



Analysis and Evaluation of the Domenech Station for Tren Urbano

A case study on the implementation of a Transit Village

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Introduction

- *The process of refining the alignment of the Tren Urbano is an ongoing task.*
- *Because of this refinement the Domenech Station will be included in the first phase of T.U.*
- *The variety of development in the sector merits special attention.*



Motivation

- *To familiarize with the process of identifying and including a new station.*
- *Participate in a project of great importance for the urban development of Puerto Rico.*
- *Study this particular sector as a possible "Transit Oriented Development"*

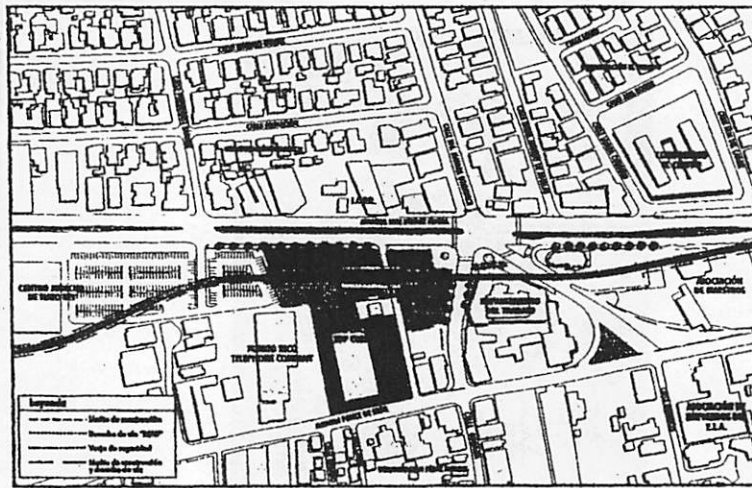


Purpose of this Study

- *Collect information on the trip generators surrounding the Domenech Station.*
- *Evaluate the impact of this station to the total system of the Tren Urbano.*
- *Conduct a survey on the sector to identify the Origin - Destination patterns and travel characteristics of locals working in the area.*



Domenech Station



Estación Domenech
Domenech Station

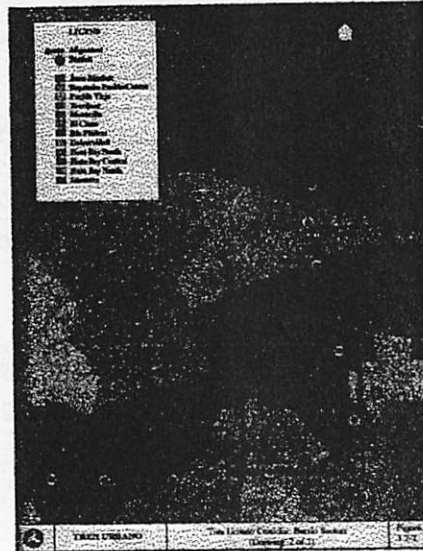


Justification

- *An important center of commercial and residential activity.*
- *This busy sector was not attended by either the Hato Rey Centro Station nor the Centro Judicial Station.*
- *Variety of development on the area is very helpful for the balancing of the demand in the Tren Urbano.*



