According to the MBTA, of the 8,500 bus stops throughout the Boston region’s bus system only 675 have shelters, and the overwhelming majority of those are not owned by the T itself. Rather, most bus shelters and facilities are the responsibility of whichever municipality the stop falls within. The City of Boston currently has a public-private agreement with JCDecaux, an advertisement company, to maintain bus shelters in exchange for complete rights to ad revenue. JCDecaux inherently has an interest in ensuring the shelters, and thereby their ads, are reaching their ideal markets. At the same time, bus shelters are a critical component of accessing transit service, especially for senior citizens and people with disabilities (Verbich & El-Geneidy 2016). Better understanding how this built infrastructure corresponds with the surrounding community income profile could reveal whether there’s a preference for placing shelters in wealthier areas. Any potential bias could reinforce systemic inequities where more affluent neighborhoods have greater access to better infrastructure and service standards (Loukaitou-Sideris & Ehrenfeucht 2009).

### Methodology

Although spatial data on MBTA bus stops is publicly available through MassGIS, the type of bus stop amenity is not. To provide a sample of bus stop amenities in Boston, five routes that exclusively operate within city limits and also serve Dudley Square Station, a central bus hub for Boston, were chosen. This typology included the 8, 14, 23, 28, and 41 buses. To build a bus shelter database, Google Maps and Google Street View were employed to cross-reference stop conditions and identify whether or not a JCDecaux bus shelter was present. MBTA stop ID’s were used to verify locations with Google Street View. For proximity analysis, a quarter-mile buffer, the typical walkshed for bus stop access, was placed around both stops with and without a JCDecaux shelter to identify surrounding micro-neighborhoods. This data was intersected with American Community Survey 2010 census blockgroup-level data to compare no shelter and JCDecaux shelter buffers by median household income, families living below the poverty line, and median housing values for occupied units. Analysis was conducted line by line and for all routes together, and descriptive statistics were used to compared averages between areas around JCDecaux shelters and bus stops without.

### Results & Conclusion

Analyses of the five routes did not indicate that JCDecaux bus shelters are located in higher income communities in Boston. For median household income and families living below the poverty line, JCDecaux bus shelters corresponded with slightly lower-income areas compared to bus stops without shelters. For median housing values, stops without shelters were associated with a slightly lower price (approximately $1,857 less) compared to homes near JCDecaux shelters. Full results are available in the accompanying table. Possible error could arise from which bus routes were chosen for the typology. Two of the lines, the 23 and 28, are “key bus routes” and received more bus shelters through American Recovery and Reinvestment Act funds in 2013-14. Further analysis of all the bus stops in Boston, not just the ones for the 8, 14, 23, 28, and 41 routes, could yield different results. Additional analysis for other municipalities also serviced by MBTA bus routes could indicate larger patterns and trends beyond just the City of Boston.