, generating enough additional riders and fare box receipts to make up for the value of the foregone property.⁴³ It is unknown at this time whether this federal policy will be applicable in the case of Tren Urbano.

Transit authorities have also practiced the use of leasing or selling air rights that are often acquired in the course of transit construction.⁴⁴ Air rights are the rights to develop over the transit facility or transit-related facility that is owned by the transit authority. Leasing and selling air rights

⁴¹ Meeting with Ismael Rodriguez, Expropriations, Tren Urbano, January 21, 1999.

⁴² Cervero, *The Transit Metropolis*.

⁴³ Ibid.

⁴⁴ U.S. Department of Transportation, Urban Mass Transportation Administration, *Innovative Transit Financing* (1979).

must be legally authorized to the agency. Some agencies have been notably successful in using its air rights over its facilities, to encourage development usually through the form of a public-private joint development partnership, and to generate revenues for the agency. If a transit station is constructed in a neighborhood with high densities and a strong propensity for future development, such as a thriving central business district during a strong market cycle, then a transit authority should seek to gain from potential benefits of air rights development.

In summary, land acquisition and development strategies available to transit agencies are often grouped into the following general categories: (1) leasing or selling air rights; (2) leasing or selling excess property; (3) developing air rights or excess property; or (4) participating in property development such as joint development.⁴⁵ One basic distinction between these techniques is that the leasing or selling of air rights does not require supplemental land acquisition but rather generally uses the air space directly over transit facilities. This distinction is significant because supplemental land acquisition usually requires greater legal powers and more resources than dealing in property already acquired as part of a transit development program.⁴⁶ With this said, the ability to implement any of these strategies hinges on the legal and regulatory environment. Furthermore, the transit authority must have the institutional capacity to carry out these strategies for without the expertise to participate in these activities – usually in-house capabilities, but occasionally, outside assistance – the transit authority will be ill-prepared to venture in this complicated arena of real estate development such as joint development.

3.4.2 Joint Development

3.4.2.1 Defining What It Is

There is a wealth of literature on joint development, including some studies that have lauded the merits of joint development, and other studies that have examined whether this concept is more glorified in theory than in practice. Individual joint development projects can be classified into three broad categories: (1) cost-sharing arrangements; (2) revenue-sharing arrangements; and (3) combinations of these two types. In joint development, developers make financial contributions to the transit agency in cash payments or by building improvements, recognizing the enhanced development potential that transit access has provided to their parcels.

⁴⁵ Ibid.

⁴⁶ Ibid.

Cervero et al identifies reasons why joint development has never been a high priority for most of the nation's transit agencies until recently. The first reason is that most transit agencies are organized around the central purpose of providing transit service and until relatively recently, real estate operations such as property development, with the exception of minor concessions leasing, was rarely recognized as a legitimate function for a public agency. Second, transit agencies are organized into function-specific activities unlike the entrepreneurial character of real estate development companies, and they are also unaccustomed to assessing or taking the types of risks inherent in real estate development.⁴⁷

3.4.2.2 Motivations Behind Joint Development

The motivations behind the increase in joint development projects is often attributed to the need to find other sources of revenue to recover the cost of transit construction and operations, as well as an inadequate farebox recovery. According to Davis et al in their study of the Metropolitan Atlanta Regional Transit Authority (MARTA), the high cost of construction and small modal share held by rapid rail systems make it difficult to justify these systems solely on their merits as transportation systems. The concept of joint development was initiated as a means of justifying these systems based upon the additional economic benefits they can potentially generate.⁴⁸

However, based on the results of a mail survey to 117 U.S. transit agencies regarding their experiences in transit joint development, Cervero et al suggest that revenue-seeking is not the only or primary motivation behind the pursuit of joint development projects. Most transit officials did not cite revenue as the most important goal for pursuing joint development. More likely, joint development agreements with private developers were seen as a catalyst for future redevelopment or as a means of shaping urban growth. Agencies with revenue-generating projects such as air-rights leases, however, tended to be primarily concerned with the revenue potential of joint development.⁴⁹ Based on the literature reviewed, it is apparent that despite the primary motivation for action, there has been a growing interest by transit authorities to participate in joint development projects on transit property, whether it is through the use of air rights or on supplemental/excess property.

⁴⁷ Robert Cervero, Peter Hall, and John Landis, *Transit Joint Development in the United States*.

⁴⁸ Davis et al.

⁴⁹ Cervero et al, *Transit Joint Development*.

3.4.2.3 Revenue and Ridership Impacts

Joint development generates transit revenues in two ways: developers or concession lease holders pay transit agencies for specific development rights, for station concessions or to lease space inside transit stations. The second way is through increased ridership on the system, subsequently contributing to increased farebox revenues.

In spite of all the interest that continues to be generated in joint development projects, and all the research that identifies what makes some joint development projects “successful,” joint development has not proved to be a significant source of additional system ridership.⁵⁰ Furthermore, although joint development in the U.S. has earned transit agencies tens of millions of dollars in lease revenues and developer-funded capital improvements, this income represents only a miniscule part of most agencies’ capital budget – on average, for less than one percent. Ridership and farebox revenue benefits of joint development was observed to be even smaller than the actual real estate revenues. For example, based on a statistical analysis of factors which explained ridership at five Washington, D.C. and Atlanta stations during the 1978-89 period, the presence of joint development alone was found to have had “no measurable statistical effect” on transit demand. However, office growth near these stations did impact ridership and if it can be found that joint development induces high-density growth, it can consequently be deduced that joint development indirectly positively contributes to ridership and farebox revenues. Cervero et al emphasize, however, that other factors such as transit fare, service quality and the availability of alternative travel options are far more important determinants of ridership than the existence of a joint development project near a station.

3.4.2.4 Factors for Success or Failure

The majority of transit-linked joint development projects are found in only a few cities, namely New York, Washington, D.C., Boston, Philadelphia, and Atlanta.⁵¹ As the next chapter on station area development experiences of MARTA and the Washington Metropolitan Area Transit Authority (WMATA) illustrates, there are a number of reasons that one transit authority is considered to be more successful in performing joint development than another transit authority. Cervero et al identify four conditions that are necessary for successful joint development: (1) a healthy local real estate market is crucial, since no joint development, however well conceived, can

⁵⁰ Ibid.

⁵¹ Ibid.

overcome a weak market; (2) the agency negotiating joint-development agreements must have an entrepreneurial outlook; (3) coordination between the transit agency and other public agencies is essential to bring about zoning changes and a conducive development environment, to build public support, and to gain developer confidence in the process; (4) transit agencies need to recognize that the benefits of joint development go beyond revenue generation. They can also include increased ridership, improved station-area environments, and the furthering of other planning and development objectives.⁵²

Cervero et al also cite factors that may limit the number of future joint development projects in the U.S including the following that may apply to the case of Tren Urbano: (1) limits on transit agency participation in development schemes due to public distrust, laws and regulations, or opposition from elected officials; (2) most transit agencies have limited experience and little comparative advantage in engaging in any kind of entrepreneurship, including real estate development; and (3) most commercial development today is occurring in suburban locations ill-suited to mass transit.

The process by which joint development occurs varies widely across cities, as does the priority given to joint development by transit agencies. The examples of Washington, D.C., Atlanta and San Francisco are often used to illustrate this point. Washington's WMATA is often acknowledged as the leader in transit joint development in the United States. By contrast, Atlanta's MARTA has lagged much further behind despite a buoyant real estate market and municipal policies which support increased densities around downtown transit stations. Factors which are often identified for holding Atlanta back include a limitation of appropriate land parcels, a lack of a formal or comprehensive policy, a failure to develop close public-private relationships, and a lack of close coordination among public agencies. San Francisco has apparently fare even worse in joint development; as of 1992, not one joint development project was undertaken around a BART station, although the concept of co-development has been the model adopted for coordinating public and private investments in downtown Oakland and San Francisco.⁵³

⁵² Ibid.

⁵³ Ibid.

3.4.3 Land Use Regulation and Control

Land use regulation and traditional land use controls are typically the responsibilities of local planning agencies and not of other public agencies such as transit authorities. In the United States, local governments are responsible for preparing land use plans, zoning districts, and other special districts for the land within its jurisdiction; for unincorporated areas, county governments have jurisdiction over planning. The local and county governments, although generally independent in the United States, must comply with general planning guidelines that are administered at the state level. The central governance structure in Puerto Rico presents a different situation where the central Planning Board has traditionally retained ultimate planning authority on the island. However, as this thesis discusses, this centralized process is undergoing a gradual transition towards decentralization in which municipalities that have autonomy have more planning independence from the central government.

Land use regulations typically encompass traditional land use controls, such as zoning and subdivision controls, and are the chief tools used by local government to guide urban growth and development. Some techniques include incentive zoning, special district zoning, dedications and exactions. Normally these land use regulation techniques are not able to finance transit directly. However, they may help to encourage certain types of land uses that may not have occurred otherwise, such as zoning areas to promote high-density mixed uses around key transit stations.

3.4.3.1 Comprehensive Plans and Specific Plans

Jurisdictions with planning responsibilities in the United States are required to prepare comprehensive plans or general plans in accordance with state guidelines. These comprehensive plans address land use, transportation, natural resources, housing, and other issues for a specified time horizon, usually in the range of 10 to 20 years. Whereas comprehensive plans are often prepared for an entire jurisdiction, specific plans are localized to a specific neighborhood or study area in which specific changes are proposed. In Puerto Rico, municipalities seeking autonomy must prepare Territorial Ordinance Plans which are similar in nature to comprehensive plans. Both comprehensive and specific plans can be used to address proposed station area land uses. Specific plans, in particular, are often prepared by municipalities or other regional jurisdictions in the form of station area plans. As Chapter 4 discusses, and the current efforts of PRHTA indicate, transit authorities have also taken the role of preparing station area plans.

3.4.3.2 Zoning Amendments/Changes

Zoning changes or amendments are generally characterized into two categories: zoning map changes which usually changes the actual land use of a specified area, such as changing a commercial district to a mixed use district; and plan changes, or text changes, which usually amends the scale of use, such as density, although the land use itself may remain the same. On the surface, zoning changes or amendments appear to be a relatively simple process for local jurisdictions to implement. However, accusations such as spot zoning for zoning map changes, or the “taking” of land when a particular property no longer becomes admissible under a zoning change, have inhibited some local jurisdictions from practicing indiscriminate zoning changes. Nonetheless, zoning changes and amendments are often integral to actively guiding the urban form around stations and have been used by local planning agencies such as the City of Atlanta, as discussed in the next chapter.

3.4.3.3 Incentive Zoning

Innovative zoning tools have become increasingly popular among local planning agencies as a motivation to private developers to develop around stations. A popular zoning incentive includes the granting of density bonuses to private developers. For example, as an incentive to developers to develop in a designated area around stations, local jurisdictions will often allow developers to develop buildings that exceed the current floor-area-ratio (FAR), one of the measures for building densities.

3.4.3.4 Overlay Districts

Another creative techniques that municipalities have implemented includes overlay districts in which the original zoning remains intact and yet additional guidelines may apply for the area encompassed in the overlay district. For example, overlay districts are commonly used to protect historic areas by applying additional restoration and preservation guidelines in addition to the existing zoning.

3.4.4 Taxes, Assessments and Service Charges

These charges are typically imposed over limited areas in ways that attempt to relate the levy to the benefits received. They could also include dedicated property taxes levied over a small-area local district, tax increment financing, special benefit assessment, and service charges for connecting the transit station to adjoining properties.⁵⁴ The following represent possible techniques for the transit agency to raise revenue for the transit facility and system.

3.4.4.1 Tax Increment Financing

Under this approach, the property tax base within a specially designated area is frozen at a certain point in time. All incremental gains in property tax receipts above the base level are earmarked for retiring the bonds of major public transit investments made within the district. In reality, tax increment financing involves less public-private sharing of revenues than an earmarking of property taxes to a specific area, usually a redevelopment district. For example, downtown stations along San Francisco's BART system have been partially financed through tax increment financing.⁵⁵

3.4.4.2 Special Benefit Assessment/District

A Special Benefit Assessment has long been used to pay for local improvements such as streets, sewers and sidewalks, as more recently transit facilities. Used primarily by municipalities, its application has generally been restricted to areas demonstrably benefited by such improvements, with proceeds dedicated – either directly or through retirement of debt service – to pay the cost of improvements installed. The legal and economic theory of special assessment requires that they be charged against property in proportion to the benefits received. However, there are also difficulties in determining the amount of such benefits.⁵⁶ Using this concept, a Benefit Assessment District is a specifically designated district around transit stations, for which landowners make cash contributions to help finance the public facility. In principle, such assessments seek to benefit from the concept of “value capture,” in which the public agency can share in the gains in property value capitalized from improvements in site accessibility.

⁵⁴ U.S. Department of Transportation.

⁵⁵ Cervero et al, *Transit Joint Development*.

⁵⁶ U.S. Department of Transportation.

3.4.4.3 Transit Impact Fees

Under this program, developers of new projects are required to make a one-time contribution to a revolving account designated for funding transit services and facilities needed to accommodate new growth. As of 1992, the only city in the U.S. to have established transit impact fees is San Francisco.⁵⁷ However, strong consideration must be given to this tool before a public agency, particularly a transit authority, considers using this tool. Unless the local and regional market conditions are very vibrant, or unless the public agency has strong reasons to believe that the real estate and development market is strong, there is the potential that this tool could serve as a hindrance rather than as an incentive. Depending on the fee and market conditions, developers may be receptive or unresponsive.

3.4.5 Public Policy Initiatives

Station area development can not successfully occur in a vacuum despite the best combination of tools that may be implemented. Further, even with strong local and regional market conditions that are prerequisites for any potential development to be based around stations, other factors must be addressed that do not specifically fall under station area development tools. While addressing station area development in order to maximize on the mutually beneficial relationship between transit and land use, the transit agency and other government agencies should seek to address other factors that may undermine the best intentions for station area development and a successful transit system. Therefore, the transit agency and other agencies should pursue other public policy initiatives such as transportation demand management programs.

⁵⁷ Cervero et al, *Transit Joint Development*.

