

Bridging the Gap

An Analysis of the Spatial Mismatch Hypothesis and Social Service and Affordable Housing Accessibility in Atlanta

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Introduction

Transportation and community development are intertwined. Whether it is the construction of a highway for the purpose of single-occupancy vehicular traffic, or the creation of a light-rail system, history has shown transit's effect on communities for better and for worse. Yet the extent that transit projects have impacted communities is still up for debate. In the same manner that every neighborhood has its unique characteristics, transit systems have their own nuances. Still, the relationship that transportation systems have to the neighborhoods in which they operate is crucial to understanding the symbiotic relationship between these aspects of planning.

Providing access to affordable housing has historically been an issue within community development that planners in cities nationwide struggle to solve. More people are choosing to reside within the urban core as opposed to outer-ring suburbs – which has resulted in a rapid demand for housing, often times in neighborhoods where populations (and by virtue housing) serve primarily low-income individuals. The destruction of affordable housing developments to build market-rate units eliminates existing options for low-income residents. The paucity of existing options coupled with overall increases in rents and property values in these neighborhoods places a significant financial strain on residents, which ultimately leads to a risk of displacement.

Given the relationship between transportation and community development, how do these aspects of planning factor into the affordable housing - accessibility narrative? This paper will discuss how transportation can provide better access to the social services needed by those eligible for affordable housing, which can help such individuals more easily obtain affordable housing. The spatial mismatch hypothesis – which is used to describe the disconnect between

low-income households and job opportunities –will also be used as a theoretical basis to present this intersection of these planning issues.

This paper will extend the hypothesis to include access to social services as an equally important component in the accessibility narrative. After a review of the spatial mismatch and social service accessibility literature, this paper will examine the extent to which this issue is present within several neighborhoods in Atlanta. In doing so, this paper seeks to provide recommendations on how improved transit options can lessen the burden that low-income residents have in accessing social services, and thus affordable housing options overall.

Literature Review

Spatial Mismatch Hypothesis (SMH)

An abundance of literature currently exists related to spatial mismatch and its social and economic effects. John Kain's seminal 1968 article titled, "*Housing Segregation, Negro Employment and Metropolitan Decentralization*" was one of the first published works that discussed this concept in the context of community and economic development. In examining employment and housing data from traffic studies in the Detroit and Chicago metropolitan areas, Kain presented a compelling argument explaining the segregation of inner city African Americans – which he believed attributed towards their inability to attain employment. Specifically, Kain hypothesized three factors - compounded with historical trends - that contributed to the segregation of blacks in these cities' housing markets. The combination of existing racial segregation, lack of educational attainment, absence of employment opportunities in the central city, along with the increasing suburbanization of job opportunities is what Kain believed was placing this demographic at an extreme social disadvantage, thus leading to the Spatial Match Hypothesis (SMH).

While Kain's introductory paper began the discussion regarding spatial mismatch, as with many proposed social theories, opponents began to express their own views on such models. Some researchers focused on the SMH hypothesis in its entirety; others structured their analyses on portions of the theory. Paul Ofner and Daniel Saks released the first set of rebuttals against Kain's theory in a 1971 edition of the *Quarterly Journal of Economics*. With respect to Kain's model, Ofner and Saks highlighted its sensitivity by demonstrating how segregation did not play a significant factor in employment attainment for blacks. While Kain's model purported a linear relationship between employment and residence location, Ofner and Saks challenged its validity, stating that such a relationship only partially accounts for lack of employment in central city blacks. However, Ofner and Saks' analysis differs from Kain's in the sense that these factors negatively impact employment attainment for blacks across all industries – which is contrary to what Kain's results had illustrated.

Stanley Masters followed Ofner and Saks as another challenger to the original spatial mismatch hypothesis, publishing his own examination of Kain's model in a July 1974 edition of the *Quarterly Journal of Economics*. Masters did agree with Kain's some of Kain's assumptions; (principally those of transitions in urban economics and employment distribution); but challenged the position that housing segregation and spatial location were factors that significantly affected employment for central city blacks. Masters' analysis also included a model that examined spatial mismatch, but ignored the qualitative factors that Kain mentioned as contributing to the disadvantage of inner city blacks (i.e. employment discrimination).

