Predicting Effects of the MBTA Green Line Extension to Somerville: Parcels Vulnerable to Gentrification

OVERVIEW
With the proposal for new MBTA Green Line stations in Somerville comes a variety of new issues, problems, and opportunities for the city. The Somerville Community Corporation (SCC) is interested in the potential effects of the Green Line extension of Boston’s trolley line on Union Square in Somerville. According to their website, SCC “provides leadership for sustaining the city of Somerville as a vibrant, diverse and tolerant community. We develop and preserve affordable housing.” Last summer, SCC, with the nonprofit organization Groundwork Somerville, coordinated a survey for the residents and business owners in the area and had the data entered and coded onto an Excel spreadsheet. The parcels shaded in the map to the left were included in this analysis (due to data issues, other parcels did submit surveys but were excluded from this analysis). While viewing the results of the survey in spreadsheet-form can provide SCC with interesting results, there are some spatial conclusions to be made. This project’s main goal was to use GIS to analyze the data from the survey and compare the qualitative survey data to quantitative information from the City of Somerville’s Assessor’s Database.

The survey asks participants questions which address the current state of the grounds, any buildings, and adjacent properties. While most answers are “yes” or “no,” they typically rely on the subjective opinion of the participant. This qualitative, often opinion-based information provides us with a deeper understanding of how a parcel is perceived in its neighborhood, as opposed to factually based information which often cannot tell the complete story.

SCC is particularly concerned with both the surveyed parcels’ potential opportunity for new affordable housing developments and their vulnerability to gentrification once the proposed MBTA Green Line stations are opened. The analysis depicted on this poster only includes the gentrification vulnerability portion of the project.

METHODOLOGY
Once the survey data was coded and cleaned up to be utilized in GIS, the data was joined to the existing Assessor’s Database for the City of Somerville. Criteria relevant to a parcel’s vulnerability to gentrification were selected from the survey data and are displayed in individual maps on the bottom left of the poster. A rating system was assigned to these criteria in order to weigh them by importance. The parcels’ Vulnerability Scores were calculated by summing the weighted criteria. Subsequently, the parcels were mapped in color-gradations, according to their Scores.

Next, the Assessor’s Database was used to extend vulnerability analysis with quantitative sources. A variety of maps were created to highlight parcels that are “under-zoned” (for example, single-family house on a zoned multifamily residential parcel which is large enough to develop higher use); to compare the qualitative survey data to actual proximity to proposed stations, testing the accuracy of the survey; and to highlight industrial parcels in proximity of the proposed stations, which are likely to be redeveloped. These maps are displayed to the right.

LIMITATIONS AND CONCLUSIONS
The Vulnerability Score Distribution map, bottom right, shows us that at-risk parcels are concentrated in the blocks bound to the north by Concord and Webster Avenues. These are just south of the proposed Union Square station. These parcels tend to be residential, within close proximity of significantly larger industrial parcels.

Though the score systematically rated the parcels, the weights for each criterion were nonsystematic—they were determined subjectively by the SCC and myself. However, the initial goal was just to create general awareness of both susceptible parcels in Somerville and of the potential for survey data to be used in GIS, which is not often done. The other major limitation was that a lot of the parcels in the area were not included in this analysis—the survey data is either in the process of being collected or had errors and could not be used in GIS (at least for now). Overall, the analysis is an accurate representation of residents’ and property owners’ perceptions of Somerville parcels, but should not be considered quantitatively precise.