Chapter 4

Lessons Learned Elsewhere

4.1 Significance

This chapter is an extension of the tools that are reviewed in Chapter 3 as it examines the experiences of two transit authorities in effecting station area development: Washington Metropolitan Area Transit Authority (WMATA) in the Washington, D.C. metropolitan area; and Metropolitan Atlanta Regional Transit Authority (MARTA) in the Atlanta, Georgia metropolitan area. Of all the rail transit systems in the United States, these two transit systems were selected for discussion in this chapter for two primary reasons: both systems were constructed in the 1970s and were designed to serve both suburban and urban passengers within a large metropolitan region; and both systems have been compared for their relative successes in effecting station area development. Whereas WMATA in Washington has been recognized extensively for its successes in station area development, particularly in joint development, MARTA in Atlanta has had relatively modest successes in joint development. The experiences of these transit authorities in station area development will be useful in examining the role that the Puerto Rico Highways and Transportation Authority (PRHTA) may take in planning and developing around Tren Urbano stations. Some of the lessons that have been learned by these transit authorities may be useful to PRHTA as it continues to plan for Tren Urbano stations within an institutional and political environment that promises to continue changing before and after “Opening Day” in early 2002.

Despite the lessons that will be drawn, there are also some clear differences between these two transit authorities and PRHTA. For example, neither WMATA nor MARTA was functioning in an institutional and planning environment that is as strongly influenced by party politics as is the current situation in Puerto Rico. Furthermore, the transition from a centralized form of governance to decentralized, autonomous municipalities that is occurring in Puerto Rico certainly was not occurring in the metropolitan regions of these three transit authorities. Although Washington, D.C. was granted limited home rule in 1974, one year before the Metro opened, the situation is an interesting but not a direct comparison to the situation in Puerto Rico.

4.2 Washington Metropolitan Area Transit Authority

The Washington Metropolitan Transit Authority (WMATA) was officially established in 1967 by an interstate compact to plan, develop, build, finance and operate a balanced regional transportation system in the national capital including the District of Columbia and nearby Virginia and Maryland counties.⁵⁸ Operating since 1975, the Metro rail system is often cited as one of the most successful transit systems in station area development among systems constructed in the United States since the 1970s. WMATA's successes in station area development have been attributed to a combination of factors including active planning and policy-making by WMATA, the cooperative involvement of local and regional jurisdictions, coordination between WMATA and the local and regional agencies, and relatively strong market conditions in the Washington metropolitan area during and after construction.⁵⁹

4.2.1 Station Area Development

A number of studies have examined the impacts of the Metro system on land uses and economic development around its stations. These studies generally conclude that WMATA has been successful in realizing land use changes and stimulating economic development in both downtown Washington and suburban Maryland and Virginia. Locations served by Metro appear to have received a larger share of development with development occurring primarily within ¼ mile of stations.

The development that has occurred around Metro stations in both Washington D.C., and nearby jurisdictions in Virginia and Maryland are primarily joint development projects. In fact, WMATA has emerged as a leader in guiding joint development around Metro stations; of all the cities and transit agencies in the United States that have undertaken joint-development projects, WMATA is considered to be among the most successful.⁶⁰ WMATA's successes in joint development is also linked to having an ambitious air rights development program with over twenty completed projects at 16 stations, generating over \$4 million in annual revenues from air rights alone for the agency. The agency's strategy involves producing a station area development "prospectus"

⁵⁸ Washington Metropolitan Area Transit Authority, Website URL: www.wmata.com.

⁵⁹ Cervero et al, *Transit Joint Development*.

⁶⁰ Ibid.

for WMATA-owned parcels when the agency is approached by a developer, or when it feels that the area may be ripe for developer interest. In contrast, other transit agencies which allow air rights projects appear to lack coordinated strategies for the development of their properties, and generally wait for developers to express interest.⁶¹

4.2.2 Role of WMATA

As early as 1961 and more than a decade prior to the opening of Metro, WMATA had developed its own internal policy guidelines for acquiring and disposing of real estate properties. These guidelines were followed in 1969 by a second set of guidelines known as “Commercial Tie-ins with Metro Stations” which stipulated how WMATA should negotiate with private landowners whose property values would likely increase through tie-ins with the Metro system. These Commercial Tie-in guidelines were eventually replaced by the Station Area Development Program in 1981. WMATA initiated the Station Area Development Program to facilitate the agency’s relations with developers and to integrate development with transit stations. As of 1992, joint development was fully institutionalized in WMATA, and the agency had negotiated 22 projects worth \$8.5 million in annual lease payments of which approximately \$4 million was raised from air rights leasing and development activities.⁶²

Despite the relative successes that WMATA has experienced in joint development around Metro stations, Metro officials do not appear readily eager to accept recognition as a model joint development system. In fact, some Metro officials feel that the abundance of joint development sites may be more incidental rather than designed. These officials attribute a large degree of the development successes to strong market conditions and advantageous land ownership patterns.

4.2.3 Coordination with Local and Regional Agencies

The participation of local and regional agencies in stimulating the amount of development around Metro stations has not gone unheeded. Local jurisdictions, neighboring counties in Virginia and Maryland, and the regional planning agency for the metropolitan area were all involved in varying degrees in planning for future land use changes and development within Metro station areas.

⁶¹ Sriver.

⁶² Cervero et al, *Transit Joint Development*.

At the municipal level, local land use plans were modified in an attempt to focus development within station areas. The local jurisdictions appear to have been motivated to a large degree by the possible increase in local property tax revenues around station areas; municipalities modified local land use plans on the presumption that future developers would place high value to transit access in station areas, usually ¼ mile within stations. With no comprehensive land use plan for the region at the time of Metro's construction, municipalities were responsible for independently developing and implementing their own station area plans. However, WMATA was constrained from any involvement in municipal station area planning beyond what was required for the stations themselves. According to a study prepared on the impacts of rail transit in Washington and Atlanta, land use plans for the Washington area have changed radically since the early 1960s suggesting that the introduction of the Metro system may be one of the reasons for the modification of these plans.⁶³

At the regional level, the Metropolitan Washington Council of Governments (MWCOG) is the regional agency that was also involved in how the areas around Metro stations were planned. Representing the federal district, six counties and nine major municipalities in the Washington region, MWCOG developed the Metropolitan Growth Policy Statement in the mid 1970s. Under this policy statement, the involvement of local planning agencies was solicited; for example, municipalities were asked to identify growth centers in the region.⁶⁴ Changes in planning for the downtown area also reflect the shift in priorities that accompanied the institution of home rule as well as efforts to capitalize on Metro.

In a tri-government area such as the Washington, D.C. metropolitan region, the power of planners to enforce their plans will naturally vary from one jurisdiction to the next. Maryland is considered to have had the greatest success in adhering to plans, whereas Virginia has frequently upheld the rights of developers over existing land use plans. Many local government officials, planning organizations and citizen groups are effecting changes in earlier station area development plans as Metro became a reality.⁶⁵ This variance among local jurisdictions is not dissimilar to the situation in the San Juan metropolitan region in which local jurisdictions appear to approach planning and development differently, in part influenced by the level of planning autonomy, but also influenced by whether the jurisdiction is led by a mayor with strong development goals, such as the

⁶³ Paget Donnelly, *Rail Transit Impact Studies: Atlanta, Washington, San Diego* (Washington, D.C.: Office of Planning Assistance, Urban Mass Transportation Administration, 1982).

⁶⁴ Ibid.

⁶⁵ Ibid.

mayor of Bayamón, and whether the municipality has invested interests in a particular neighborhood such as San Juan’s interest in the neighborhood of Río Piedras.

4.3 Metropolitan Atlanta Regional Transit Authority

The impacts of the Metropolitan Atlanta Regional Transit Authority (MARTA) system on land uses and economic development are often compared to those of WMATA’s Metro system. The influence of MARTA on land uses surrounding stations has been studied extensively from as early as a few years after operation in 1979 to more recent years. Generally, these studies have concluded that MARTA has had some successes in promoting land uses that are transit-supportive in particular station areas in downtown Atlanta. However, even with successes in land use changes and development, studies on MARTA station area development often conclude that the level of development is surprisingly less than expected.

In comparison to Washington, D.C., joint development activity has not been as extensive. Atlanta’s lack of joint development activity is also surprising because the region has had a relatively vibrant commercial real estate market. MARTA’s limited number of joint-development projects is especially surprising in light of the fact that the City of Atlanta was actively involved during the early 1970s in the process of planning for the densification of MARTA station areas. For example, the City “up-zoned” – where parcels of land are rezoned to allow higher densities of land use – around several pending MARTA stations in order to encourage higher density development⁶⁶

Other factors have also been accounted for Atlanta’s lack of progress in joint development activities around stations relative to Washington, D.C. MARTA’s suburban stations are quite distant from Atlanta’s suburban office centers. Moreover, intensive development at or near suburban MARTA stations has been blocked by neighborhood opposition. Until the mid-to-late 1980s, the downtown real estate market lagged behind the suburban market somewhat reducing the value of transit access. Finally, MARTA, unlike WMATA, has been unable to work closely or effectively on a continuing basis with local city planning and development officials.⁶⁷

⁶⁶ Cervero et al, *Transit Joint Development*.

⁶⁷ Ibid.

Another reason identified as to why MARTA-led joint development projects have not been more common in Atlanta is that they depend either on a close working relationship between the public and private sectors, or the establishment of development incentives. Historically, neither of these prerequisites has existed in Atlanta. Financial participation by the public sector in private commercial ventures has been extremely rare in Atlanta.⁶⁸

4.3.1 Role of MARTA

One of the principal reasons that has been noted for MARTA's notable but lesser successes in station area development has evidently been the role of MARTA itself. MARTA did not establish a formal or comprehensive joint development policy such as WMATA's Station Area Development Program. When MARTA was developed in 1965, it was created as a public entity for the primary purpose of constructing and operating a heavy rail transit system; it was an entirely new entity and therefore did not own a pre-existing supply of undeveloped and underdeveloped parcels of land which could be later sold or leased for joint development, an approach that was followed by some transit authorities. The use of land for revenues as a form of benefit-sharing was also not considered to be a high priority for MARTA during its initial years of operation.

Moreover, as part of its charter, MARTA was legally prohibited from acquiring more land than is necessary for construction of the system. Although this federal law is universal for transit systems in the United States, including PRHTA in Puerto Rico, it restricted MARTA as an upstart agency, to optimize the land around stations.

Although MARTA has not vigorously pursued joint-development opportunities in the same way that WMATA has, it has not discouraged them either, particularly when they have involved the sale or lease of air rights over stations. In recent years, MARTA has begun to move away from a policy of leasing surplus land and toward selling land outright. Officials in MARTA's Real Estate section indicate that lease income is earmarked for agency operations, while sale income goes toward capital improvement programs. Because MARTA's Board of Directors feels that extending lines to complete the system is a high priority, securing large cash sales from land sales has taken precedence over generating relatively small amounts of leasing income.⁶⁹

⁶⁸ Ibid.

⁶⁹ Ibid.

4.3.2 Roles of Local and Regional Jurisdictions

The City of Atlanta has continued to experience some commercial and residential growth around MARTA stations. Ironically, the development that has occurred around the stations is attributed to other factors, such as the active role of the municipality, than as a result of MARTA itself or MARTA policies.

The lack of a formal policy and the regulatory constraints significantly limited MARTA's role in station area development, particularly in joint development. However, where MARTA's direct involvement may have been restricted, the local jurisdictions, such as the City of Atlanta, were actively involved in promoting densification of land uses around stations. For example, at downtown station areas, the city actively raised the allowable FAR for parcels near or adjacent to stations. Concurrent with MARTA rail system planning, in 1973 the City of Atlanta implemented a new Urban Framework Plan which encouraged high density development in future transit station areas, as well as a new zoning ordinance which brought zoning regulations into conformance with the urban plan.⁷⁰ The report, *Transit-Linked Development: A Case Study of Atlanta's MARTA System* provides a background on land use planning in Atlanta. According to the authors Davis et al, Comprehensive Development Plans, Urban Framework Plan and Transit Station Area Studies exemplify the importance of integrating MARTA stations in land use planning. In addition, Special Public Interest Districts and Planned Development Districts are examples of policies in Atlanta's zoning ordinance designed to promote growth and mixed-use development in station areas.⁷¹ However, as mentioned earlier, despite the efforts of the municipality to gear development around stations, the amount of development that occurred, particularly development in which MARTA was involved, was lower than expected.

Regionally, land use recommendations were prepared by the Atlanta Regional Commission but all actual land use decisions in these metropolitan areas are ultimately made at the local level, with or without the input of MARTA.⁷² To achieve the most benefit from the system, in the mid-1970s, the Atlanta Regional Commission sponsored a series of Transit Station Area Development Studies – a land use and transportation program for the areas surrounding the rapid transit stations.

⁷⁰ Sriver.

⁷¹ Davis et al.

⁷² Sriver.

The detailed planning studies were tied closely to MARTA's engineering and construction schedule. The concern of the program was to complete station area plans before MARTA completed 15 percent of detailed engineering. For the most part, the schedule was met and local plans were reflected in final engineering to the extent of shifting parking entrances, changing parking lot sizes, shifting station locations and even major line changes. Although no longer a formal program, station area planning continued in all of the affected local governments.⁷³

4.3.3 Coordination with Local and Regional Agencies

Finally, not only does joint development require coordination between the public and private sectors, it also requires long-term coordination among public agencies. In general, such coordination has been rare in Atlanta. Seeing itself first and foremost as a transit operator, MARTA has guided its autonomy and limited its scope of decision-making. As a result, there is relatively little day-to-day dialogue between MARTA and other public agencies in the Atlanta metropolitan region.⁷⁴

4.3 Summary of Lessons Learned

This chapter presented a review of the relative successes and experiences of merely two transit authorities in station area development. As the preceding discussion indicates, the ability of one transit agency to successfully effect development, such as joint development projects, in comparison to another transit authority, will depend on a combination of reasons.

- **Transit Agency Involvement.** The active role of the transit authority to plan and develop station areas is key to development occurring around stations. As indicated in the stories of the two agencies in this chapter, WMATA was very pro-active from the outset with the early creation of the Station Area Development Program (SADP) ten years prior to the actual operation of the Metro system. In contrast, MARTA took a relatively small role in effecting development, in part restricted by law to acquire and

⁷³ Donnelly.