Despite the preliminary examinations of spatial mismatch by the aforementioned scholars, substantial discourse regarding the topic did not appear again until the latter part of the 20th century - particularly in the 1980s and 1990s. Similar to previous scholars, researchers

examining Kain's original hypothesis took either a holistic approach in their analyses, or ones that were more myopic in nature –examining parts of the three factors that Kain hypothesized contributed to spatial mismatch. Reynolds Farley, for instance, focused on residential segregation as it related to the spatial mismatch theory. After examining data from the 1970 census of several Standard Metropolitan Statistical Areas (SMSAs), Farley concluded that racial residential segregation was prevalent when comparing the central city to the suburban periphery. His findings align aspects of the original spatial mismatch hypothesis, further supporting the notion that minorities in urban areas were disadvantaged.

Nonetheless, several papers published during this time period did support the findings of the original spatial mismatch hypothesis. John Kasarda's research on the transformation of cities following deindustrialization, for instance, was highlighted in this paper, "Urban Industrial Transition and the Underclass." (1989). In his examination of six Northern industrial cities using employment data, Kasarda supports Kain's findings that blacks in the urban core have fared economically worse than whites residing in the suburbs. The reversal of employment centers from the urban core towards the periphery and beyond has provided whites ample employment opportunities, primarily due to their ability to effectively migrate outwards.

Kasarda's analysis, however, extended beyond the confines of Kain's original research, specifically in highlighting the importance of mobility into the conversation of spatial mismatch. Kasarda stated that that the aforementioned factors forced inner-city blacks to become an, "immobilized subgroup of spatially isolated, persistently poor ghetto dwellers." (27). Bold indeed, this statement provides context into whether access to effective transportation might be a potential contributor to the spatial mismatch problem in urban America.

The disparities in resources that occur as a result of spatial mismatch have been widely explored, particularly the extent that contrasting conditions between the urban core and suburbs have affected low-income minorities. As mentioned, previous literature has illustrated a pattern of generally higher unemployment levels and lower wages for minorities living in center city neighborhoods in comparison to individuals in suburban areas. Although one must consider several other factors that might contribute to these outcomes for minorities (i.e. levels of education, language barriers, etc.), geographic location appears to be an explicit component of the spatial mismatch theory. Still, in what ways do transportation systems factor into this dichotomy?

Adie Tomer from The Metropolitan Policy Program at Brookings attempted to do so, publishing a 2012 report titled, “Where the Jobs Are: Employer Access to Labor by Transit.” The paper examined the degree to which employment within the largest 100 metropolitan areas was dispersed relative to the transit systems of these respective metros. Overall, the findings of the study were relatively mixed. Although the majority of the nation’s metro areas did exhibit high levels of employment location in areas served by public transit, the commute times within these metros was significantly lacking. Tomer attributes these findings to the fact that, “the suburbanization of jobs obstructs transit’s ability to connect workers to opportunity and jobs to local labor pools.” (2012) As this literature illustrates, transit inequity arises from both an preexisting spatial mismatch of employers to workers and transit systems that ineffectively connect workers with said opportunities for employment.

Transportation and Spatial Mismatch

When it comes to including transportation into the spatial mismatch analysis literature, several authors published works that focused on this narrative. Brian Taylor and Paul Ong’s

1995 paper titled, “Spatial Mismatch or Automobile Mismatch?” examined the extent of commuting time on the spatial mismatch between Hispanic and blacks residing in ten metropolitan areas. From their analysis, Taylor and Ong concluded that in general, commuting time could not be considered to be factor that would provide evidence in favor of Kain’s spatial mismatch hypothesis. The main reasons for their conclusion was a similarity in automobile travel time among demographic groups in all the cities included in the study. Although the data on vehicular commutes failed to give credence to the original spatial mismatch hypothesis, Taylor and Ong’s analysis did acknowledge transit’s potential influence on this phenomenon. Specifically the pair noted that, “commuters dependent on public transit are at a distinct disadvantage in accessing employment...”(1471). Ong’s 1998 paper with Evelyn Bloomberg also incorporated access to transportation in their analysis of job access as it related to spatial distance for welfare recipients in Los Angeles. Their results demonstrated that on the whole, job access for individuals resulted in a decreased commute time for workers, providing additional evidence towards the spatial mismatch hypothesis.

