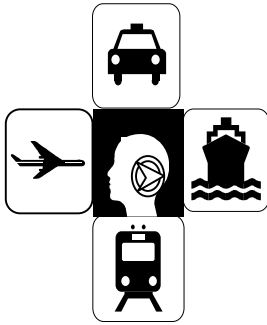


# JERSEY DOT'S

*"Turning Problems into Solution"*



## *Tech Brief*

### Hudson Bergen Light Rail Customer Impact and Retention Study

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Think Jersey DOT

FHWA-NJ-2009-004

March 2009

### **The Problem?**

The light rail transit (LRT) has been discussed extensively in the 21<sup>st</sup> century, especially its positive and negative impacts along the corridor and around the stations. As indicated in previous studies, a large number of passengers were initially attracted to the LRT service when the systems were first opened. With the linear extension, more patrons may be generated to the newly extended areas but at the same time, the increased travel time may discourage some existing riders. New Jersey Transit (NJ TRANSIT) extended three more stations along the northern end of the Hudson Bergen Light Rail Transit (LRT) service in February 2006. What are the customer impact and ridership retention of the newly extended segment?

### **The Response !!!**

In order to assess the impact of the newly extended Hudson Bergen Light Rail Transit services, NJDOT commissioned New Jersey Institute of Technology (NJIT) to undertake a Customer Impact and Ridership Retention Study so that they will be in a more informed position in terms of the travel behavior changes and ridership impact associated with the service extensions. This study consisted of a platform survey of HBLRT riders and an analysis of travel behavior changes and ridership impacts associated with the northern extension of HBLRT from Hoboken to Tonnel Avenue.

## **Research Objectives**

The purpose of this research was to measure the success and deficiencies of the Hudson Bergen LRT extension and to measure the public benefit of the investment in light rail transit. The research team was charged to explore the comprehensive impact of the Hudson Bergen LRT extension and highlight the specific impact on travel behavior, such as mode shift, ridership retention, and utilization of intermodal transportation systems. To derive the ultimate product of this project, the research team accomplished the following objectives:

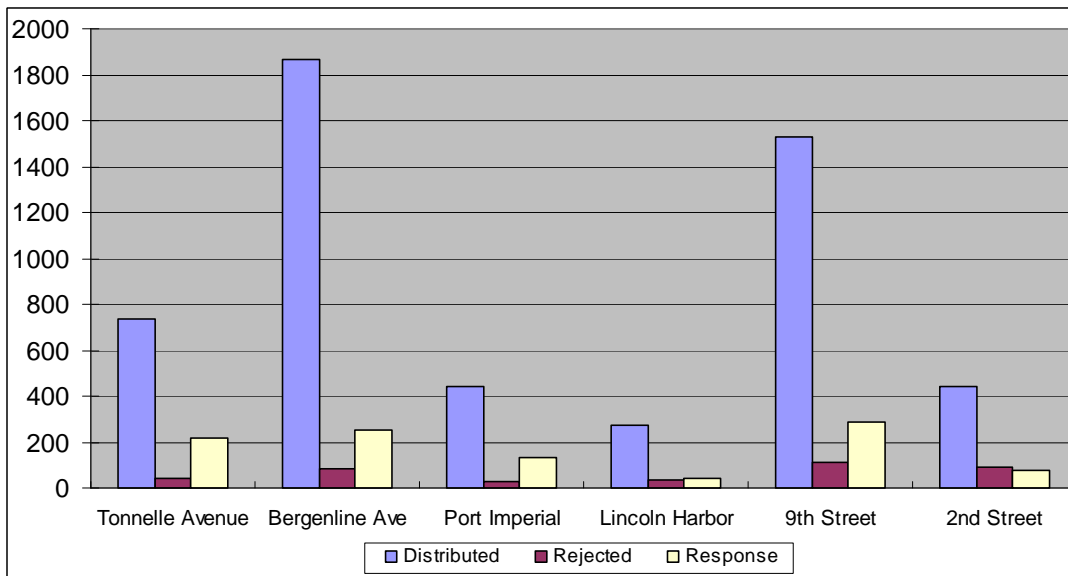
- Conducted and analyzed a platform survey along the northern segment of Hudson Bergen LRT.
- Identified and understood travel pattern shifts, including auto diversions, induced ridership, and time-saving benefits due to the extension of the Hudson Bergen LRT services.
- Estimated the impact on retaining existing riders and integrated bus and light rail services.
- Measured the success of the Hudson Bergen Light Rail in meeting its major objectives.
- Provided data to support Hudson Bergen Light Rail business planning activities and marketing programs.
- Identified residential location impacts of the extension in terms of households moving to station areas.