⁷⁴ Ibid.

develop on land, but also a conscious decision to take a less active role and allow the free market system guide development.⁷⁵

- **Roles of Local and Regional Jurisdictions.** Where MARTA's role may have been small and relatively passive in promoting station area development, the municipality of Atlanta was deliberately active in attempting to gear development around stations by increasing zoning densities and through other efforts. The county and regional jurisdictions in the Washington metropolitan area were also actively involved in gearing appropriate land use patterns around stations. Local jurisdictions are important in implementing zoning changes, providing incentives and other land use controls and regulations, as summarized in the tools in Chapter 3 of this thesis.
- **Coordination between Stakeholders.** Institutional relationships between local jurisdictions and the transit authority may affect development of land around stations. Successful joint development projects and policies require continuing coordination between the transit authority, local government planning and development agencies, and developers.
- **Favorable Market Conditions.** As emphasized in the previous chapter as well, the realizations of development and other land use changes around transit stations will not occur without favorable local and regional market conditions and developer interest. Both were present during the 1980s in the Washington and Atlanta metropolitan regions soon after WMATA and MARTA began operations. As noted in the case of MARTA, however, even strong market conditions need the participation of the transit authority and supportive policies in order for development to occur around stations; although the free market may result in development around some stations, it will not occur around all stations without the aforementioned factors.

Finally, despite noted successes in station area development, such as joint development projects, that are often attributed to WMATA, the experiences of WMATA in joint development are still not an absolute reason for any transit authority to promptly pursue similar joint development. Although this chapter did not extensively discuss the motivations of the transit authorities to participate in planning and development activities, the early actions of WMATA nonetheless indicate

⁷⁵ Davis et al.

a conscious effort to promote the agency's role in station area development. However, the amount of revenue that WMATA gained – approximately \$8.5 million in annual lease payments – is miniscule in relation to the entire investment cost of approximately \$8 billion that MARTA invested in Metro.⁷⁶ Therefore, although WMATA may have gained more lease revenues in comparison to other transit agencies, it still leaves the question of how much commitment the transit agency would decide to put into land acquisition and development activities.

⁷⁶ Salvucci.

Chapter 5

Scenario Analyses

5.1 Significance

The purpose of this chapter is to establish the groundwork for the series of hypothetical development scenarios for two Tren Urbano stations that are presented in the next two chapters. The primary objective of this thesis is to examine the role of a transit authority to effect station area development, provided that the transit authority has limited experience in land use planning and development, and that the planning and institutional environment in which it must implement strategies is in a state of flux. This “state of flux” in Puerto Rico is the pending change in the levels of authority retained by the public agencies that will be most directly involved in Tren Urbano station area development: PRHTA and the local and regional planning jurisdictions. As elaborated in Chapter 2 of this thesis, PRHTA submitted a bill in late 1998 that would significantly expand its authority to encompass land acquisition and development responsibilities on existing PRHTA property as well as private properties located within a proposed Zone of Influence. Furthermore, the municipalities of Puerto Rico may become autonomous in future years as a decentralization movement takes effect, subsequently endowing these municipalities with municipal planning autonomy, an authority that is currently centralized in the Planning Board.

5.2 Station Area Development Scenarios

This thesis approaches station area development from the perspective of the transit authority. The review of literature in Chapter 3 of this thesis indicates that station area development that is transit-supportive hinges on a number of factors, including the role of the transit authority and the range of available tools to encourage station area development. The transit authority’s role is examined in Chapter 4 in the review of the experiences of two U.S. transit authorities in promoting station area development such as joint development projects.

Tren Urbano in Puerto Rico provides a compelling opportunity to explore the role of a transit authority such as PRHTA in detail. To examine PRHTA’s role in station area development, a series of hypothetical scenarios for station area development are presented for two future stations in the next two chapters. The scenarios were developed around two factors that reflect the current and potential planning and institutional environments in which station area development decisions may occur:

- PRHTA’s bill submitted in 1998 that would significantly increase its legal authority to acquire and develop land around stations; and
- Autonomous status of municipalities which would endow planning decision-making autonomy to municipalities in Puerto, as authorized by the 1991 *La Ley de Municipios Autónomos*.

Using these two factors that will determine the extent of each public agency’s authority over station area planning and development, Chapters 6 and 7 examine PRHTA’s station area development possibilities at Bayamón station and Río Piedras station, respectively. Chapter 6 contains two possible scenarios for Bayamón in the municipality of Bayamón while Chapter 7 contains four hypothetical scenarios for Río Piedras station in the municipality of San Juan. The purpose of these hypothetical scenarios is to try to simulate the possible institutional and planning environments in order to determine which tools would be most effective for PRHTA to consider implementing in realizing station area development. The series of development scenarios for Bayamón station and Río Piedras station are presented in Table 5-1 and Table 5-2, respectively.

**Table 5-1:
Station Area Development Scenarios for Bayamón Station**

	No Municipal Autonomy	Municipal Autonomy
Minimal PRHTA Authority	N/A	SCENARIO I [current situation]
Increased PRHTA Authority	N/A	SCENARIO II

**Table 5-2:
Station Area Development Scenarios for Río Piedras Station**

	No Municipal Autonomy	Municipal Autonomy
Minimal PRHTA Authority	SCENARIO I [current situation]	SCENARIO III
Increased PRHTA Authority	SCENARIO II	SCENARIO IV

5.3 Motivations for Station Selection

The series of hypothetical development scenarios for Bayamón station and Río Piedras station are not intended to represent all the potential scenarios in which PRHTA may find itself in as it continues to embark in station area planning and development. Nor were these two stations selected because they are intended to represent all of the other Tren Urbano stations. Rather, attempts were made to select two stations that were similar and yet would represent the dynamic institutional environment in the San Juan metropolitan region in coming years. Consequently, Bayamón station and Río Piedras station were selected for the scenario analyses for three reasons.

Because this thesis examines the effects that municipal autonomy may have on PRHTA’s ability to implement strategies, as well as to coordinate with the municipality and/or the Planning Board, the stations were selected from municipalities that currently differ in autonomous status. The Phase I alignment of Tren Urbano will cross through three municipalities of which Bayamón is the only municipality to have attained autonomy. Because San Juan has fourteen stations located within its jurisdiction, it follows that a station should be selected from the island’s capital and largest municipality.

In selecting a station from the municipalities of Bayamón and San Juan, general similarities among stations were considered as the second reason. Although no stations and their environs in the Tren Urbano network are identical, Bayamón station in Bayamón and Río Piedras in San Juan were found to share distinctive similarities. Notably, both stations are located in proximity to historic town centers that include a traditional plaza, church and other public uses. The neighborhoods

around both stations are also similarly characterized by traditional rectilinear blocks and have a compact, urban form with a mix of residential, commercial and public uses.

Finally, the two stations were selected for the ensuing station area analyses because of the strong potential that the Tren Urbano station is considered to provide in revitalizing the station areas and surrounding neighborhoods. Both neighborhoods at the Bayamón station and Río Piedras station have since declined in economic significance to the rest of the town. However, the town centers still serve important roles to the town and to the rest of the region and Tren Urbano is viewed as a key catalyst to revitalizing the respective areas.

5.4 Critique of Scenario Analyses

The hypothetical scenarios and their proposed strategies are not intended to be exhaustive. Rather, they present a few potential tools that may be implementable in Puerto Rico. However, many of the tools presented in Chapter 3 of this thesis are not included in the series of hypothetical scenarios for the two stations. The scenarios are also not entirely representative of the unique characteristics that can be found in the myriad municipalities of the San Juan metropolitan region, the different Tren Urbano stations and their surrounding station areas, and the numerous parcels of land that hold potential for development or renewal. These hypothetical scenarios assume that stakeholders will follow the proposed plans, although in reality, planning agencies have shown to be inconsistent in following local and regional land use plans.

The scenario analyses for Bayamón station and Río Piedras station do not use the term “parcel” according to its conventional definition for a parcel of property but rather uses the term loosely to refer to both a specific parcel of property and a to much larger area of land such as a historic district. Using the term broadly allows for a modicum of consistency in term usage in the following scenario analyses. Additionally, the “parcels” that are examined in the following chapters were not selected according to a strict set of criteria but rather were selected based upon the amount of interest that has already been expressed by either/both PRHTA and the respective municipality.

Finally, the following scenario analyses generally do not evaluate the merits or weaknesses of PRHTA’s station area plans or proposals for specific parcels of land or property. Because the objective of this thesis is to evaluate the ability of PRHTA to effect station area development, and

how that ability is influenced by evolving levels of authority and autonomy, the scenario analyses generally accept PRHTA's proposals to be geared towards creating a transit-supportive environment around Tren Urbano stations.

Chapter 6

Bayamón Station

6.1 Introduction

Bayamón station is the outbound terminus station of the Phase I alignment, as depicted in the Tren Urbano map in Figure 2-2. The station presents a number of opportunities and challenges to both PRHTA and the municipality of Bayamón in successfully integrating a transit station into an established town center that has been in gradual decline over the last few decades. As proposed by PRHTA, the Bayamón station will be a major intermodal station that will combine a park-and-ride lot or garage, a new público terminal and a station concessions program.⁷⁷ Recognizing both the challenges and opportunities of developing this station and its environs, PRHTA has prepared an Opening Day Action Plan and a land use plan for the long-term future. Both plans attempt to integrate the station with its immediate surroundings and the adjacent town center that is located directly southeast of the station, as illustrated in Figure 6-1. The municipality of Bayamón also has some ideas of its own for parcels of land that it owns within the Bayamón station area. One of the questions that both entities must tackle for the short and long-term future is how the different ideas for the station area can be coordinated, if at all.

This chapter attempts to address the issue of how these two public entities will attempt to approach station area development. In particular, because PRHTA aspires to have an active role in Tren Urbano station area development, this chapter will examine the role of the transit authority, how it can coordinate with the municipality who also has an interest in guiding development, and which strategies PRHTA may want to consider implementing for parcels of land, including Bayamón-owned properties within the station area.

It must be noted that this chapter does not look at development or redevelopment of the entire Bayamón station area but rather concentrates on select parcels that have already been

⁷⁷ Tren Urbano, Puerto Rico Highways and Transportation Authority, *Opening Day Action Plans, Book One* (1st Draft, December 1998).

identified for future development, redevelopment or rehabilitation by either/both PRHTA and the municipality. The station area that has been used by PRHTA in its station area plans is the area located within 400 meters (¼ mile) of the station, as illustrated by the defined perimeter in Figure 6-1. The station area includes the land that generally lies within a 400 meter radius (¼ mile) of the station. This distance from the station is used in the Tren Urbano Opening Day Action Plan and is usually the distance used in assessing the land market impacts of urban rail transit and development.⁷⁸

Clearly, successful station area development and revitalization requires a host of interrelated factors including urban design improvements. Actions such as lighting and sidewalk improvements

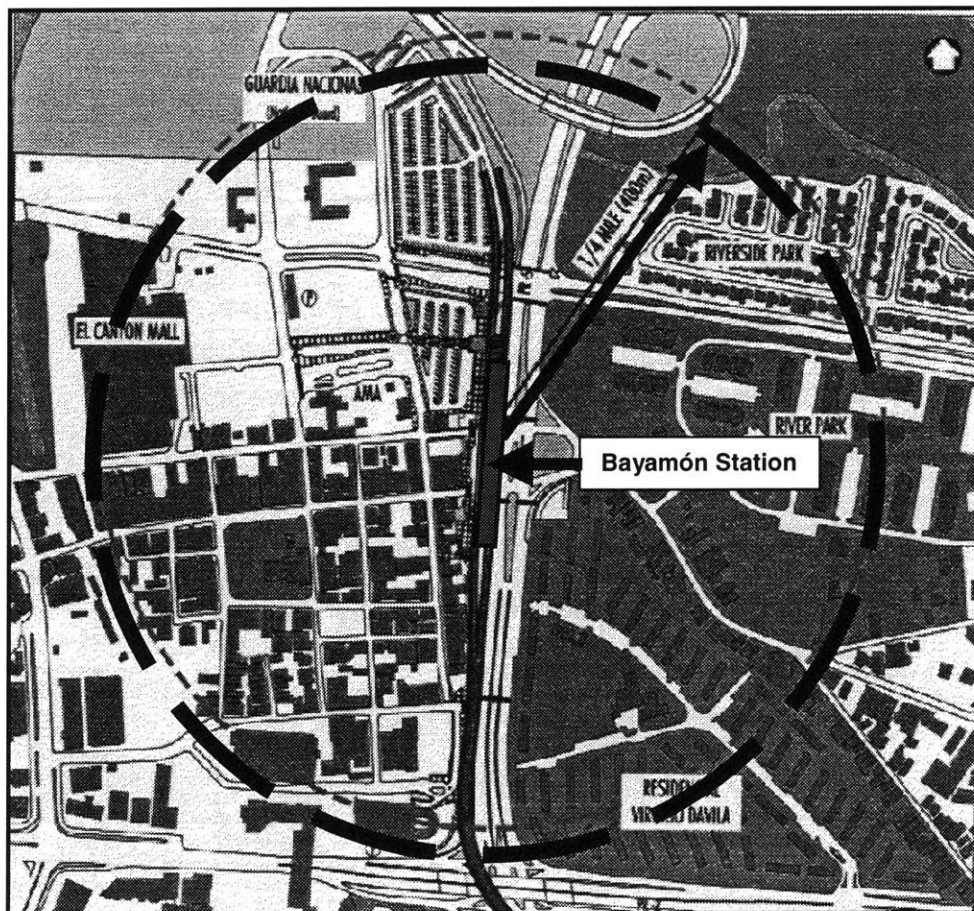


Figure 6-1: Map of the Bayamón station area

⁷⁸ Robert Cervero, *Land Market Impacts of Urban Rail Transit and Joint Development: An Empirical Study of Rail Transit in Washington, D.C. and Atlanta* (Berkeley, CA: University of California at Berkeley, University of California Transportation Center, 1992).

along the blocks within the station area are vital to supporting greater pedestrian activity and instilling a sense of security. These improvements are specifically addressed by PRHTA in the Opening Day Action Plan for Bayamón station and are generally not discussed in this and the following chapter. A number of these improvements, including street and sidewalk reconstruction, crosswalks and signalization, lighting improvements and planting, are a part of existing Tren Urbano construction contracts, or are currently being designed for construction before Opening Day.

6.2 Municipality of Bayamón

6.2.1 Demise of a Traditional Town Center

According to some planners and residents of Bayamón and the San Juan metropolitan region, the segment of Bayamón that represents its most historic area appears to be dying. Bayamón has not been immune to urban sprawl in the last few decades. Although long an independent municipality, Bayamón appears to have gradually evolved into a suburban municipality in the San Juan metropolitan region since World War II. Home to more than 220,000 residents, development within Bayamón's borders continues extend for miles beyond the historic town center.⁷⁹ Whereas the older sections of the municipality have appear to be most negatively impacted by sprawl development, the outlying low-density sections of the municipality have fared much better as they are geared to automobile usage.⁸⁰

Bayamón station is located in proximity to the traditional town plaza, *Plaza de Recreo*, which is also the heart of the municipality's town center. The traditional town center that encompasses approximately 15 blocks has been progressively declining in residential population and economic vitality in the last few decades. Although it continues to retain its symbolic value as the traditional center of Bayamón and is where important public facilities such as a church, police station, town offices, bus terminal and público terminals are located, the town center is no longer the hub of activity for most residents of Bayamón. As the residential population in the town center has

⁷⁹ Sriver.

