

# **Airport Access Via Tren Urbano**

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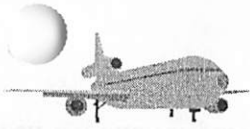


## **Research Objectives:**

To determine whether or not an airport rail link in San Juan will attract significant ridership and be cost-effective.

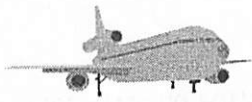
## **To be discussed:**

- \* Importance of airport access
- \* Factors that determine the effectiveness of airport rail links
- \* A preliminary look at San Juan
- \* Methodology for this research



## **Importance of airport access:**

- \* A city's economic growth is affected by the ease of airport access
- \* Aviation is even more important in a city like San Juan that is located on an island far away from the mainland United States
- \* An airport rail link can provide fast and reliable airport access



## **Markets for travelers to and from an airport:**

- \* Residents of the city departing and arriving
- \* Visitors to the city departing and arriving
- \* Workers who work at the airport



## Most Americans do not use rail links to get to the airport:

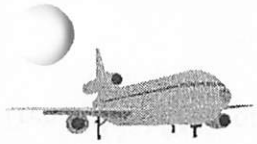
### Percentage of air passengers who use transit to access the airport

| <u>Airport</u>      | <u>Rail</u> | <u>All Transit</u> |
|---------------------|-------------|--------------------|
| Washington National | 15%         | 23%                |
| Boston Logan        | 6%          | 26%                |
| Chicago O'Hare      | 5%          | ----               |
| Philadelphia        | 5%          | ----               |



## **Factors which tend to increase ridership along an airport rail link:**

- \* Speed comparable to the automobile
- \* Good reliability
- \* Good connections to and from the rail link
- \* Advantageous location of the airport train terminal
- \* Origin and destination concentrations in places that easily connect to the rail link
- \* Significant population along the rail link
- \* Location of airport near to the city



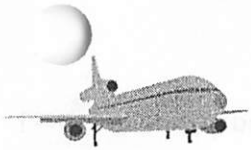
## **Factors which lead to lower airport rail link ridership:**

- \* People carrying large bags
- \* People desiring to see one another off at the airport
- \* Ample and inexpensive parking facilities
- \* Perplexing systems that cannot attract visitors
- \* Poor public transportation system



## **Preliminary look at Access to Luis Munoz Marin International**

- \* Parking rates: \$1.35 first hour, \$1 each additional hour, \$18 special daily rate
- \* Two highways (52 and 22), but one access point (26)
- \* One bus to San Juan (A7) with no schedule, supposed to come every 30 min, bus cost = \$0.25, bus to Carolina (M8), run from 7am to 9pm
- \* Publicos to points outside San Juan
- \* Limited airport limo service to hotels



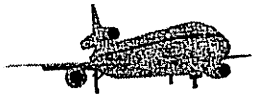
**Factors which may influence the ability of an airport rail link in San Juan to attract a significant number of passengers:**

Favorable

Airport location near city  
Congestion along airport access roadway  
Key origins and destinations connected by rail

Unfavorable

Non-transit orientation  
Large number of tourists  
Slow connections?



## Methodology

- 1) Perform case studies of other American airport rail links to determine which factors lead to a cost-effective airport rail link and which factors tend to make an airport rail link a losing proposition
- 2) For each group of travelers, residents, visitors and workers:
  - a) determine the distribution of airport passenger and worker origins and destinations
  - b) determine the number of origin and destination concentrations for airport passengers and workers that will be served by Tren Urbano
  - c) determine the comparative advantage of an airport rail link over the current mode choice



## **Expected contributions of this research:**

\* Provide information essential to determining whether or not an airport rail link in San Juan as an extension of Tren Urbano will attract significant ridership and be cost-effective

# **Tren Urbano Airport Access Research Proposal**

by Joshua Schank MCP '99

Prepared for Professor Nigel Wilson  
October 15, 1997

## **Introduction**

In many American cities, the road that links the airport to the rest of the city can be extremely congested. Often, this is one of the most heavily traveled routes in the city outside of morning commuter routes. It therefore presents a perfect opportunity for a rapid transit link. The amount of traffic going to and from airports is generally considered more than adequate for maintaining a rapid transit line in a large city. Despite this large number of potential riders, however, most American rapid transit lines connecting the airport to downtown are severely underused. Perhaps more importantly, most of them account for a small fraction of the number of trips to the airport in those cities. Some cities have fared better than others, showing some relative success, but overall, most rail links to airports have failed in this country.