As discussed above, the research centered on transportation and spatial mismatch was mainly focused on automobile use as an indicator of accessibility to employment. This makes sense given the proliferation of suburbs and highway infrastructure that accompanied the post-WWII housing boom in America. The convenience that accessibility to automobiles and an expedient highway system provided Americans resulted in this form of transportation transitioning from a luxury to a standard – particularly for middle-class, white households. The dichotomous relationship between automobile access between minorities and whites – and subsequently their respective commute times- was something that researchers sought to examine in regards to the spatial mismatch hypothesis.

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While studies such as Ong and Taylor’s placed importance on examining transportation access in the spatial mismatch debate, these explanations were conducted were relatively basic in nature, failing to go into specific detail on how access to specific forms of transit fit into the spatial mismatch narrative. Thomas Sanchez argued in a 1998 paper that past analyses have inadequately, “focused on how labor participation is affected by increases in public transportation availability.” (3) In other words, transit accessibility is an aspect to the spatial mismatch theory that might have the potential to effect positive change with regards to job accessibility. This paper arguably prompted a breadth of spatial mismatch literature that focused on examining the effect of transit on spatial mismatch –including BRT systems.

Access to Social Services

There is a substantial amount of literature that discusses the social service accessibility issue, specifically the barriers that individuals might face. Brown University professor Scott

Allard has written extensively on this topic, researching this dynamic in both the urban and rural context. In a 2007 paper, Allard found that many of the commonly associated factors that hinder an individual's ability to access social services (i.e. caseworker fatigue, lack of knowledge among residents), relate to the physical location of these services, thus factoring into their ability to access them. In cases where social services were located outside of the neighborhoods in where an individual resided, the commuting burden of traveling to and from these locations (particularly in the case of inefficient transit systems) was time-consuming. As Allard states, "limitations of public transportation in many high poverty areas and low rates of automobile ownership among low-income households make it even more critical that providers are located nearby." (12)

Allard expanded upon his look into the social service provide accessibility issue in his 2008 book titled, "Out of Place: Place, Poverty, and the New American Welfare State." Allard notes that spatial proximity of social service providers in relation to the individuals that seek assistance relates to accessibility in three ways: 1) Providers located further way from low-income individuals deters their ability to access required services 2) Sparse service locations negatively affects the cost of seeking help 3) A scarcity of social service locations in low-income neighborhoods fails to create the safety net of assistance that community residents rely on for aid. The inability to access the resources offered in a safety net of social services during times where assistance is necessary certainly places a burden on low-income individuals, which also leaves them vulnerable for displacement. As Allard rightfully notes, these "structural realities shape opportunities for success" (96), and thus need to be addressed in order to prevent avoidable displacement of low-income individuals.

Transportation and Housing Affordability

With an understanding of both spatial mismatch hypothesis and inaccessibility to social services, it becomes clear that these issues could be considered somewhat distinct. Nonetheless, there is also an existing body of literature that has made the connection between transportation and affordable housing, specifically in the context of how the financial burden of these services hinders the quality of life of lower-income residents. Examining the literature discussing the housing affordability and transportation connection can better put into perspective why this issue is so important to planning.

A 2006 report released by the U.S. Department of Housing and Urban Development (HUD) has addressed the affordable housing and transportation narrative. Titled, “Creating Connected Communities”, the report discusses how transportation can be used as an effective conduit to fill the accessibility gaps neighborhoods in small and medium-sized cities face in terms of providing affordable housing. Although Atlanta does not technically fit into the qualification of what the report designates as medium sized cities (population < 250,000), there are some criteria the report highlights that are applicable to Atlanta. Particularly, the lack of transit options in some parts of the city aligns with the characteristic that the report noted as being problematic for small and medium sized cities. Nonetheless, it is important to note the similarities that Atlanta shares with respect to transportation and housing affordability.

The report begins by stating that transportation and housing are intrinsically linked, particularly given that, “on average, transportation is the second largest housing expenditure after housing, and transportation costs are directly related to a key characteristic of housing location.” (HUD, 2016) This statement aligns with many of the points discussed in both the spatial mismatch and accessibility literature, specifically in that an imbalance in the amount of affordable housing in a neighborhood, coupled with existing barriers to accessing said housing

place a strain on the residents who need such services the most, the report notes the importance of addressing the transportation and affordable housing at the neighborhood level, as having both efficient transportation and a reliable source of affordable housing are two characteristics that make a “connected community.”