⁸⁰ Meeting with Elmo Ortiz, Tren Urbano, Puerto Rico, January 18, 1999.

steadily declined over the years, the area has generally become more of a commercial center where people are present between 6 AM. and 6 PM, but leave the area at night.⁸¹

6.2.2 Municipal Autonomy and Pro-Active Leadership

Among the three municipalities along the Phase I alignment of Tren Urbano, Bayamón is the only municipality to have acquired autonomy. The municipality has been led by Mayor Ramon Luis Rivera for a number of years who is recognized for his strong leadership skills and an ability to successfully sponsor development throughout the jurisdiction. Another reason that is frequently acknowledged, albeit often privately, is that the Mayor Rivera belongs to the New Progressive Party (NPP), the same political party of Governor Roselló of Puerto Rico. The advantages of political party alignment is discussed in greater detail in the Issues section of Chapter 2.

With municipal autonomy, Bayamón is relatively independent of the central Planning Board. The municipality is generally independent in its ability to plan land uses within its jurisdictional boundaries without the interference of the Planning Board. However, the Planning Board still retains some oversight over some large-scale development, regardless of the autonomous status of a municipality. The municipality must still acquire the consent of the central Planning Board for large-scale development projects such as shopping malls or sports arenas.

6.3 Bayamón Station Area

Figure 6-2 shows the general area that has been used in PRHTA's station area plans and that will be used in the hypothetical scenarios in this chapter. The town plaza, the pending Bayamón station, and other major uses such as the público terminal are all potentially mutually beneficial. For example, the traditional, pedestrian-focused land uses patterns of the town center are more transit-supportive than low-density patterns of development, thereby helping to ensure some levels of ridership. In turn, the imminent arrival of the Tren Urbano station may be an important catalyst for the revitalization of the decaying town center. Although currently not the heart of public transportation in Bayamón, there are other modes of transportation that converge on the site of the future station. A público station is located just east of the Bayamón station and an AMA bus

⁸¹ Dinorah M. Robles, *Pedestrian Flow Analysis and Design Recommendations for the Bayamón Centro*

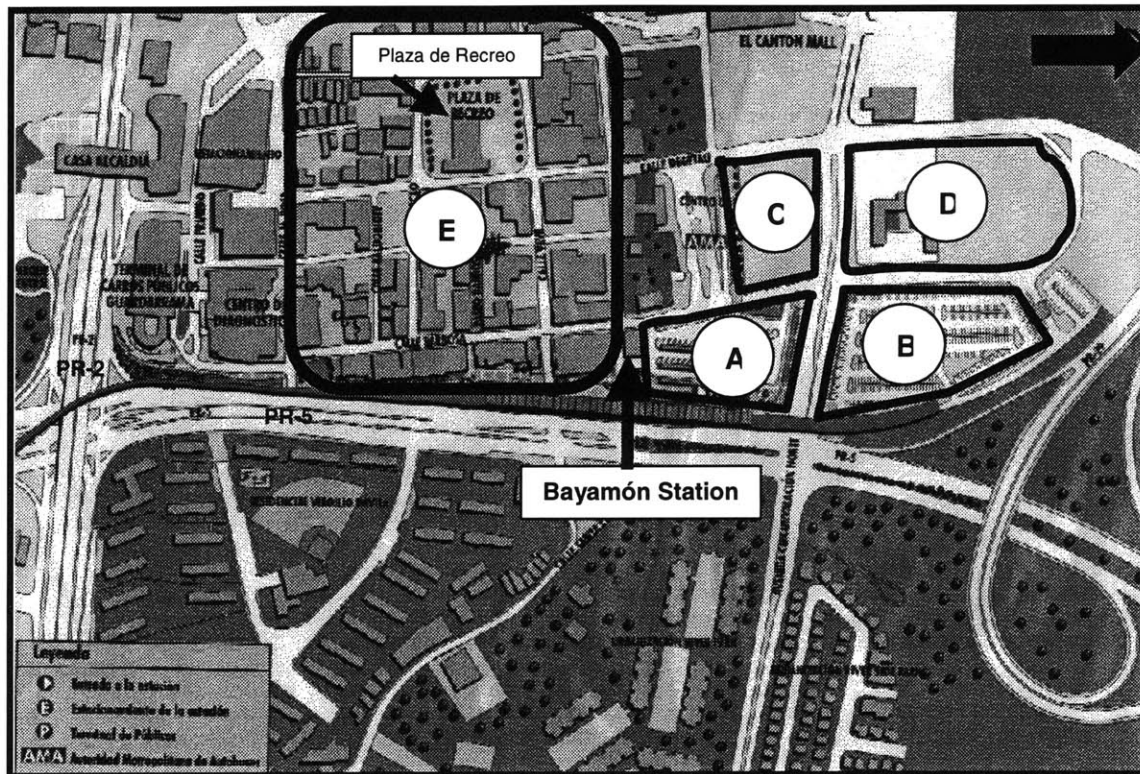


Figure 6-2: PRHTA's Opening Day Action Plan

terminal is located to the south. Públicos are jitneys, or passenger vans, and are a popular form of transportation for residents in the region, particularly in areas where buses are infrequent or non-existent. In addition to the público facility located just west of Bayamón station, there is a major público terminal located on the northwest lot of the PR-2/PR-5 juncture. Integrating the popular mode of público travel will be a critical component to Tren Urbano and although not a focus of this thesis, intermodal integration is a key issue in preparing Tren Urbano for Opening Day.⁸²

Although the municipality and PRHTA may agree in concept that land uses, development and other urban design improvements could be mutually advantageous to the town center and Tren Urbano, the two public entities may differ over the approach in how such improvements should

Station. (Prepared for the UPR/MIT Tren Urbano Program, University of Puerto Rico, May 1996).

⁸² Ibid.

occur, specifically, what the appropriate uses are for some parcels of land that are in proximity to the Bayamón station. The following sections summarize the separate proposals that have been prepared by PRHTA and the municipality of Bayamón. Two types of plans developed by PRHTA are summarized: an Opening Day Action Plan which is a shorter-term plan that describes specific improvements for the station area; and a longer-term land use plan that designates general land uses that PRHTA would like to see within the station area. PRHTA is also in the process of developing a concrete vision plan which would integrate the long-term land uses with more specific recommended actions, similar to those found in the Opening Day Action Plans.

6.3.1 PRHTA's Opening Day Action Plan

For each station along the Phase I alignment, PRHTA's Tren Urbano office has prepared an Opening Day Action Plan. The Action Plans specify the areas that PRHTA has identified for urban design improvements and development opportunities that will hopefully create a desired transit-supportive and pedestrian-friendly environment and contribute to the ridership and revenue streams of Tren Urbano. The proposed or recommended actions are intended to prepare the station and its surrounding environs for the system's Opening Day in late 2001 or early 2002 based on recent estimations.

Figure 6-2 highlights some of the key parcels that are being pursued by PRHTA around Bayamón station for Opening Day. PRHTA owns two key parcels that would be considered to be excess after the station is constructed: Parcels A and B. For Opening Day, Parcel A is designated to be a new público terminal that would adjoin the north headhouse. Realizing that públicos are the most common form of transport after private automobiles in this part of the region, PRHTA will be using this parcel for públicos that have routes connecting the Bayamón station to surrounding neighborhoods. On Parcel B, another excess property, PRHTA is planning a 480-space park-and-ride lot for Opening Day. PRHTA has proposed park-and-ride lots for most stations at the Tren Urbano stations located in the suburban and predominantly low-density residential neighborhoods along the east-west segment of Phase I. Park-and-ride lots are intended to attract riders who live in nearby residential neighborhoods and would drive to the stations. Whether park-and-ride lots contribute or detract from a rail transit system has been debated by planners; however, this thesis does not examine that issue but rather accepts PRHTA's plan to develop a park-and-ride facility at the Bayamón station. Additionally, PRHTA is limited to constructing uses that are clearly related to

Tren Urbano, as outlined by current law. If approved, PRHTA's bill would authorize PRHTA to construct other uses on the site. PRHTA envisions other long-term uses for these parcels. These two parcels represent the largest pieces of land in the station area that PRHTA has plans for development by Opening Day.

PRHTA also realizes that the hospitality and accessibility of the station and the surrounding neighborhood are vital to attracting potential riders of the system whether they arrive by foot, público, bus, or private vehicle. For pedestrians, PRHTA is targeting specific urban design improvements, including lighting, streetscape and sidewalk improvements, and fencing, in order to ensure a feeling of safety and comfort as they walk to and from the station. In the Opening Day Action Plan, PRHTA also discusses the possibility of pursuing a "Main Street" program which would target Calle Barbosa, a street that is considered to be an important seam between the town center and the Bayamón station.⁸³

6.3.2 PRHTA's Long Term Plan

Beyond Opening Day, the station should continue to exert a growing and positive impact on the traditional town center.⁸⁴ The Tren Urbano office of PRHTA is in the process of developing a concrete long-term vision for the Bayamón station area. In the interim, PRHTA has prepared a long-term land use plan that proposes development actions and general land uses for the area surrounding the station. The development actions are intended to guide appropriate development to areas designated for specific land uses. PRHTA is concerned with the long-term land uses that transcend urban design improvements or park-and-ride lot construction in the station area. Whereas many of the long-term land uses are the same as existing ones, for other undeveloped or underutilized areas, PRHTA recommends development actions that would create mixed uses of residential, commercial, office and institutional facilities.

PRHTA has developed long-term land use plans for the entire Phase I alignment of Tren Urbano with specific long-term land use plans for each station. The long-term plan for the Bayamón station area, as shown in Figure 6-3, is markedly different from its Opening Day action plan. The

⁸³ Many US cities have instituted Main Street programs, including street amenities, utility burial, facade renovations, convenient parking, extra policing, tax incentives, and affordable financing for new or expanding businesses. Puerto Rico's Department of Commerce and Economic Development supports such efforts through its *corazón del pueblo* program.

land use plan is more general as it includes proposed development actions overlapped onto future land uses. The proposed development actions are represented by the criss-cross patterns, as indicated in the legend in Figure 6-3.

Table 6-1 summarizes some of the long-term uses that PRHTA envisions for the Bayamón station area. The table also includes a description of the proposed plans that the municipality has for

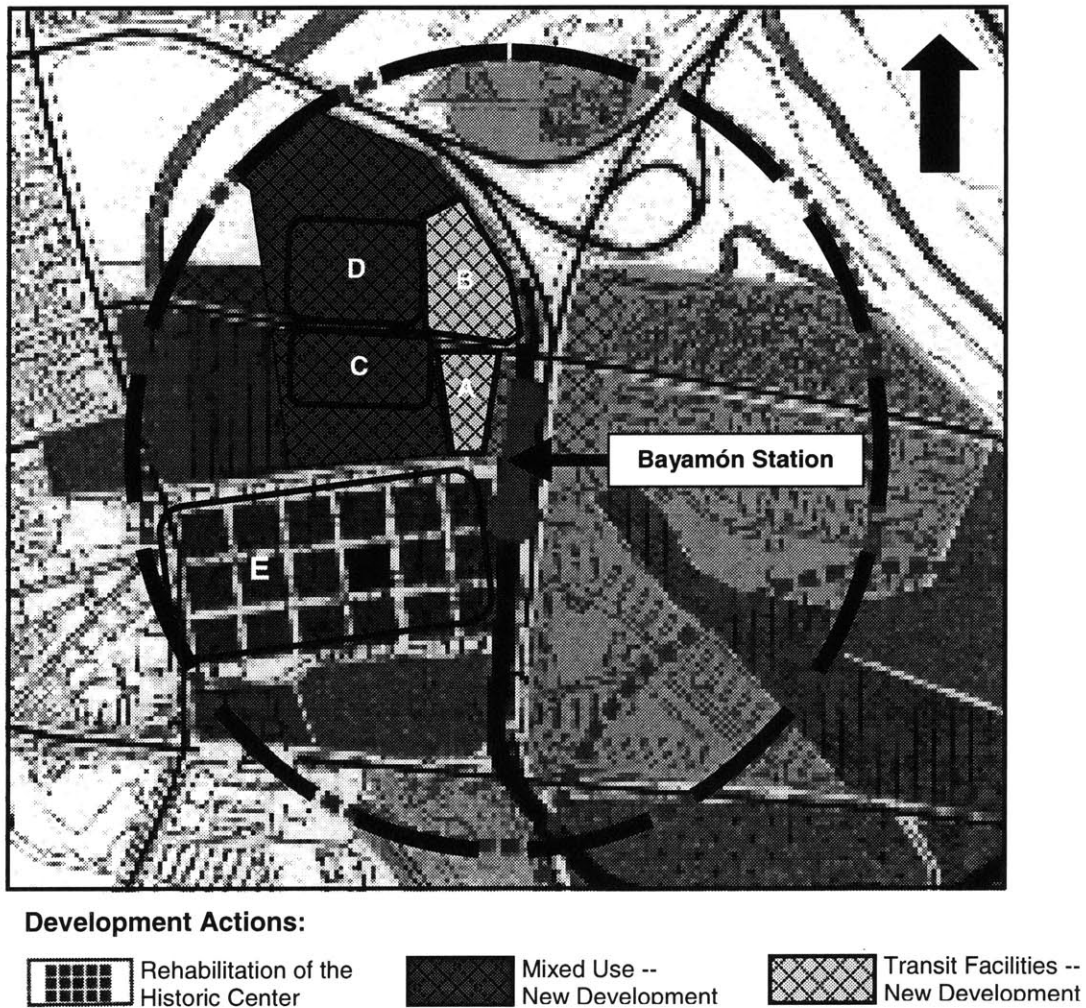


Figure 6-3: PRHTA'S Long Term Land Use Plan for the Bayamón Station Area

⁸⁴ Tren Urbano, *Opening Day Action Plans: Book One*.

the two aforementioned pieces of land that it owns. As presented in the table, the municipality's plans and PRHTA's plans are not consistent. The municipality's plans are described in more detail in the next section.

