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Impact of a light rail extension on residential property values☆

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ABSTRACT

Previous work has examined a new light-rail line or upgrades to existing rail infrastructure. However, the following is the first examination of the value of an extension of a light-rail line. The analysis relies on repeat sales of houses in Bayonne, New Jersey, where the first sale occurred before the 2008 announcement of a southern extension to the Hudson-Bergen Light Rail to 8th Street in Bayonne, and the second sale occurred after the opening of the station in 2011. Our results show that the 8th Street Station had no statistically significant impact on annual house price appreciation. That is, we find no evidence that properties closer to the station showed more price appreciation than properties further from the station.

1. Introduction

In an attempt to reduce the problems associated with traffic congestion and spur economic development, a series of U.S. cities have built light-rail transit systems.[1] Proponents of these systems contend that the economic development benefits typically follow from improved access of low-income workers to employment opportunities, lower pollution, and higher property values (Garrett, 2004; Hammond, 2013; Vock, 2015). Of course, rapid-transit lines (metro or commuter) provide similar benefits. However, light rail can be constructed at 20% of the cost of a metro line (UITP, n. d.).

While a series of papers examine the benefits of new light-rail lines (e.g., Chatman, Tulach, & Kim, 2012; Kim & Lahr, 2014), there are no evaluations of the economic impact of an extension to an existing light-rail line. Despite this, a series of U.S. cities have either recently built (e.g., Northern New Jersey; Phoenix, AZ) or are constructing extensions of their light-rail system (e.g., Charlotte, NC; Dallas, TX; Minneapolis, MN; Denver, CO; Virginia Beach, VA) (Formby, 2014). Other cities are considering expansions (Trenton, NJ; Seattle, WA) (Hammond, 2013).

Given this interest in expansions to light rail, this paper evaluates the effect of an extension to an existing light-rail line. This assessment of the effect of an extension contributes to the literature in two ways. First, it serves as a check on the robustness of the results of studies that examine the impact of an entire light-rail line. At some point, the returns from an extension to an existing line likely diminish. Second, it allows us to assess whether reductions in travel distance to a station yield benefits when residents already have access to an existing station. When a new station is added, some property owners with access to the existing line experience reduced travel time to the new station. To measure the effect of a new light-rail station, we evaluate the impact of the 2011 extension of the Hudson-Bergen Light Rail (HBLR) line on property values.

The HBLR line is a 20-mile light-rail line that primarily runs parallel to the Hudson River in the northern New Jersey counties of Hudson and Bergen. The HBLR began service in 2000. The line has 24 stations (see Fig. 1), an average weekday ridership of 45,000, and annual ridership of 13.8 million – roughly the median number of trips for all light-rail systems in the United States (American Public Transportation Association, 2015). In 2011, the HBLR was extended from 22nd Street in Bayonne NJ to 8th Street (also in Bayonne). Just prior to the extension, ridership on the HBLR was 12.4 million rides per year. One year after the extension, ridership increased by 900,000 or 7.3% to 13.4 million rides per year. Annual ridership for the HBLR line can be seen in Fig. 2 (NJT, 2012).

We examine the effect on property values as way to gauge the value of the line because a significant literature on urban amenities

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[1] Light rail is a style of mass transit combining characteristics of trams (streetcars) and trains. They are characterized by primarily street-level "trains" of multiple cars with exclusive right-of-way on their tracks (UITP, n.d.).

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Fig. 1. Map of the Hudson-Bergen Light Rail service area.

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