As a way of better describing the transportation and affordable housing dynamic, the report created what it calls the “Housing + Transportation Affordability Index ®” – a tool used to assess quality of life. More specifically, the index comprehensively ranks how neighborhoods fare in terms of providing both affordable housing and transportation options. It takes into account certain data criteria that relate to both geography (neighborhood characteristics) and household (household characteristics), and combining this data with transportation costs specific to the geography selected for analysis.

Methodology

The literature provided context into how social service inaccessibility and its relationship to transportation and housing could inhibit low-income individuals from successfully obtaining affordable housing. While this problem is common nationwide, in what ways does this issue occur within the City of Atlanta? The following section illustrates the spatial disparity among affordable housing, social service providers, and transportation options in Atlanta - specifically focusing on neighborhoods in the southern portion of the city.

After doing so, the locations of affordable housing and social service providers will be presented in three other cities: Cleveland, Pittsburgh, and Boston - all of which have successful bus rapid transit (BRT) systems. In doing so, it will become evident how BRT systems can address issues of inaccessibility between transit, social services, and affordable housing.

Atlanta

Affordable Housing Locations

Using the “MyMap” feature available on Google Maps, the locations of 30 affordable housing complexes were geocoded into a base map of Metro Atlanta. To provide a basis on which to examine distance the service routes of MARTA’s heavy rail were also included. The simplicity of MARTA’s rail design was one reason why it was chosen as a transit form to easily evaluate distance to affordable housing and social service providers.

Figure 1 below shows the location of affordable housing communities around South Atlanta. This area includes dozens of neighborhoods, including Peoplestown, Capitol View, Oakland City, and East Point, among several others. South Atlanta houses much of the city’s poverty, which is concentrated in neighborhoods across this area. The affordable housing developments represented on the map fall under several programs managed by the Atlanta Housing Authority (AHA)’s. These programs include: the Supportive Housing program, “Project-Based Rental Assistance (PBRA)”, “Sponsored Communities”, and “Owned-Residential Communities”. HUD’s “Housing Choice Voucher Program” was not included in the analysis since it does not provide recipients with geographic restrictions on where they can utilize their vouchers. While the applicant criteria differ slightly among these programs, the fact that they seek to provide low-income individuals with affordable housing is what warrants their inclusion.

As one can see, there is an abundance of housing complexes scattered throughout South Atlanta (30 total). Certain complexes are located in direct access to MARTA rail, many of are along the Blue and Green lines. Despite the variability in the location of these complexes, it is apparent that the majority of these complexes are situated in areas that do not have direct MARTA rail access, which could pose barriers for residents relying on MARTA rail.

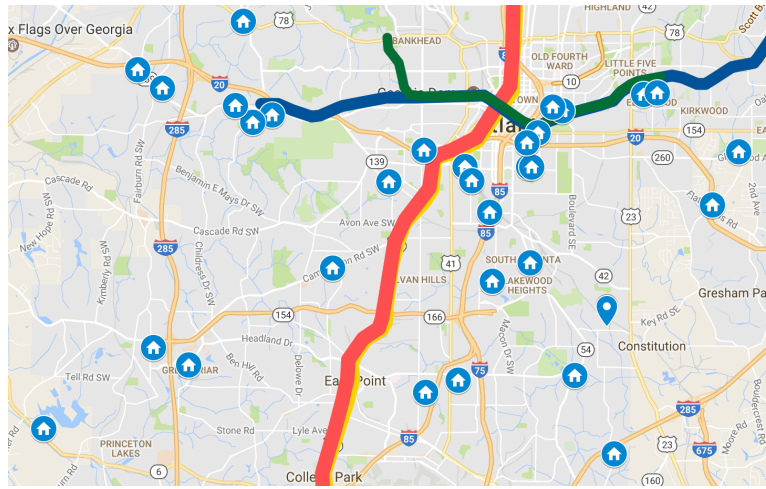


Figure 1. South Atlanta Affordable Housing and MARTA Heavy Rail

Given that MARTA also operates an expansive bus system, it was also important to examine the locations of these affordable housing complexes in relation to this form of transit. To do so, a quarter - mile radius was drawn around each complex also using the Google Maps “MyMaps” application. The quarter-mile radius was used as the basis for walkability since it is widely considered to be the maximum distance that an individual would walk to utilize transit. (Steiner & Butler, 2006). After drawing a quarter-mile radius around each affordable housing complex, the number of accessible bus stops in this radius was counted – noting bus lines that corresponded to these stops. It is important to note that the *aggregate* number of bus stops was considered (i.e. counting each stop individually; not as apart of the line itself). The logic here is that theoretically, the purpose of riders getting on two different stops is to travel to different destinations. Appendix A contains a complete breakdown of this relationship.