Tren Urbano Alignment

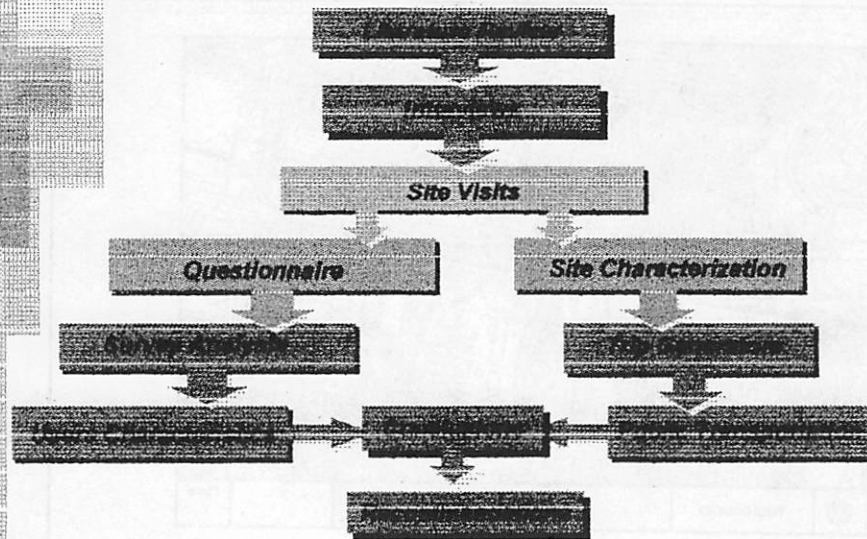


Historical Background

- This Station was presented on the Final EIS as a "Future Station" for the Tren Urbano.
- Further analysis brought the possibility of inclusion to the first phase of the project.
- On December of 1997 an amendment is approved that incorporates another station to the system.



Methodology Description



Alignment of the Station

- There were three alignments that were considered for the location of the Domenech Station:

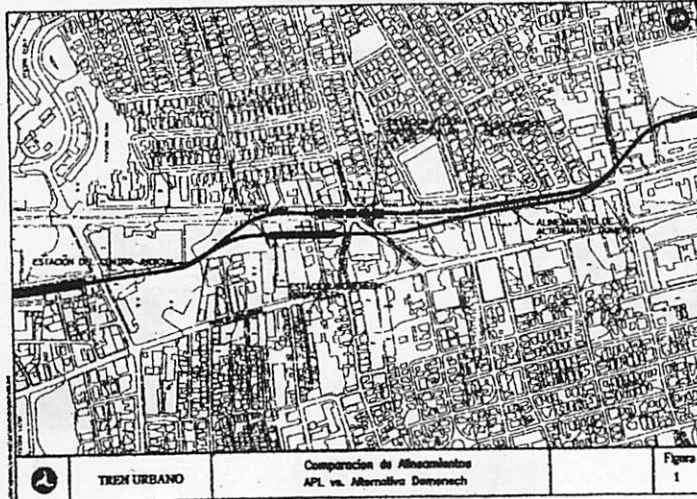
⇒ Mid Block Alignment

⇒ LPA - (Locally Preferred Alternative)

⇒ Domenech Alternative



Proposed Alignment



TREN URBANO

Comparación de Alineamientos
APL vs. Alternativa Domenech

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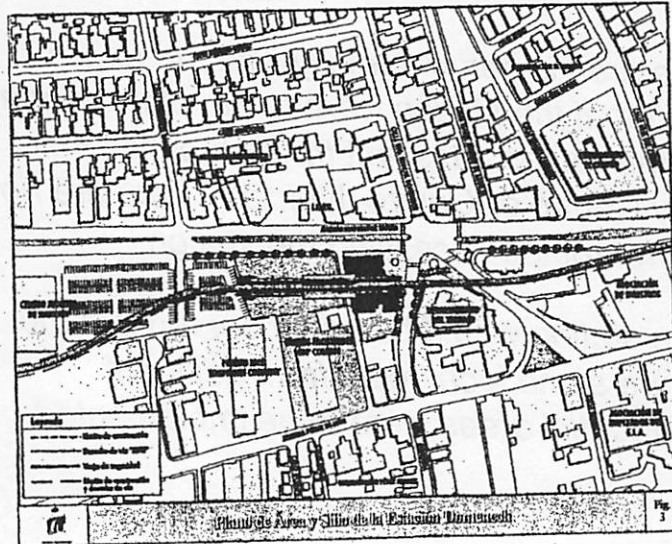
Trip Generators

- Mayor generators on the area are from the governmental as well as the private sector

	Employees	Students
Department of Labor	1,046	-
Retirement Systems Association	650	-
E.L.A workers Association	532	-
Hato Rey Community Hospital	300	-
I.C.P.R. Jr. College	49	612
E.D.P College	52	519
Antilles Tech. School	40	379



Domenech Sector



Public Transportation in the Area

- Public transportation on the sector is served directly by 5 routes which pass right in front of the future station.
 - Main Arterial Routes
 - Metrobús 1
 - Route 1, Route 2, Route 3
 - Local Route
 - Route 41
- The sector is also served from Caguas with the Palmeras “Público” Route