For Parcel A, as shown in Figures 6-2 and 6-3, PRHTA envisions that the Opening Day público lot would eventually be converted to a multi-story público terminal, possibly combining Tren Urbano-related and traditional público routes into a single structure and freeing up the municipal público lot located to the west for development. Alternatively, PRHTA also envisions that early design and construction of the proposed park-and-ride garage could potentially provide an opportunity to reassess this former plan; specifically, if the público functions were instead incorporated into the garage design, the PRHTA público lot could be available for future joint development as well.⁸⁵ However, as with the proposed plan to construct the multi-purpose park-and-ride garage, an attempt at joint development on the PRHTA público lot may depend on the future status of the proposed legislation.

Under PRHTA's long-term plan, the park-and-ride lot on Parcel B would eventually be converted to a multi-purpose park-and-ride garage with commercial activities occupying the ground floor. PRHTA would be accommodating more potential passengers who would drive and park their cars at the station while simultaneously raising revenues by leasing the ground floor for commercial activities, specifically retail activities. The commercial leases could provide some revenue to the agency, albeit a small contribution to PRHTA's entire budget. Depending on the types of commercial activities that are encouraged for this space, commercial activity could be tied in with other activities directly around the station and in further towards the town center to the south. PRHTA may not be allowed to develop the garage and ground floor commercial space *if* the commercial activities can also be found to be *directly* related to the transit facility, such as concession uses, similar to the concession uses that PRHTA proposes to have inside some Tren Urbano stations; concession uses on transit properties are generally legal under current law. PRHTA identifies joint development as the primary strategy for implementing this development project. However, because PRHTA's proposed legislation that would allow joint development is still pending, PRHTA would probably be unable to jointly develop the property under existing conditions, or under Scenario I, as discussed in the following scenario analyses.

⁸⁵ Ibid.

PRHTA's long-term plan in Figure 6-3 also designates non-PRHTA property for future land uses. Specifically, there are two parcels of land located west of Parcel A and Parcel B -- the future PRHTA público facility and park-and-ride facility, respectively -- that are owned by the municipality and that are considered to hold substantial potential for future development. Currently, the area located just west of the proposed PRHTA público lot, Parcel C is the municipal público lot and could potentially be freed up for future development if PRHTA's plans to incorporate the públicos into the PRHTA público lot are realized. The other parcel, Parcel D, is currently the underutilized National Guard site, located west of the proposed park-and-ride facility, and will likely be free for development in the near or distant future. PRHTA has designated that entire area for future mixed land uses that would likely be an integrated balance of commercial, residential, business, and public uses. PRHTA considers the establishment of mixed uses in this area west of the station to be a key component to developing a healthy station area.

The proposed mixed uses are also considered important to attracting residents back to the station area; establishing a mix of residences would potentially establish a strong station area that includes the historic town center. The establishment of the future intermodal station and the proposed mixed uses are to be integrated with the historic town center. PRHTA's long-term land use plan also designates the historic center for selective rehabilitation, as labeled Parcel E in Figure 6-3 and Table 6-1. Realizing that strengthening the historic center is key to attracting future passengers on Tren Urbano, PRHTA recommends the selective improvement of properties in this area surrounding the plaza.

6.3.3 Bayamón's Future Plans

Although the municipality of Bayamón has not been as actively involved in assessing the strengths and weaknesses of the Bayamón station area to the degree that PRHTA has, the municipality has not been lackadaisical about development plans either. For the past several years Bayamón has been led by a mayor who has sponsored development throughout the municipality. Large development proposals such as a sports complex located next to the Santa Rosa station are well recognized throughout the region as one of Mayor Ramon Luis Rivera's accomplishments. Around or near the historic town center, recent municipal-sponsored developments include a new public library and police station, thereby indicating some attempts at channeling public development near the town center. Although not as grand as a sports arena, the municipality has its own ideas for development on municipal land near the Bayamón station. The municipality has a downtown

expansion plan that includes development on Parcels C and D, the current municipal público lot and the National Guard site, respectively.⁸⁶ One vision of Bayamón’s plans includes a hotel on the existing municipal público lot across the street (Parcel C) and a new performing arts center on the National Guard site, (Parcel D).⁸⁷

The time horizon for the municipality’s plans for this area is unknown. Development of this expansive and generally undeveloped land, as proposed by the municipality, will hinge on a number of factors. Factors include, but are not limited to, the ability to secure financing for development, acquiring developer interest in the parcels, especially if the municipality seeks joint development, and the local and regional market conditions.

**Table 6-1:
Long-Term Plans for the Bayamón Station Area**

Parcel	Current Property Owner	Existing Use	PRHTA’s Long-Term Plan	Municipality’s Proposed Plan
A	PRHTA	Vacant excess land [casting yard for station and alignment construction]	<ul style="list-style-type: none"> • Multi-story público terminal • Other development [if the público functions are moved to the proposed garage on Parcel B] 	None
B	PRHTA	Vacant excess land [casting yard for station and alignment construction]	Multi-story garage for park-and-ride and potentially público functions, with ground-floor commercial	None
C	Municipality	Municipal público lot	Mixed Uses	Possible hotel development
D	Municipality	National Guard site; partially vacant	Mixed Uses	Possible performance arts center
E	Mixed – private, municipality, central government of Puerto Rico	Historic Center of mixed land uses including public, institutional, commercial and residential uses	Selective rehabilitation	Selective development and rehabilitation

⁸⁶ Ibid.

⁸⁷ Ibid.

6.4 Scenario I: Municipal Autonomy and Minimal PRHTA Authority

Scenario I assumes that the current institutional environment remains the same in which PRHTA will attempt to effect development around the Bayamón station with its limited developmental authority. This scenario assumes that the legislation submitted by PRHTA in November 1998 was not approved or has yet to be approved. In this scenario, the municipality of Bayamón also continues to retain its autonomous status. Scenario I examines the role of PRHTA given the assumptions laid out above.

Table 6-2 summarizes the different strategies that PRHTA may consider pursuing to effect some of the land use changes for Parcels A through E that it proposes for the long-term future. In this scenario, PRHTA may be limited to developing the land it currently owns solely for transportation-related uses : the proposed park-and-ride facility (Parcel B), and the PRHTA público lot (Parcel A). PRHTA has suggested joint development as the primary strategy for developing these two parcels. However, joint development must be authorized as it is currently in the proposed legislation that was submitted to the Puerto Rico legislature in November 1998. Because that bill is still pending, under this scenario, PRHTA is unable to pursue joint development as a tool for station area development. Should PRHTA want to pursue its development plans for Parcels A and B, it may need to develop the público terminal and park-and-ride garage with its own funds.

In this scenario, PRHTA would have no direct control over property owned by the municipality, such as Parcels C and D. The municipality appears keen on developing large-scale uses on both parcels that will likely be free for development sometime in the future. For the site that is currently occupied by the National Guard (Parcel D), the municipality has plans to develop a performance arts center or another large-scale use. Having such large developments is not consistent with how PRHTA has envisioned this area in the long-term future. Rather, PRHTA has envisioned new actions that will ultimately lead to an environment of mixed land uses. However, there is a possibility that PRHTA can attempt to *persuade* the municipality of Bayamón to develop mixed uses on its two large parcels that are compatible to Tren Urbano. For example, if the públicos on the municipal lot are moved to the proposed multi-story público facility owned by PRHTA on Parcel A, PRHTA may be able to negotiate with Bayamón to put in mixed uses on Parcel C. One of the

municipality's proposed plans for its current municipal público lot on Parcel C includes a hotel. Depending on the size of the hotel, there may be additional room to develop other uses that are consistent with the mixed land use form that PRHTA proposes in its land use plan in Figure 6-3.

For the historic area, designated as Parcel E in these scenarios, PRHTA would likely be restricted in the type of selective rehabilitation it proposes in the long-term land use plan. Under this scenario, PRHTA would be restricted from expropriating private property under the premise that it is for transit-supportive purposes. A specific program for the area may formalize attempts to revitalize this area; however, PRHTA would be the inappropriate public agency to oversee such a program for a number of reasons, including a lack of expertise and funding capacity. Rather, PRHTA may consider recommending a rehabilitation program for the area for another public agency, specifically the municipality of Bayamón to administer.

PRHTA might also persuade the municipality to adopt a large overlay district that would encompass the station area within approximately 400 meters of the station and would therefore include both the historic town center and the proposed mixed use area. According to one source in Puerto Rico, adopting an overlay district may be easier than adopting zoning changes.⁸⁸ Adopting zoning changes may require leaping administrative and institutional hurdles as the Planning Board may slow the process down; an overlay district, on the other hand, may be easier to implement because it would merely be superimposed over existing zones. An overlay district may include consistent design and development guidelines that are supportive of the Bayamón station without necessarily imposing an entire zoning amendment.

Under this scenario which represents existing conditions, it is not highly likely that PRHTA can exert that much influence on land beyond what it owns. As an autonomous municipality and with PRHTA having limited abilities to influence development, it may be less likely for PRHTA to realize future mixed land use patterns on land that it does not own or have any direct control. There is a good chance that development will occur on Parcels C and D, especially if Bayamón is able to find the financing and/or developer that it needs to develop any of the large-scale projects it has been proposing. PRHTA might be concerned that the municipal projects do not detract from creating a transit-supportive environment around the station. There is a possibility that people would use Tren Urbano to access the proposed performance arts center. However, the likelihood that many people would use Tren Urbano to visit a proposed performance arts center may still remain low. As

discussed in Chapter 3 of this thesis, ridership increases the most when uses are clustered around stations. Although a performance arts center may be a destination for some people, points of origin, such as most residences, are not clustered around other Tren Urbano stations, therefore reducing the likelihood that people would use Tren Urbano to access a performance arts center. The attachment to driving one's car would also make the chance of taking Tren Urbano low. Furthermore, Bayamón is the hub of públicos and bus activity but not in the evenings.

6.5 Scenario II: Municipal Autonomy and PRHTA Authority

Scenario II assumes that PRHTA's authority over land acquisition and development has been broadened. This scenario assumes that the proposed legislation has been approved by the Puerto Rico legislature thereby granting PRHTA the legal authority to acquire – whether by purchase, transfer or expropriation – lease, and sell land for virtually any purpose it deems to be appropriate for station area development. PRHTA would also be allowed to jointly develop land with private developers under the proposed legislation. With its broadened powers in planning and real estate activities, as suggested in the proposed legislation, PRHTA could hypothetically acquire or expropriate virtually any private property within one kilometer of the station, the area within PRHTA's bill proposed Zones of Influence.

With broadened powers, PRHTA can use joint development or other development powers to develop Parcels A and B that it owns. In the previous scenario, the ability to practice joint development on PRHTA excess property was questioned. In this scenario, PRHTA would also not be limited to the types of uses it chooses to develop on its property. Conceivably, PRHTA could develop ambitious uses on Parcels A and B where PRHTA currently has proposed a multi-level público facility and park-and-ride garage, respectively. However, at this time, it is unlikely that PRHTA will develop uses that depart drastically from the current intermodal and park-and-ride facilities as it realizes the need to integrate the different mode choices of its potential passengers.

Under Scenario II, it is unlikely that PRHTA would still be able to influence the Bayamón on how to develop on property owned by the municipality, in particular Parcels C and D. Despite having more legal freedom to develop on PRHTA property, as hypothetically authorized under the

⁸⁸ de Lemos.

bill's passage, PRHTA would still be limited in guiding the mixed uses that it foresees for those two parcels. PRHTA's ability to influence an autonomous municipality to develop on municipally-owned property is not strengthened at all by PRHTA's increased authority. In fact, it is likely that PRHTA will have to resort to similar strategies as those discussed in Scenario I.

Similarly, PRHTA's ability to effect selective rehabilitation in the historic town center area (Parcel E) would also not be significantly improved under this scenario despite the broadening of its authority over land acquisition and development. Conceivably, under the proposed legislation, PRHTA could attempt to acquire private property in the area with the goals of renovating or rebuilding more appropriate uses that are supportive of both the town center and the station. However, the likelihood of PRHTA taking such actions appears slim. As an autonomous municipality guided by a strong mayor, it is even less likely that PRHTA could selectively purchase properties within the bill's proposed one kilometer Zone of Influence. Under this scenario, PRHTA might consider recommending that the municipality administer a rehabilitation program for properties in the town center area. This recommendation would be identical to that proposed for Scenario I; consequently, the development outcome and PRHTA's strategies would likely be the same for Parcel E, regardless of the significant increase in its development authority as endowed by PRHTA's 1998 bill.

**Table 6-2:
Bayamón Station Area Development Strategies for Scenarios I and II**

Parcel	Current Property Owner	PRHTA's Long-Term Plan	Municipality's Proposed Plan	SCENARIO I: Municipal Autonomy and Minimal PRHTA Authority	SCENARIO II: Municipal Autonomy and PRHTA Authority
A	PRHTA	<ul style="list-style-type: none"> Multi-story público terminal Other development [if the público functions are moved to the garage on Parcel B] 	None	Limited to PRHTA development [restricted from joint development]	Joint development <ul style="list-style-type: none"> Different uses are possible on this parcel if all público functions are transferred to the proposed multi-purpose garage on Parcel B.
B	PRHTA	Multi-story garage for park-and-ride and potentially público functions, with ground-floor commercial	None	Limited to PRHTA development [restricted from joint development]	Joint development <ul style="list-style-type: none"> Lease revenues from ground floor commercial
C	Municipality	Mixed Uses	Possible hotel development	Persuading the municipality to adopt: <ul style="list-style-type: none"> Overlay district that would encompass this and surround areas; or Zoning changes for mixed uses [unlikely] 	Persuading the municipality to adopt: <ul style="list-style-type: none"> Overlay district that would encompass this and surround areas; or Zoning changes for mixed uses [unlikely]
D	Municipality	Mixed Uses	Performance Arts center	Persuading the municipality to adopt: <ul style="list-style-type: none"> Overlay district that would encompass this and surround areas; or Zoning changes for mixed uses [unlikely] 	Persuading the municipality to adopt: <ul style="list-style-type: none"> Overlay district that would encompass this and surround areas; or Zoning changes for mixed uses [unlikely]
E	Mixed – private, municipality, central government of Puerto Rico	Historic Center of mixed land uses including public, institutional, commercial and residential uses	Selective rehabilitation	<ul style="list-style-type: none"> Recommend a rehabilitation program that is administered by the municipality but potentially funded by the central government. PRHTA involvement and financing would be minimal. 	<ul style="list-style-type: none"> Recommend a rehabilitation program that is administered by the municipality but potentially funded by the central government. PRHTA involvement and financing would be minimal.