Proposed here is a report that will determine the effectiveness of the planned rail line to the airport in the city of San Juan. This report will eventually predict the relative success or failure of the planned extension of the Tren Urbano system that will connect to the San Juan airport. The methodology will be an analysis of important factors, a critical examination of American rail airport links, and a comparison of the proposed link in San Juan to the links already in existence.

## **Importance of Airport Access**

In any major American city, how a traveler gets to the airport is of extreme importance. Due to the large size of our country, we rely on the airplane to get us everywhere quickly. A reliance on airplanes and airports means that there is a de facto reliance on airport access, for if we cannot get to the airport efficiently, that makes flying as a whole less efficient. Therefore, the rapidity of routes to the airport is one of the things that makes a city accessible or inaccessible, and thus has a major impact on the local economy. Air traffic is only going to increase. Airports are continuing to expand as aviation becomes a part of the lives of more and more people. Besides business travel, the major source of airplane traffic, tourist travel is also growing. Low-cost carriers have entered the marketplace and often fly routes that may have previously

been inaccessible to people of lower incomes, putting even more people into the air. In short, the importance of airports and airport access will only grow from here. This is why every city in America must carefully plan its airport access routes to help insure the economic viability of the city and its surrounding area for decades to come.

The importance of good airport access in a city like San Juan is even greater than in most American cities. San Juan, unlike Chicago or Los Angeles, is located on an island, and this limits accessibility by modes other than the airplane. This is not an island like Manhattan, where bridges and tunnels connect island to mainland. San Juan is on the island of Puerto Rico, which is much too far from the mainland United States to be connected by a bridge or tunnel. This makes the San Juan airport virtually the only point of access for the city of San Juan from the mainland United States, or anywhere else for that matter. People cannot just get in their cars, or hop on a train or bus to get to San Juan. They must, almost universally, get into an airplane and land at the San Juan airport. This means that they must also be able to get from that airport to where they are going. San Juan, more so than mainland cities, must have efficient airport access to make the city itself accessible.

Currently, the San Juan airport is linked to the rest of the city by one major highway. This highway often becomes congested and makes the trip to the airport, which is very close to downtown, much longer than it should be. Business travelers must waste valuable time either sitting in traffic, or allowing extra time for the possibility of traffic to ensure that they make their flights or appointments on time. Tren Urbano presents a unique opportunity to ameliorate this problem. With a rail transit system planned for the city, San Juan now has the opportunity to link its airport with the rest of the city by rail. This is why one of the planned extensions of Tren Urbano is slated for airport access.

Unfortunately, however, the extension could easily prove to be a disaster. Most Americans drive to the airport. Those that don't drive take taxis. An extremely small percentage of people use rail transit to get to the airport when it is available. The percentages are much lower than in Europe, where travelers are more likely never to need a car, and are therefore happy

to use rail. In the U.S., where most trips must involve an automobile at some point, people are resistant to rail transit. These factors are no less important in San Juan, where citizens' dependence on automobiles is excessive. It is important to determine, before the Tren Urbano airport extension is built, how many people will actually use it. It is important so that if and when it is built, strategies can be followed, based upon the successes and failures of other airport rail links in this country, that will create an attractive airport access method that people will actually use.

### **Factors to be Considered**

The following are the important factors that make an airport access link successful or unsuccessful. These are the major points upon which the Tren Urbano airport extension will be judged in the proposed report.

#### **1) Speed relative to the automobile.**

The travel times for travelers using this rail link are extremely important. If the link is slower than an automobile traveling under congested conditions, no one will use it unless they have to. If the link is faster than an automobile in congested conditions, but slower than an automobile in free-flow conditions, it will still have trouble attracting ridership, but it may be somewhat successful if traffic occurs with great frequency. To attract significant ridership, a rail link to the airport should provide travel times at least as fast, if not faster than an automobile under free-flow conditions.