Public Transportation in the Area

- *This area is served partially with the public system if the station were to be placed today. All the routes pass first through either Hato Rey Centro or Centro Judicial. There are no lateral routes accessing the station.*
- *The station would be better served if in the future some local routes from adjacent residential areas were to be implemented*



Demand Characteristics

- *The Domenech Station is expected to have the shown rider ship in 2010 in comparison to Hato Rey Centro and Centro Judicial:*

	<i>To San Juan</i>		<i>From San Juan</i>	
	<i>Alightings</i>	<i>Boardings</i>	<i>Alightings</i>	<i>Boardings</i>
Centro Judicial	3387	953	1032	3109
Domenech	1595	886	996	1661
Hato Rey Centro	5106	837	1021	5951



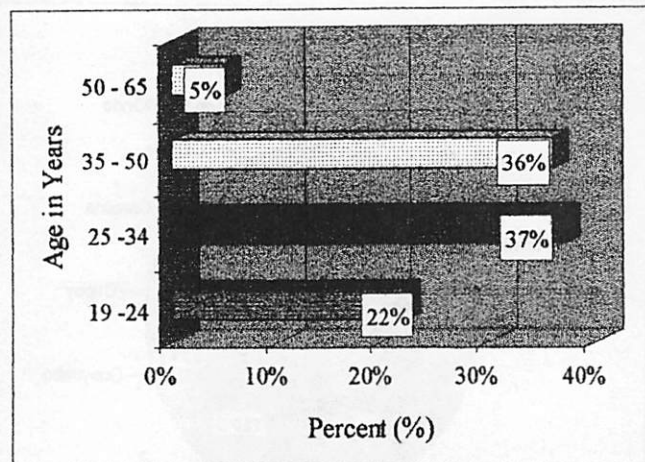
Origin Destination Survey

■ The Origin Destination Survey was conducted on the areas adjacent to the location of the Domenech Station.

- ⇒ 59% Women , 41 % Men
- ⇒ 62.3 % didn't mind the alignment along the LMR Ave
- ⇒ 84 % arrived to the sector using a private vehicle
- ⇒ 58 % perceived finding a parking on the sector very difficult, yet 73.6 % paid less than a dollar for it.
- ⇒ 70 % of the people made more than one trip during the working day

