GREENWAY PARADOX
Effects of the Somerville Community Path Extension on Adjacent Neighborhoods

INTRODUCTION

BACKGROUND

Greenways are an increasingly common urban development tool for cities as economic drivers and active transit facilitators. These corridors have various benefits as they add an ecological, social, and economic asset to a community. However, the addition of greenways has also been proven to alter other demographic factors including increasing adjacent rental rates and changing neighborhood racial and income composition. These trends contribute to a more socially and economically inequitable urban landscape in American cities.

SOMERVILLE COMMUNITY PATH EXTENSION

This project analyzes the specific demographic effects Somerville Community Path extension phase between Cedar Street and Lowell Street. The Somerville Community Path (SCP) is a two-mile rail-to-trail project that is the western end of the existing 104-mile Central Rail Trail and Minuteman Bikeway. Originally constructed in 1830, this path sits on the abandoned Lexington & Arlington Railroad and the New Hampshire Railroad. The SCP connects Alewife Station to Davis Square and then continues to Lowell Street. Currently, the path is divided into three subsections: the first, constructed concurrently with the Red Line Extension in 1984, runs from Alewife station to Davis Square, the second, constructed in 1992, connects Davis Square to Cedar Street, and the third, recently completed in 2015, connects Cedar Street to Lowell Street. The development path is not finished, however, and the future phases of the path are planned on being constructed concurrently with the $2.3 billion Green Line Extension (GLX) light rail project.

METHODOLOGY

To situate the Somerville Community Path Extension within the larger trend of greenways as signifiers of neighborhood change indicators, I analyzed two different buffer zones: a quarter-mile and a half-mile buffer zone around the path. This technique is used by other greenway studies to measure how much proximity to the path effects demographic shift. I also used Kernel density to visualize the correlation between the path and property values, property improvement values, and sale values. The buffer zones were created by clipping the TIGER Massachusetts state block group data to the Somerville boundary and then using the buffer tool in ArcMap to create buffer zones. I then perform a spatial join to add demographic data to the buffer zone vector layers. When the demographic data was in the attribute table of the buffer vector layers, I used the Summary tool to find the mean of that specific data set. Then I compared the demographic results in the two buffer zones with the City of Somerville demographic statistics as a whole to see if change can be attributed to the path and not just city-wide trends. Block group-level data was accessed from US Census TIGER files. To stay consistent with these regional standards, the demographics I map are educational-level attained by the residents over 25, number of individuals below the poverty line, non-White population, Latino or Hispanic population, median gross rent, and median household income.

I also look at two different time periods to gauge the "announcement effect" of the path. This tracks the possibility that the announcement of a project has effect on surrounding housing demographics. I mapped the change of these measures at three points in time: first, in 2000 for control data; second, at ground breaking in 2013; and third, in 2015 the year when the path opened. Finally, I also used parcel level data accessed from the City of Somerville Assessor's Office to understand property value patterns in relation to the path. I used Kernel density to visualize the correlation between the path and property values, property improvement values, and sale values. These maps were built using feature to feature join tool in ArcMap. The final analysis was using Local Moran's I to see if there is clustering of high-high property values near the path.

FINDINGS

These findings indicate a preference for living near the existing path, an awareness of the future plans of the Green Line Extension, and an awareness of the path and its effect on the Red Line station in Davis Square. Residents are willing to pay more for access to the Community Path, which is likely very connected to a preference for living near the Green Line Extension and in an overall dense, walkable, and vibrant city.

CONCLUSION

Without active policy interventions by local planners, community activist groups, and residents, greenways will continue to paradoxically affect neighborhoods and increase stratification of access to green space.

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GIS 102 Advanced GIS