6.6 Findings

The following findings are obtained from an analysis of the Bayamón station area development outcomes, and PRHTA's role in influencing those outcomes, for the two hypothetical scenarios presented in this chapter.

- If property with potential development value within a station area is owned by the municipality, it may be difficult for the transit agency to influence future land uses, particularly if the municipality has development plans that are not consistent with the transit agency's plans. At best, PRHTA may attempt to persuade the municipality to direct certain land uses on municipally-owned land. Based on the two scenarios presented in this chapter, PRHTA may be limited to offering land use and development recommendations to the municipality that may choose to ultimately consider or disregard those recommendations.
- Persuading a municipality to develop land uses that differ from the municipality's plans may be made more difficult if the municipality is autonomous and is guided by a mayor that is strong-willed and determined to carry out different development proposals.
- Therefore, PRHTA's ability to influence certain transit-supportive land use patterns within a station area may be limited by the amount of property owned by the municipality. Conceivably, if the central Planning Board must still approve the municipality's *large* development projects, PRHTA can attempt to exert its influence in that approval process. However, this attempt may not be very effective and is not consistent with the planning strategies that PRHTA would want to follow for other station areas.
- Increased development authority by a transit authority does not necessarily strengthen the agency's ability to influence municipality's to develop on municipally-owned land. This is particularly so if the municipality is essentially autonomous from the Planning Board. The types of recommendations regarding future land uses offered by PRHTA to the municipality are not affected by the amount of authority that PRHTA retains, as shown by Table 6-2. For example, PRHTA's suggestions to the municipality of Bayamón regarding the future use of Parcels C and D are identical in spite of the fact that PRHTA's authority was broadened in Scenario II.

- It appears unlikely that PRHTA can exert much more influence on both public and privately-owned land beyond what it owns even if PRHTA's development authority is expanded. If the municipality is autonomous and PRHTA is legally restricted in its development powers, it may be even less likely for PRHTA to realize future mixed land use patterns on land that it does not own or have any direct control.

Because the two scenarios focus on parcels that are publicly owned – either by PRHTA or the municipality of Bayamón – and not on privately owned parcels in the Bayamón station area, it is difficult to determine which strategies, if any, that PRHTA would use for these privately owned parcels. Consequently, coordination with an autonomous municipality over the use of private parcels was not examined.

Chapter 7

Río Piedras Station

7.1 Introduction

The Río Piedras station is located in historic Río Piedras, a neighborhood that was the town center of the former independent municipality of Río Piedras that has since been incorporated into the municipality of San Juan. The historic part of Río Piedras is today generally characterized as a declining, low-income community that is in need of economic revitalization.⁸⁹ This historic part of Río Piedras is not very dissimilar to the Bayamón historic town center. The neighborhoods around both stations have a town plaza, church, market and a mix of commercial, governmental and educational institutions. Today, both traditional town centers in Río Piedras and Bayamón are in dire need of economic and social renewal, particularly as growth and investment has been placed in other parts of their municipalities and other parts of the metropolitan region in recent decades.

Río Piedras presents the challenge of integrating an underground station into the fabric of a historic town center.⁹⁰ The pending arrival of the station is also viewed as an opportunity to revitalize the declining Río Piedras neighborhood, particularly the central neighborhood that encompasses the *Plaza de Convalecencia*, the future Río Piedras station, and the residential neighborhood that is located west of the station, as shown in Figure 7-1. As with the Bayamón station, Río Piedras station presents a set of opportunities for PRHTA to effect station area development that may enhance ridership of Tren Urbano as well as stimulate activity in the station area.

Unlike Chapter 6 which includes two scenarios for Bayamón station, this chapter on Río Piedras includes four scenarios because two additional scenarios examine the effects that no municipal autonomy, the current status of San Juan, may have on PRHTA's use of station area development strategies. This chapter summarizes long-term plans that PRHTA and the municipality

⁸⁹ Sepúlveda.

⁹⁰ Tren Urbano, Puerto Rico Highways and Transportation Authority, *Opening Day Action Plans, Book Three* (1st Draft, December 1998).

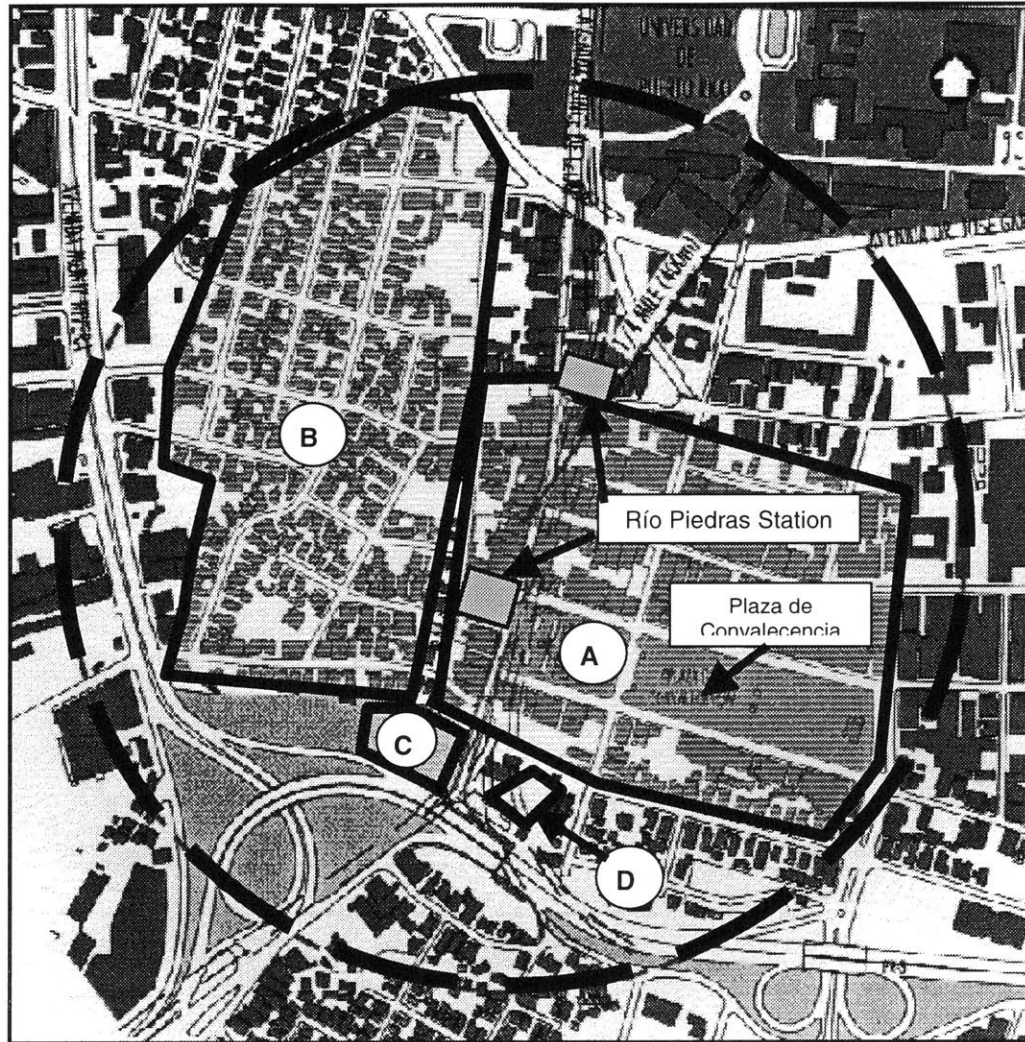


Figure 7-1: Map of the Río Piedras station area

of San Juan have slated for the Río Piedras station area. The four hypothetical scenarios in this chapter focus on areas for development or renewal in the neighborhood surrounding the Río Piedras station. Due to the compact nature of this neighborhood, there is not extensive vacant land for future development, with the exception of minimal excess PRHTA land that will be available after construction of Tren Urbano is completed. However, the existing urban form of central Río Piedras around the station presents a number of opportunities for rehabilitating this older neighborhood. The four scenarios presented in this chapter will offer the opportunity to compare how PRHTA may need to coordinate with the municipality and/or the Planning Board as the institutional environment changes in each scenario.

7.2 Municipality of San Juan

7.2.1 Seeking Municipal Autonomy

The municipality of San Juan is in the process of preparing and revising the requisite territorial ordinance plans for municipal autonomy, as required under *La Ley de Municipios Autónomos*. It is expected that San Juan may become autonomous sometime between this summer and the year 2001.⁹¹

7.2.2 Station Area Planning

PRHTA should consider the implications that minimal or no municipal autonomy may have on the station area planning and development process. The municipality of San Juan has hired a consultant to prepare station area plans for stations located within its jurisdiction. The municipality is concentrating its station area planning and development efforts on stations located along the Tren Urbano segment from Río Piedras to Sagrado Corazón.⁹² These stations are located in older, denser neighborhoods of San Juan with a mix of uses as opposed to the less dense, predominantly residential neighborhoods of San Juan located along the east-west segment of Phase I. San Juan would like a mixed land use, pedestrian friendly environment around the stations but it really has nothing in terms of a redevelopment plan right now. In fact, the municipality is just starting with its own “Opening Day” strategies and feels that it still needs to do more, especially as the Tren Urbano office of PRHTA appears to have done much more.⁹³

San Juan wants the authority to guide development around stations.⁹⁴ However, without autonomy, the municipality must still obtain the consent of the central Planning Board. Despite being another central government agency, PRHTA can not assume control over land that is owned by the municipality of San Juan. Although its ability to independently plan may be somewhat limited as an *un*-autonomous municipality, San Juan still retains ownership of its own properties. However, as proposed under PRHTA’s bill, PRHTA could potentially assume control over private property in the area should the bill be approved in the coming year. In the central Río Piedras

⁹¹ Felix.

⁹² Ibid.

⁹³ Ibid.

neighborhood around the station, the property is primarily privately owned although public property such as the plaza and other government buildings can also be found. The extent of municipally-owned property in central Río Piedras does not seem to be as great as in the Bayamón station area.

7.2.3 Río Piedras Neighborhood

Río Piedras was an independent municipality until 1951 when it was incorporated by the municipality of San Juan. The entire neighborhood of Río Piedras today that was once the municipality is expansive and stretches far beyond the historic town center area around the future station. It includes a diverse mix of low to upper middle-income residences and is also represented by a mix of other land use types. Central Río Piedras is the historic center of Río Piedras and is contiguous to the pending Tren Urbano station. Despite the *Plaza de Convalecencia*, church and other traditional town center uses, central Río Piedras has lost much of its population and former economic vitality over the past forty years. Although the residential population rose in the 1950s, there has been a significant decline in the number of residents living in the central Río Piedras neighborhood and today it has approximately the same number of residents as it did in the 1920s.⁹⁵

Río Piedras has long been considered to be San Juan's "sacred land" and is home to one of San Juan's mini-City Halls. It is a complex community with a history of community involvement, exemplified by the active involvement in the final selection of the Tren Urbano alignment and station location in the neighborhood.⁹⁶ In fact, Río Piedras is the only community along the Phase I alignment that has a Tren Urbano office and community center based in the center of the neighborhood that is used for community meetings as well as management of the construction of this underground segment of Tren Urbano that is now in progress. The community office was established to strengthen ties to community residents and groups, as well as to respond to community concerns regarding the myriad impacts incurred by the underground construction of the alignment in Río Piedras.⁹⁷

⁹⁴ Ibid.

⁹⁵ Sepúlveda.

⁹⁶ de Lemos.

⁹⁷ The segment that approximately traverses the Río Piedras station and the University of Puerto Rico (UPR) station is the only underground section of Phase I of Tren Urbano. Although in the long-run, an underground alignment may be more beneficial – visually, economically, and socially -- than elevated segments, the impacts incurred during construction are significant including noise, vibration, dust, congestion, and time delay impacts.

The gradual economic decline of Río Piedras has been a major concern for its residents and the municipality of San Juan. Both neighborhood residents and the municipality would like to see revitalization of the neighborhood and consider the integration of the Tren Urbano station to be a potentially strong catalyst for that revitalization. Although San Juan lacks the official autonomous status that other municipalities such as Bayamón have, PRHTA will nevertheless need to closely coordinate with the municipality and the neighborhood of Río Piedras. Active participation of the station area community in every aspect of the station area development decision-making process is crucial to the effective realization of the transit system's positive influence on the urban environment. Lack of participation in the transit planning process is a key factor that distinguishes neighborhoods that have and have not received transit stations warmly.⁹⁸ The protective nature that the residents and the municipality have for Río Piedras may likely require different strategies and coordination tactics for PRHTA in effecting station area development.

7.3 Río Piedras Station Area

Central Río Piedras is situated around the future station, as depicted in Figure 7-1. The area is generally marked by the traditional rectilinear grid pattern that is representative of the traditional town grid and is generally similar to the town center that is located next to the Bayamón station. The large plaza, *Plaza de Convalecencia*, located directly east of the south headhouse marks the center of this neighborhood and is home to a large number of retail stores, a street market, public and private institutions, churches, schools, and many old low rent apartments above the street level shops. The stores and tenements that characterize this area are generally dilapidated and crowded, while the urban grid features many small blocks and narrow streets that are congested during the day and deserted at night. Público routes converge upon the plaza as well as on a large terminal building located five blocks east of the south headhouse.⁹⁹

A residential neighborhood of approximately 20 blocks characterizes the area west of the station and beyond Calle Gonzalez, as marked by Parcel B in Figure 7-1. The residential neighborhood contains a mix of housing that is generally occupied by a mix of older residents, low income residents, and some students of the University of Puerto Rico. Residents of central Río

⁹⁸ Sriver.

Piedras live in other sections around the station as well, including a smaller residential neighborhood located a few blocks south of *Plaza de Convalecencia* and dispersed in buildings around the plaza.