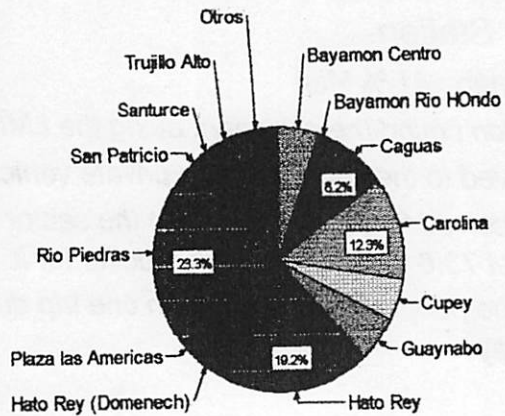


Age Distribution

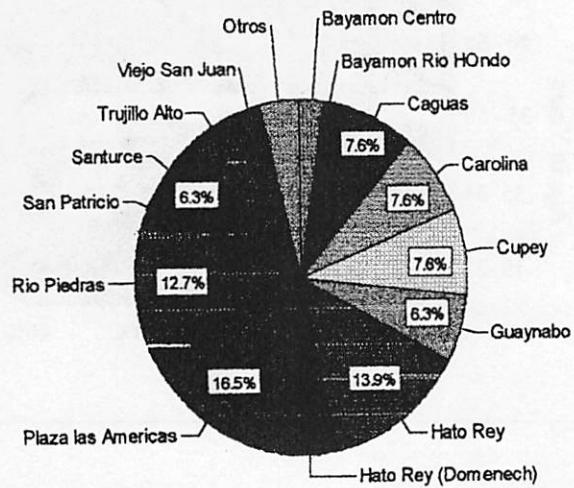




Origin of Trips Arriving to Sector

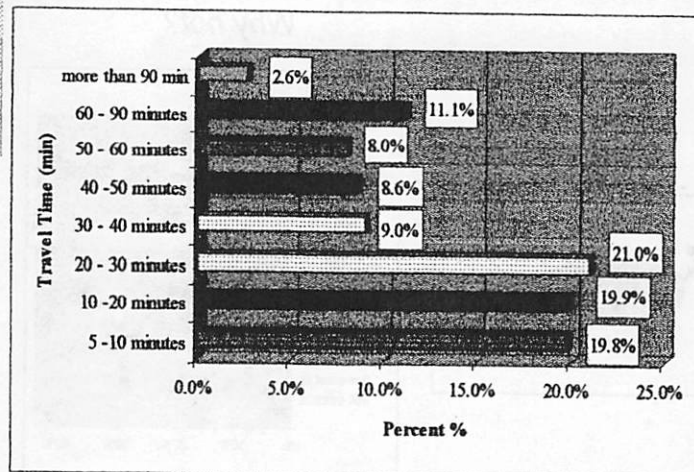


Destination of Trips leaving the Sector

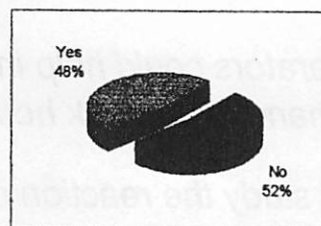




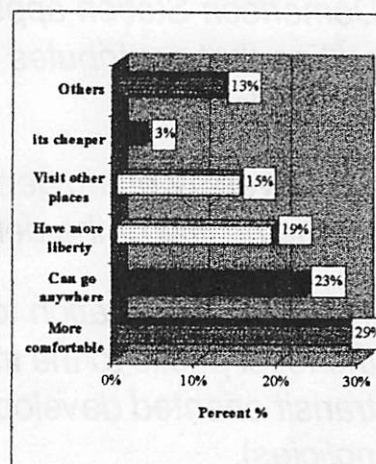
Travel Time to Sector



Are You Willing to Leave your Car to use the Tren Urbano?

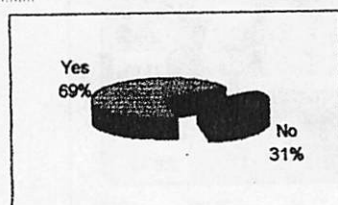


Why not?

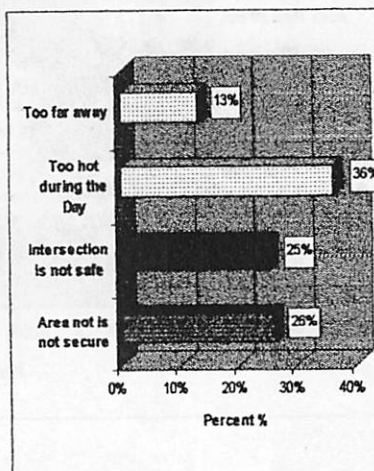




Are you willing to walk from the Station to your Destination



Why not?



Conclusions

- *Domenech Station appears to be a good station that contributes to the effectiveness of the system.*
- *The diversity of trip generators could help in the balancing of the demand in off peak hours*
- *This is a good station to study the reaction of the local public to the implementation of transit oriented development (Ex. parking policies).*



Conclusions (cont.)

- *The perception of heat and humidity is a very important factor to be considered when delimitating the area of influence*
- *Many potential users do not know about the alignment of the train.*
- *The actual public transportation on the sector is conglomerated on one route.*
- *The most important issues for people are punctuality and Security.*



Influence Radius of Stations





Recommendations

- *Increase marketing of the Tren Urbano so that the project is well received by the public.*
- *Emphasis on Public Information Systems is very important.*
- *There needs to be more effort on integrating the adjacent residential communities by running perpendicular bus routes to the Luis Muñoz Rivera Avenue.*



Recommendations (cont.)

- *More emphasis on the pedestrian access to the station is required if we want to promote development around the Station.*
- *Take advantage of this sector to implement on the system a Transit Oriented Village where people on this area could **depend** on public transportation to move around.*