## **Project Tasks**

- Conduct Platform Survey.
- Identify Travel Behavior Changes.
- Estimate Ridership Impact.
- Provide Data to NJ TRANSIT.
- Prepare a final report.

## Survey Results

As shown in the graph below, the overall response rate for the platform survey was about 19 percent, which is within the range of transit platform surveys. After comparing the demographic and socio-economic information between HBLR riders and general residents who lived within the HBLR corridor, the research team has presented a typical profile of the HBLR riders, who are generally concentrated in the middle ranges of the age groups, have family structures and household sizes similar to those of general residents, and have generally higher incomes than those of the corridor residents.



*Response rates for each station*

## Main Findings

The study found that a large portion of the HBLR riders use the HBLRT five or more times a week, and a majority of them commute to work. “Walking” is the predominant access mode and second largest share of the access mode is “bus”. While a small portion of HBLR riders drove to the LRT station either alone, car-pooled, or were dropped off, even smaller portions of riders used ferry, taxi, bicycle or other modes, such as mopeds. For those riders who drove to the HBLRT stations, more than two-thirds of them parked at a NJ TRANSIT parking lot, and the rest parked either at private lots or in on-street parking spaces.

More than two-thirds of HBLR riders live less than a half mile from their boarding stations. The top boarding stations along the Tonnelle Branch are Bergenline Avenue and the 9<sup>th</sup> street/Congress Street Station. Among all the HBLR riders boarding from the Tonnelle Branch Stations, three-quarters were destined to New Jersey and one quarter headed to New York City (NYC) across the Hudson River. The majority of riders to NYC transferred to the Port Authority Trans Hudson (PATH) services at the Hoboken, Pavonia-Newport or Exchange Place stations. Most riders destined to New Jersey actually walked to their final destinations and about ten percent of them transferred to another NJ TRANSIT commuter train.

Almost two-thirds of the HBLR riders utilized monthly passes, and some of them combined the monthly pass with parking permits or ferry passes. Most of the people choose HBLRT since it is the best choice despite other ways to travel. A small portion of riders have no other way to travel, which may be labeled “captive riders”.

The customer satisfaction survey data indicated a generally positive impression of the HBLRT service. Various responses, grouped into station, schedule, vehicle, fare or communication, will be helpful to the NJ TRANSIT customer service and marketing departments for further direction on improving service levels and customer satisfaction.

Detailed travel behavior change analysis revealed that a majority of the riders, 95 percent, has been using the LRT service less than four years, which coincides with the extension of the Tonnelle Branch. It is safe to say that a large portion of the riders would not be able to use the LRT if the Tonnelle Branch had not been extended. The survey data also shows that a good portion of riders started using the HBLR service due to new employment or residential locations along the corridor, another indication that the HBLR extension may have played an important role in some people’s housing or employment location decisions.

As for the prior modes, the largest conversion, 36 percent, is from the bus, while driving and other transit modes, such as PATH or NJ TRANST trains, trail at about 14 percent each. Further examination of reasons for the mode switch indicated that convenience of the HBLR ranks at the top, while cost and time savings have also been contributing factors.

Some brief comparisons between the 2005 and 2008 platform surveys were made. In terms of trip frequency, more riders used the HBLR more often in 2008 than they did in 2005. The portions of less frequent users, such as one to three days each week or each month may have decreased but the absolute numbers have increased dramatically. “Walking” remains the predominant access mode for both the 2005 and 2008 surveys, while driving and bus have both increased dramatically in terms of proportions and absolute volume.

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A final report is available online at  
<http://www.state.nj.us/transportation/research/research.html>

If you would like a copy of the full report, please FAX the NJDOT, Division of Research and Technology, Technology Transfer Group at (609) 530-3722 or send an e-mail to [Research.Division@dot.state.nj.us](mailto:Research.Division@dot.state.nj.us) and ask for:

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