7.3.2 PRHTA's Opening Day Plan

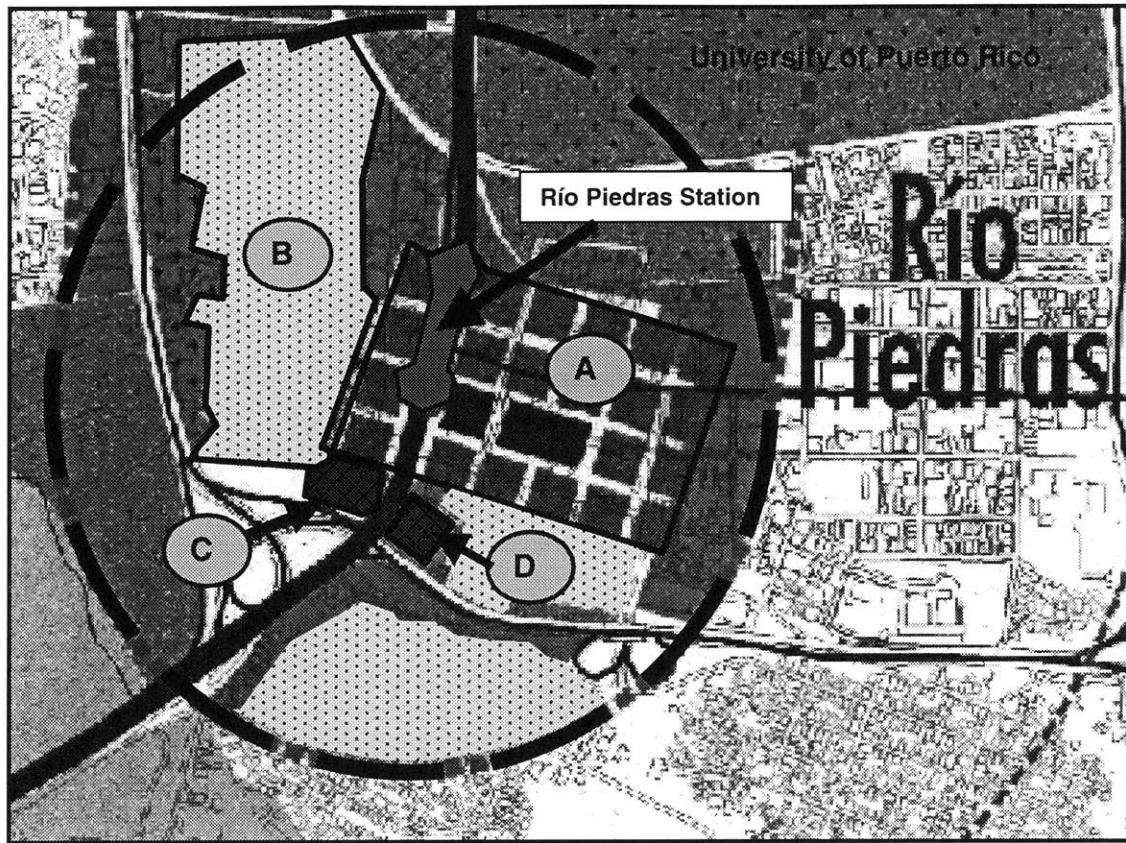
As with the Bayamón station area, PRHTA has prepared an Opening Day Action Plan for the Río Piedras station and its surrounding environs. The station area is 400 meters (¼ mile) from the station headhouses. The Río Piedras station presents a number of Opening Day issues that reflect the physical setting of the station and its environs, including the proximity of businesses, major institutions such as the University of Puerto Rico, and the intermodal connections to major roadways, buses, and the públicos. Many of these Opening Day issues involve choices that directly and significantly affect station area land use and the prospects for long-term transit oriented development.¹⁰⁰

The Opening Day Action Plan for Río Piedras concentrates on a combination of public actions and cooperative actions with private property owners to prepare the station and its immediate environs for Opening Day. The public actions, which vary in scope from sidewalk repair, lighting and signage to major construction, could be implemented by the municipality of San Juan, by other government agencies, or where appropriate, by PRHTA. However, this chapter will focus less on the urban design improvements and more on the proposed plans for larger parcels of land that may entail either new development or renewal.

Due to the compact and central nature of the station area, the Río Piedras station area has less vacant parcels of land than the Bayamón station area. In addition, unlike at Bayamón station, there is no proposed park-and-ride facility at Río Piedras station. At Bayamón station, PRHTA is able to use its excess land to construct a park-and-ride facility that some also consider to be necessary in the lower-density neighborhoods that are more auto-dependent. In Río Piedras, not only is there less excess land available for PRHTA to construct a park-and-ride facility, but a parking facility is not practical nor desirable in this high-density neighborhood in which many of the residents and visitors already rely heavily on non-auto modes of travel such as the públicos and buses.

⁹⁹ Sriver.

¹⁰⁰ Tren Urbano, *Opening Day Action Plans: Book Three*.



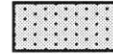
Development Actions:



Rehabilitation of the Historic Center



Mixed Use -- New Development



Selective Improvements

Figure 7-2: PRHTA’s Long-Term Land Use Plan for Río Piedras

7.3.3 PRHTA’s Long-Term Land Use Plans

PRHTA has not fully developed a definitive vision for the Tren Urbano station areas but has developed interim long-term land use plans. PRHTA’s long-term land use plan for the Río Piedras neighborhood around the station is depicted in Figure 7-2 and a summary of some of PRHTA’s long-term land use recommendations are provided in Table 7-1.

The long-term land use plan for the Río Piedras station area is generally consistent with existing land uses and does not propose a major re-designation of land uses. Rather than impose major development actions, PRHTA envisions the improvement of institutions and commercial

facilities, as well as the selective improvement of the residential neighborhoods surrounding the station. Similar to Bayamón station, the long-term land use plan for the Río Piedras station area targets rehabilitation of the historic center as an integral component to maintaining and encouraging supportive land uses around the station. The plan identifies residential areas located to the west of the station for selective improvement. The residential neighborhoods located to the west and southeast of the Río Piedras contain a mix of older units and houses. Realizing that residents of these neighborhoods comprise a potential key segment of Tren Urbano patronage, PRHTA envisions and recommends the improvement of the residential neighborhoods.

7.3.4 San Juan's Future Plans

The municipality is in the process of developing station area plans for Tren Urbano stations located in its jurisdiction. As mentioned earlier, the municipality is protective of the Río Piedras neighborhood and generally appears to respect the relatively active community participation that is often affiliated with Río Piedras. The municipality is committed to the revitalization of central Río Piedras and also views the Tren Urbano station as a potentially strong catalyst towards that revitalization. Assuming that having a Tren Urbano station in the neighborhood may generate private developer interest as property values may rise around the Río Piedras station, the municipality wants to integrate revitalization of the neighborhood with the Río Piedras station. The municipality and PRHTA may also need to play a role in encouraging such interest by providing incentives to developers. However, as noted earlier, there will be less opportunity for development than for renovation of existing properties as the amount of vacant land in the neighborhood and around the station is minimal. The opportunity to renovate old, dilapidated buildings should be encouraged by the municipality.

Although the municipality has not completed a station area plan, it has expressed proposals for specific parts of the Río Piedras station area. For example, the municipality has proposed building a público terminal in the interior of a block that is located southeast of the south headhouse, as illustrated in Figure 7-1. This municipal-owned land must remain undeveloped until completion of a future alignment that will branch off to the southeast at that juncture and head towards the suburban municipality of Carolina is complete.¹⁰¹ The Carolina extension is illustrated in the map of the future Tren Urbano network in Figure 2-3.

**Table 7-1:
Long-Term Plans for the Río Piedras Station Area**

Parcel	Current Property Owner(s)	Existing Uses	PRHTA's Long-Term Plan	Municipality's Proposed Plan
A	Mixed – private, municipality, central government of Puerto Rico	Historic Center of mixed land uses including public, institutional, commercial and residential uses	Selective rehabilitation	Selective Rehabilitation
B	Mixed – private, public	Residential neighborhood	Selective improvement	Unknown
C	PRHTA	Construction staging area for Tren Urbano	Joint development of mixed uses	Unknown
D	Municipality	Undeveloped	Joint development of mixed uses	Público terminal

7.4 Scenario I: No Municipal Autonomy and Minimal PRHTA Authority

This scenario represents the current institutional environment in San Juan in which the municipality is still in the process of obtaining its autonomous status, and current development restrictions on PRHTA still apply. Although the realization of station area land uses that are transit-supportive requires the synthesis of a series of short and long-term actions for the entire station area, this scenario focuses on the four designated areas that are discussed in the previous section and that are summarized in Table 7-2.

PRHTA has identified the rehabilitation of the historic area around *Plaza de Convalecencia*, Parcel A, as a necessary component to a positive station area environment. Under this scenario, PRHTA would be limited in asserting direct control over properties in this historic area. Because the municipality of San Juan has also expressed an interest in rehabilitating the historic area, the two agencies should attempt to coordinate with each other with the municipality of San Juan taking the

¹⁰¹ Ibid.

lead. Because the rehabilitation of existing old properties is the primary objective for Parcel A, it would behoove both the municipality and PRHTA to develop a program that would motivate private property owners to rehabilitate their properties. It is unlikely that the central Planning Board would interfere in attempts to rehabilitate dilapidated existing structures as the actions would represent renewal of existing buildings and not new large-scale development.

Under this scenario, PRHTA would also have to resort to innovative strategies to stimulate the rehabilitation of the residential area in Parcel B. Because the long-term proposal is to selectively rehabilitate the housing in this residential neighborhood, the issue of financing the selective improvements is the primary concern, as with a possible program that is adopted for the rehabilitation for Parcel A discussed above. It is not likely that PRHTA would directly finance the selective improvements that it proposes in the long-term land use plan, as depicted in Figure 7-2. Additionally, PRHTA lacks the expertise to run any program that would also include housing rehabilitation. Rather, PRHTA should recommend that the jurisdictional agency be directly responsible for establishing and operating a program that oversees the selective improvements of housing in this residential area. Because San Juan does not have the autonomy in this scenario, final decision-making authority could potentially rest with the Planning Board; however, it is unclear whether the Planning Board would interfere in the attempts to improve old housing.

PRHTA has proposed the development of mixed uses on a parcel of excess land that it owns (Parcel C), as illustrated in Figure 7-1. Based on this scenario's assumptions on PRHTA's authority, PRHTA would not be able to jointly develop mixed uses on this excess land. PRHTA would be prohibited from developing any mixed uses on this site because PRHTA is restricted to building uses on excess land that are solely transit-related under current law. Nor would PRHTA be able to sell this property to another developer. Under this scenario, any uses other than transit-related uses would entail that the previous property owner has reversionary rights to the site. Consequently, under this scenario, PRHTA would either have to leave Parcel C vacant or use it for a use that is related to Tren Urbano.

Parcel D is owned by the municipality and will not be available for development until the future completion of the Carolina extension is completed. The municipality of San Juan has proposed using this parcel for a future público lot once the site is made available. PRHTA does not have any direct control over this parcel regardless of the level of authority it retains.

A summary of the strategies that may be available for implementation under Scenario I is presented in Table 7-2. This table also includes the strategies for Scenarios II through IV in order to present the differences and similarities between scenario strategies.

7.5 Scenario II: No Municipal Autonomy and PRHTA Authority

This scenario assumes that the bill that was proposed by PRHTA in November 1998 was approved by the Puerto Rico legislature, resulting in a significant increase in PRHTA's authority to acquire, develop, lease and sell land around Tren Urbano stations. The PRHTA bill also allows the expropriation of land not owned by PRHTA within a one kilometer radius of the station, the bill's proposed Zone of Influence. This scenario is also based on the assumption that the municipality of San Juan is still waiting to attain municipal autonomy. Under this scenario, PRHTA could conceivably expropriate private land around the Río Piedras station in order to promote station area development. However, the area around the Río Piedras station is already transit-supportive as it is compact and contains a mix of land uses: residential, commercial, institutional and office uses. Additionally, the active community involvement adds to the improbability of PRHTA expropriating land for the sole purpose of station area development. Rather than evaluate the unlikely possibility that PRHTA would actually expropriate private land around the Río Piedras station, as the PRHTA bill currently proposes, this scenario evaluates PRHTA's approach towards effecting the long-term land use improvements for the same four areas of land that are evaluated in Scenario I.

For the historic center, designated Parcel A in these scenario analyses, greater development authority for PRHTA does not necessarily imply that it will be easier for PRHTA to bring about the selective rehabilitation that it recommends in its long-term land use plan. Because the general urban form that is conducive to transit usage is essentially in place in the Río Piedras station area, it is unlikely that PRHTA would exert any expanded authority to assume control over private land. As noted earlier in this chapter, this improbability is exacerbated by the existence of a strong community presence in the neighborhood despite the economic decline that central Río Piedras has experienced in recent decades. Consequently, under Scenario II, it is concluded that PRHTA will not act differently from Scenario I for Parcel A, the historic center of the Río Piedras station area.

Similarly, for the residential neighborhood in Parcel B, PRHTA's approach for selective improvements of residences should not depart significantly from the approach recommended for Scenario I despite PRHTA's significantly broadened powers over land. As suggested in Scenario I, PRHTA should delegate primary responsibility for administering a housing rehabilitation program to either the municipality with funding for this program potentially provided by the central government of Puerto Rico.

However, PRHTA's approach to the development of its own property, Parcel C will differ under this scenario. With the hypothetical passage of its bill, PRHTA would have the authority to jointly develop mixed uses on excess land and would not be restricted to transit-related uses as it is under Scenario I. As discussed earlier in this chapter, the Río Piedras station area contains few vacant parcels for completely new development by either PRHTA or other public or private developers. Consequently, Parcel C represents one of the few sources of potential property revenue for PRHTA in the Río Piedras station area, provided that local market conditions are strong and a joint developer is found to share either/both the costs and revenues of development on this site. The proposed composition of mixed uses on this site has not been determined by PRHTA but it can be presumed that uses will be an extension of the adjacent historic town center area.

This scenario would probably not change PRHTA's influence on the municipality's use of Parcel D, the site that is owned by PRHTA but will be used for Tren Urbano construction.

7.6 Scenario III: Municipal Autonomy and Minimal PRHTA Authority

This scenario assumes that PRHTA would need to approach station area development with current restrictions on its development authority but that the municipality of San Juan has now attained autonomous status. The scenario attempts to determine whether San Juan's autonomous status will influence PRHTA's ability to effect the long-term land use changes that it proposes for the Río Piedras station area. As with the previous scenarios in this chapter, Scenario III examines PRHTA's role by determining its approach on the same areas of land: Parcels A, B, C and D.

Scenario I, which reflects the current institutional environment for PRHTA and San Juan, concluded that PRHTA's direct role in the rehabilitation of property in Parcel A, the historic district

of Río Piedras, would likely be minimal. PRHTA lacks the financial resources and the institutional capacity to administer a program that is necessary to rehabilitate the older properties in this area that PRHTA recommends in its long-term land use plan. Rather, this responsibility should be assumed by either the local jurisdiction of San Juan or by another central government agency of Puerto Rico. The financing for such a program would still be unknown; however, funding for this program may be obtained from a combination of federal, Puerto Rico, and local resources. Under this scenario in which the municipality of San Juan has attained autonomy, San Juan may have more of an incentive to take on the responsibility of directing a rehabilitation program. Presumably, without the oversight of the central Planning Board, San Juan may independently recommend rehabilitation for this area.