#### **2) Reliability.**

An airport rail link must beat the automobile in reliability. A safe, efficient train system has a prayer of getting riders out of their cars and into trains on their way to the airport. An unsafe or inefficient system has no chance. Cars are generally reliable forms of transportation, if

one overlooks the traffic. Any airport rail link must match this reliability in its operation, and beat this reliability by using a train's natural advantage: no traffic.

### **3) Baggage**

Airport rail links carry travelers who are likely to have baggage, since they are about to embark on a plane flight. Many people avoid rail links to airports because they do not or cannot carry their bags on and off the train or connections to the train. Although this problem cannot easily be eliminated, an airport rail link must consider it and take steps to alleviate it.

### **4) Connections to the rail link.**

Extra care must be provided to ensure easy connections to and from a rail link. This is due to the fact that many people have baggage when they are traveling to the airport, and that time is of the essence more than ever when people are trying to make a plane. Any connections to and from the airport rail link must have clear markings and travel must be synchronized. These connections must be as simple, convenient, and efficient as possible or else no one will use them.

### **5) Location of airport train terminal.**

A train may connect the airport to the city, but it means nothing if people cannot get from the train to their plane. The location of the terminal for the train is vital to the link's convenience, speed, and success. A smart location within a short walking distance of every single gate in the airport (if possible) would boost the system tremendously. An unwise location that requires a shuttle bus, long walks, or other complicated and inconvenient features will hurt the system tremendously.

### **6) Ability of system to harness riders from outside San Juan.**

An airport access link by its very nature must handle tourists and businessmen who are often relatively unfamiliar with the city which they are entering. The link and the transit system as a whole must cater to these people, and provide them with clear directions as to how and where to catch the train. It is almost always trivial to catch a cab from an airport - and if you are a businessman traveling in a strange city on the companies payroll, why on earth would you try to use the airport rail link? An airport rail link must therefore pay special attention to signage and fare collection, as well as omnipresent maps.

#### **7) Social issues.**

People going to the airport may use an automobile for another reason besides convenience; many families like to see each other off on trips. This is a social issue that may hamper airport rail access. Paying for a family to ride the train to the airport instead of driving makes no economic sense, and is simply unrealistic to expect. This is an issue that must be considered, perhaps more so in San Juan than in other American cities.

#### **8) Parking cost and availability.**

The more that parking at the airport costs, the more likely that people parking their cars at the airport will find an alternative method of transportation. A full analysis of parking at the San Juan airport is necessary to help determine how many people will use an airport access rail link.

#### **Methodology**

The first step in the research for this proposal will involve an exhaustive investigation of what is actually planned for San Juan. The details of the planned extension of Tren Urbano to the airport must be clearly understood before any assessment can be made. From there, analysis of trip times to and from the airport with this rail link will be calculated. These times will be compared with times calculated for automobiles. Following this, the rest of the factors listed above will be assessed for Tren Urbano.

In order to put these assessments and calculations into perspective, the second part of the methodology for this proposal will be several case studies. Each major airport rail link in the United States, including Atlanta, Boston, Chicago (2), Miami (3), New York City, Philadelphia, San Francisco, and Washington DC(3), will be analyzed. From this analysis, the relative importance of each factor examined will be determined, as well as any additional factors that should be considered. Each additional factor will be applied to Tren Urbano. With each factor clear for Tren Urbano and its relative importance determined, a picture of the relative success or failure of the planned airport rail link in San Juan should emerge.

### **Conclusion**

The impact of a city's airport on the city itself cannot be overemphasized. People will happily fly to a city where they will encounter a reliable, safe, and comfortable airport. A major part of this "comfort" factor is airport access. Annoying airport access makes for an annoying airport. Annoyed travelers make for travelers that do not return. Since San Juan counts on tourism for a good portion of its economy, its first economic priority should be making travelers comfortable. In order to do this, good airport access must be provided.

In too many American cities, a rail transit link to the airport is provided but underutilized. It is important that we prevent San Juan from becoming one of those cities, in order to avoid large amounts of wasted money and time. Before the airport rail extension of Tren Urbano is built it must be determined that the plan is for a link that people will actually use. The report proposed here intends to do exactly that. When this report is completed, it will be clear as to what changes need to be made to the planned airport link, if any, and whether or not the plan should be constructed at all. This information is invaluable to the future of San Juan and Tren Urbano.