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Executive Summary

Analysis of Public Transportation System in Santurce, Sagrado Corazón Station

by

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Executive Summary

I. Introduction

The Implementation of the Tren Urbano project in San Juan Metropolitan Area will reduce traffic related problems like jams and parking demand. But, it is necessary to provide complementary public transportation systems for Tren Urbano passengers whose activity center is not in the vicinity of one of the projected stations. The passengers need a system that provides direct and fast access from and to the stations.

The Sagrado Corazón Station in Santurce is a terminal station of the Phase I of this project. Santurce area is an important activity centers of San Juan city. There are many projects proposed for Santurce, that projects will help to rehabilitate the area but they will have a great impact in the transit. Actually, the area has a high criminal incidence, and people don't feel confidence to walk around this area.

The objective of the research is to study and propose a public transportation system for passengers of Tren Urbano in addition to current public transportation in Santurce. The system has to provide direct and fast access to the station, cover and serve a large number of areas and has to be safe.

A literature review about characteristics of the public transportation like AMA, Metrobús "Públicos and taxis, and characteristics of activity and security system for the area of study was performed to achieve the research objective. Also, various studies about the success of different mass transit such as trolley, shuttle and bus system in Puerto Rico and other countries will be studied as part of research.

An alternative public transportation system in Santurce will help to improve the effectiveness of the mass transportation. In addition, more areas will be covered and a safe environment will be developed.

II. Findings

II.1 Characteristics of Public Transportation System in Santurce: AMA and Metrobús

1. **Network:** The network is longitudinal and almost covers all the area of study.
2. **Vehicles:** Four models
 - **1995 Flexible Metro:**
Of the total of 47 Buses 24 are for Metrobús and 23 for regular routes. The dimensions are 40 ft long and 96 in wide. A Series 50 Engine from Detroit Diesel and ALLISON VR 731 transmission powers them. They have capacity for 44 seats and provide 4 wheelchair positions.
 - **1992 Methanol :**
There are 36 RTS Methanol buses. The dimensions are 40 ft long x 102 in wide. They have capacity for 45 passengers with 2 wheelchair positions. They are used for regular routes.
 - **1996 Paratransit Van:**
There are 6 vehicles and they are used for Dial-a-Ride Service (Llave y Viaje). They have capacity for 12 seats and are used for passengers that do not require a wheelchair or need special access.
 - **1992 Paratransit Bus:**
There are 9 diesel powered vehicles (Ford E-350) and have capacity for 6 passenger with 3 wheelchair positions.
3. **Bus Stops and terminals:**
 - There are 7 terminals and 3 transference centers.
 - In Santurce there is one transference center "Parada 18".
 - The bus stops are simple with a roof and a bench.
4. **Administration and Operation:**
 - AMA is a public corporation integrated to PRHTA and PRDTWP.
 - AMA Operates with 500 bus drivers and provides 3 types of services: Regular routes, Paratransit (Dial-a-Ride) and "Media Tarifa".
 - The fares varies from \$0.1-\$0.5.
 - Letters classifies the routes: A, B, C and M (Metrobús). The frequency of the buses varies by category.

II.2 Activity System in the Area

In Santurce there a great activity system, it's formed by private, governmental and educational institutions, banks, hospitals and commerce. A lot of important job centers (with more than 100 employers) are located 1 mile away from the station. Some of them are identified with more than 500 employees. An alternative public transportation system would provide services to this area located between Ponce de León and Fernández Juncos Avenue.

II.3 Security in the Area of Study

In Santurce there are 3 Police Precincts: Parada 19, Barrio Obrero and Calle Loíza. Any of the headquarters are located near the station. They are located more than 1 mile away from the station.

The most frequently crimes in Santurce are unlawful appropriation, burglary and theft of vehicles.

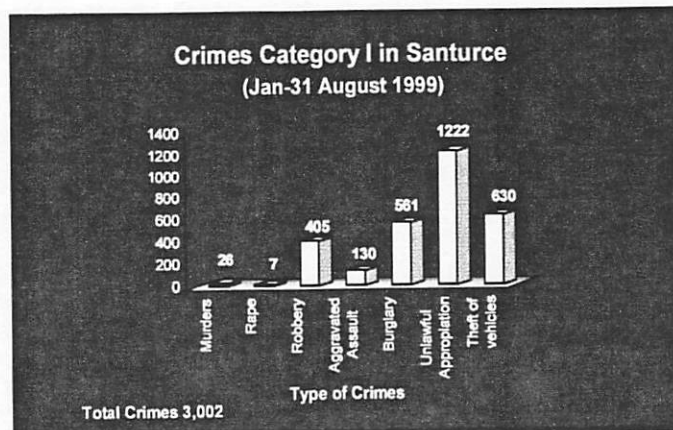


Figure 1: Crimes comparison in Santurce

More crimes occurred in Barrio Obrero and Parada 19 precincts during 1999. The most frequent crimes in Parada 19 precinct are unlawful appropriation, burglary and theft of vehicles. Approximately, 1 vehicle is stolen per day. In Barrio Obrero precinct occurred more unlawful appropriation, burglary and aggravated assault than other crimes of category I. But there is a high murder incidence. The number of murders from 1995 to 1999 was reduced.

More crimes occurred during the night from 5:30 PM-12:00 PM in this year. But, more murders were reported between 5:30 PM-6:30 PM. At this time period the Tren Urbano will have a high number of passengers.

II.4 Security Programs provided by Police

Security programs help to improve quality of life in the area. In addition, safer environments contribute to develop efficient transportation system.

The crimes in the area covered by Parada 19 Precinct were reduced by the implementation of a security program, *Santurce Rescue*.

- The program has 3 shifts of 60 police agents walking around the streets during 24 hours.
- The community formed councils.
- There are police agents in motorcycle and bicycle.
- A police patrol rounded all sectors during 24 hour a day.

III. Preliminary Conclusions

1. Santurce activity system presents many opportunities for implementation of public transportation system.
2. There are opportunities to cover more areas and provide a schedule to complement the intermodal system in coordination with Tren Urbano.
3. The implementation of special safety programs has improved the security in the area of study. But, more special programs are required to guarantee a safe environment in the area.

Future works

1. Analyze alternative intermodal system to complement the public transportation like shuttle, trolleys, vanpool and carpool.
2. Study characteristics of "Públicos" and taxis.
3. Analyze alternative routes for the intermodal system to be proposed.
4. Analyze the cost of the implementation and operation of the alternative system.
5. Study different incentives for governmental and private institutions.