Likewise, this scenario also concludes that the same recommendation for Parcel B, the residential area located west of the Río Piedras station, should be given as in the previous scenarios. For Parcel C, the PRHTA excess property, PRHTA would again be restricted to using the site for transit-related purposes under this hypothetical scenario. The same situation that is presented in Scenario I would apply to this situation. Evidently, the ability to develop on its own property is not affected at all by the level of autonomy that is retained by San Juan. The ability to develop on its excess land is influenced by legal factors and not by San Juan's autonomous status. Regardless of its autonomous status, San Juan can not exert any influence over PRHTA-owned property, even when PRHTA has minimal authority to develop uses on its land.

This scenario would not change PRHTA's role in effecting development of Parcel D, the parcel owned by the municipality of San Juan that is tentatively designated as a future público lot after Tren Urbano construction activities are completed in the distant future.

7.7 Scenario IV: Municipal Autonomy and PRHTA Authority

This scenario considers whether there is a greater potential for conflict or coordination if both agencies assume broader planning and development authority in the future. The possibility for this scenario to actually occur is not too distant from the realm of actual possibilities. Sooner or later, it is likely that San Juan will get the autonomous status it has been seeking in the last few years. Similarly, PRHTA may eventually obtain increased legal authority to develop its property around Tren Urbano stations, if not to the full extent that is currently proposed in its bill.

Surprisingly, the development outcomes and PRHTA strategies for the four parcels of land under analysis are not dissimilar to the other three hypothetical scenarios presented in this chapter. The approach that PRHTA may take for Parcels A and B in the Río Piedras station area is concluded to be similar to the approach recommended in the previous scenarios, regardless of the amount of authority endowed to PRHTA or the autonomous status of San Juan. As noted earlier, the reason for the same approach recommended for all four scenarios is primarily due to PRHTA's lack of financial or human capacity to operate a rehabilitation program that is likely necessary to implement the selective improvements that are recommended for the historic center and the residential area located west of the Río Piedras station.

Parcel C, the excess land owned by PRHTA, would be developed in the same manner that is recommended for Scenario II in which PRHTA would have expanded authority, as granted by the pending PRHTA bill, and in which San Juan is still an un-autonomous municipality.

**Table 7-2:
Río Piedras Station Area Development Strategies for Scenarios I through IV**

Parcel	Current Property Owner	PRHTA's Long-Term Plan	SCENARIO I: No Municipal Autonomy and Minimal PRHTA Authority	SCENARIO II: No Municipal Autonomy and PRHTA Authority	SCENARIO III: Municipal Autonomy and Minimal PRHTA Authority	SCENARIO IV: Municipal Autonomy and PRHTA Authority
A	Mixed – private, municipality, central government of Puerto Rico	Selective rehabilitation	<ul style="list-style-type: none"> • Recommend a rehabilitation program that is administered by the municipality but potentially funded by the central government. • PRHTA involvement and financing would be minimal. 	<ul style="list-style-type: none"> • Recommend a rehabilitation program that is administered by the municipality but potentially funded by the central government. • PRHTA involvement and financing would be minimal. 	<ul style="list-style-type: none"> • Recommend a rehabilitation program that is administered by the municipality but potentially funded by the central government. • PRHTA involvement and financing would be minimal. 	<ul style="list-style-type: none"> • Recommend a rehabilitation program that is administered by the municipality but potentially funded by the central government. • PRHTA involvement and financing would be minimal.
B	Mixed – private, central government	Selective improvement	<ul style="list-style-type: none"> • Recommend a rehabilitation program that is administered by the municipality but potentially funded by the central government. • PRHTA involvement and financing would be minimal. 	<ul style="list-style-type: none"> • Recommend a rehabilitation program that is administered by the municipality but potentially funded by the central government. • PRHTA involvement and financing would be minimal. 	<ul style="list-style-type: none"> • Recommend a rehabilitation program that is administered by the municipality but potentially funded by the central government. • PRHTA involvement and financing would be minimal. 	<ul style="list-style-type: none"> • Recommend a rehabilitation program that is administered by the municipality but potentially funded by the central government. • PRHTA involvement and financing would be minimal.
C	PRHTA	Joint development of mixed uses	Limited to developing transit-related uses independently (i.e., no joint development) or leaving the parcel vacant.	Joint development of mixed uses.	Limited to developing transit-related uses independently (i.e., no joint development) or leaving the parcel vacant.	Joint development of mixed uses.
D	Municipality	None	None	None	None	None

7.8 Findings

The following list represents the findings that are obtained from the four hypothetical development scenarios presented in this chapter for the Río Piedras station area.

- For the four parcels of land that are evaluated in the four scenarios for Río Piedras, only the PRHTA-owned parcel resulted in a significant difference in PRHTA strategy; that difference is directly attributable to the passage of the PRHTA bill. PRHTA's ability to develop on its own property appears not to be affected by the level of autonomy that is retained by San Juan. PRHTA's ability to develop on its excess land is influenced by legal factors, such as its legal authority to develop non-transit uses on excess land, and not by the level of autonomy retained by San Juan. As indicated by the scenario analyses of Parcel C, the excess parcel owned by PRHTA, the ability to develop mixed uses was authorized by the hypothetical passage of PRHTA's bill, and not by the change in San Juan's autonomous status.
- The development outcomes for these hypothetical scenarios are generally the same for land not owned by PRHTA, as indicated in Table 7-2 for Parcels A, B and D. The PRHTA-owned land, represented by Parcel C, is the exception to this observation, as discussed above.
- PRHTA's direct role in guiding rehabilitation of station areas, such as the historic town center area and the residential neighborhood, may be limited. PRHTA has neither the financing, expertise, institutional or legal capacities to carry out the large-scale improvements that it recommends in the long-term plan. For large-scale programs such as rehabilitation and housing improvement programs, it may be more pragmatic for the local and/or regional planning agencies to assume the responsibilities of administration.
- The scenario analyses suggest that greater authority for PRHTA, as proposed in the PRHTA bill, does not necessarily imply that it will be easier or more effective to realize improvements in the station area. The ability to coordinate with local and regional agencies regarding the development and/or renewal of designated areas may occur regardless of the authority endowed to PRHTA.

Chapter 8

Findings

This chapter presents the findings that have been gathered from the scenario analyses, the literature review, and the experiences of other transit authorities that were examined in this thesis. The findings that are presented herein are based on the objective of this thesis which is to examine the role of a transit agency in effecting station area development within a changing institutional environment

8.1 PRHTA's Role in Station Area Development

Research for this thesis was motivated in part by a bill that was submitted by PRHTA in November 1998 that would significantly expand the transit agency's authority to acquire, lease, develop and sell land within a proposed one kilometer Zone of Influence around transit stations in order to promote transit-supportive environment, as well as to contribute added revenue to the agency's budget. The bill also proposed allowing PRHTA to pursue joint development opportunities on its property and to allow PRHTA to develop other land uses, such as mixed land uses, on its property besides strictly transit-related uses such as park-and-ride facilities. This thesis examined whether the increased authority endowed to PRHTA would improve PRHTA's ability to effect station area development.

Based on the scenario analyses presented in the previous chapters, this thesis finds that PRHTA's bill, as currently proposed, would not significantly improve PRHTA's ability to effect station area development and a transit-supportive environment around Tren Urbano stations. The full extent of PRHTA's bill is not entirely necessary for development around station areas to occur.

However, some sections of the bill would increase the potential for some kinds of station area development, specifically, the authority to participate in joint development projects. This finding is based on the scenario analyses as well as on selective experiences of transit authorities in

the United States. For example, one of the reasons that are often cited for Atlanta MARTA's relatively moderate success in station area development, such as joint development, is that MARTA was legally prohibited from pursuing development types other than strict transit-related uses on excess land. The scenarios indicate that for the parcels of excess land that are owned by PRHTA, the transit agency would not have many options beyond constructing transit uses that are primarily transit-related or selling the property back to the previous property owner. Oftentimes, transit agencies have constructed park-and-ride lots on the excess land hoping to eventually convert them to more profitable uses. Therefore, the proposed legislation would be beneficial to the extent that it would allow PRHTA to pursue joint development projects, including those that may allow more freedom in land use types, such as mixed use projects, rather than strict transit-parking related facilities.

Conceivably, the bill presented by PRHTA would allow the transit authority to acquire additional land around stations after station construction under the premise that uses would be transit-supportive. Under the bill, land acquisition could occur through means of purchase, transfer, or even forced expropriation through the public power of eminent domain. However, because the scenarios examined two stations along the first alignment of Tren Urbano, and the stations are relatively compact with less excess land – at least in comparison to other stations located in the suburban neighborhoods of the region – there were not many opportunities to examine whether and how PRHTA could exercise the hypothetical power of supplemental land acquisition. For other stations, as suggested in the next chapter under Recommendations for Additional Research, an analysis of this possibility would be worth pursuing.

The proposed legislation would have no impact on how PRHTA could guide land use change or development over land owned by another public agency such as the municipality or another agency of the central government.

Based on the series of development scenarios for the two stations, this thesis also finds that the degree of authority retained by the transit agency will not necessarily influence the types of land use changes – such as overlay districts or zoning amendments – that an autonomous municipality may elect to pursue. In other words, greater transit agency development authority does not necessarily mean a change in land use patterns for all land.

8.2 Influence of Municipal Autonomy

This thesis also examined whether the autonomous status may influence PRHTA's ability to implement strategies for station area development, and PRHTA's ability to coordinate with municipalities that have or lack municipal autonomy. Based on the scenario analyses, this thesis concludes that PRHTA's ability to effect development on a particular parcel seems to be less influenced by the municipality's autonomous status than presumed in by the thesis objective. For the scenarios that are presented in the previous chapters, PRHTA was found to recommend the same type of strategy for land regardless of the autonomous status of the municipality. The ability to implement or recommend a strategy to the municipality, such as a rehabilitation program as suggested for the Río Piedras station area, appears to depend more on an agency's human and financial capacity rather than the autonomous status of the municipality.

However, this thesis does find that where the autonomous status of the municipality is important is in the preparation of comprehensive plans and station area plans. The importance of developing plans at the local level by a municipality is indispensable to station area development because they often reflect the benefit of local knowledge that may not necessarily be present in plans prepared by non-local agencies such as transit agencies and regional or state planning agencies. Although transit agencies such as PRHTA should develop their own station area plans, they should be coordinated with plans developed by a municipality. Station area plans developed by a regional or state agency may not reflect the insight of the local characteristics to the extent that plans developed by a municipal agency may. This is also supported by the literature and the experiences of the two transit authorities reviewed for this thesis. To that end, municipal autonomy – or at least steps taken in that direction via Territorial Ordinance Plans – ensure that municipal involvement is present during station area planning and development.

8.3 Coordination between Agencies

This thesis also finds that if property with potential development value within a station area is owned by a municipality, it may be difficult for the transit authority to influence future land uses, especially if the municipality's plans are not entirely consistent with the transit agency's.

Furthermore, strong leadership at the municipal level can be either a hindrance or benefit to station area development.

Decentralization towards municipal autonomy seems to be a positive but not significant factor in station area development. However, decentralization does not seem to have influenced PRHTA's decisions to plan and develop areas around Tren Urbano stations as presupposed in the introduction to this thesis. Is this finding – that decentralization is not as big of a factor as assumed – contrary to the research on other regions in the United States.

Chapter 9

Recommendations and Conclusion

9.1 Recommendations

9.1.1 Recommendations to PRHTA

Based on the findings presented in the previous chapter, this thesis recommends that PRHTA's authority should be expanded to include some development flexibility, specifically the ability to pursue the joint development of projects on excess land other than specific transit-related facilities such as park-and-ride lots. However, it remains highly doubtful that PRHTA or station area development will benefit from attaining as much control over land that it proposes in its legislation.

The general findings presented in the previous chapter suggest that the autonomous status may not have as big of an influence on the development outcome of specific parcels or areas of land as originally presumed at the outset of this thesis research. However, it does seem that where municipal autonomy will be important is in developing station area plans, or other type of land use plans. With relative independence from the Planning Board – although not complete independence, as indicated in Chapter 2 of this thesis – the municipality should take a pro-active role in preparing station area plans.

Direct community outreach may build relationships between central government PRHTA and local neighborhoods and residents. Working with community groups, as Pesquera did in Río Piedras, may be one way to resolve/overcome the intense politicization on the island. Secretary Pesquera already initiated “this model” which should be duplicated for other neighborhoods around the region.¹⁰²

Possibly, if PRHTA becomes legally authorized to participate in joint development, and PRHTA is successful in at least a few joint development projects, their work can be used to set a

precedent for others who may be interested. The rationale behind this is for PRHTA to set some precedents, showing by example. There are also some risks in pursuing a joint development program by PRHTA, including the likely solicitation by “friends and family” to “get in on” joint development projects with PRHTA

Competency and Advocacy possibilities for PRHTA in station area planning and development. On top of that, if PRHTA does get the power to buy land, would it increase or decrease the agency’s effectiveness?

Finally, in recent years, MARTA has begun to move away from a policy of leasing surplus land and toward selling land outright. Officials in MARTA’s Real Estate section indicate that lease income is earmarked for agency operations, while sale income goes toward capital improvement programs. Because MARTA’s Board of Directors feels that extending lines to complete the system is a high priority, securing large cash sales from land sales has taken precedence over generating relatively small amounts of leasing income

9.1.2 Recommendations for Additional Research

Similar scenario analyses except for stations with even more excess land. [Fred suggests] Martinez Nadal and Cupey because they also share similarities in the areas surrounding the stations. The analyses could be used to examine whether the large joint development opportunities in these station areas would occur as a result of the station or not. What role should/would joint development have in the future if they are considered to be key strategy in promoting transit-supportive environments? Would joint development be beneficial? Or would it be a real risk?

9.2 Conclusion

The role of a transit authority is essential to station area development. In the case of Tren Urbano in Puerto Rico, PRHTA seems to represent the few agencies that is making a concerted effort to present a vision for improving the quality of life at both the local and regional level in the San Juan metropolitan region. Without PRHTA taking this very active role in station area planning, it is unknown how some of the areas may ultimately develop. However, just because transit authorities

¹⁰² Salvucci.

should play an active role in station area planning and some joint development activities, should not mean that they should have almost unbridled control over the development of land, particularly land that is privately owned.

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