While most of the 30 affordable housing complexes in South Atlanta are within walking distance of transit, there are two points worth noting. Most of the affordable housing in the study area lacked access to multiple forms of transit. For example, only one of the 30 complexes (The Peaks at MLK) is both within $\frac{1}{4}$ mile of bus and heavy rail transit. Additionally, one complex (The Legacy at Walton Lakes) is not in proximity to any form of transit, which severely hinders the accessibility of residents.

The affordable housing complexes in South Atlanta were also examined in terms of the number of bus lines that are within the quarter-mile radius established, shown below in Table 1

Table 1. Relation of Affordable Housing to MARTA Bus Lines		
Bus Lines	Total #	Percentage
<=1	10	32.25
2-4	20	62.5
5-7	1	3.125
>7	1	3.125

The majority of the complexes had access to between 2-4 bus lines within a quarter mile, but nearly 1/3 of the 30 complexes had only access to one bus line or less. Not surprising, the complex that had the highest number of accessible bus lines (The Peak at MLK) was also the complex which had access to both MARTA rail and bus stops. This underscores how proximity to multiple forms of transit can provide riders with greater accessibility.

Social Service Locations

In the same manner that affordable housing complexes were mapped throughout South Atlanta, the locations of social service providers was also mapped. As the literature on social service accessibility noted, there are a variety of providers that individuals seeking affordable housing would most likely patron when seeking housing options. Contrary to the locations of affordable housing complexes, no geographic limit was used when mapping social service providers. A total of 15 social service providers were selected and divided into the following four categories: housing agencies, employment assistance, financial assistance, and general social service agencies. Mapping the locations of these providers is important because as noted by the literature, a potential barrier to accessing affordable housing comes from not meeting the

applicant criteria of housing programs – of which social service inaccessibility might be a factor of. Figure 2 below illustrates the locations of these social service providers.

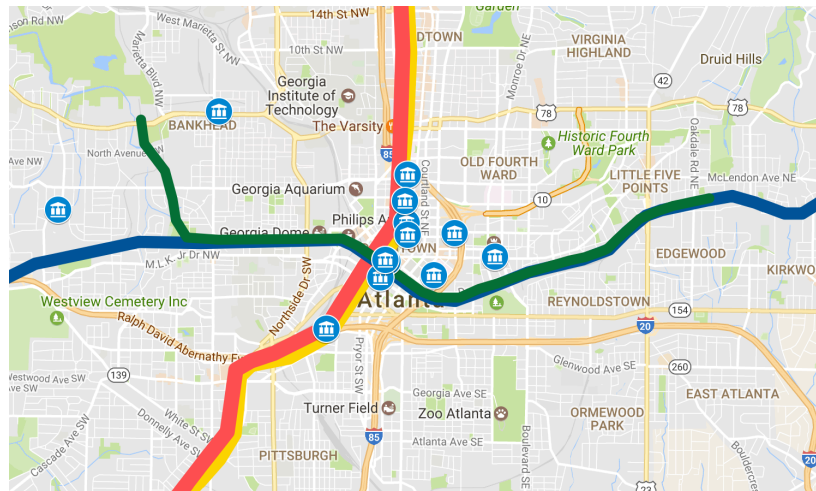


Figure 2. Social Service Providers in Atlanta

Compared to what was seen when mapping the location of affordable housing complexes, almost all of the social service providers mapped appear to be clustered: 1) around the central business district 2) near MARTA rail stops. Given that downtown Atlanta houses many of the city's government and municipal offices, it makes sense that many of these services would also be located nearby. On the one hand, the fact that these services are mostly located close to each other and near transit makes it convenient for individuals to access them. For the many affordable housing complexes that are nowhere near MARTA rail as discussed, residents could face higher commute times when traveling to these locations, which ultimately poses a travel burden on these individuals.

As with the location of the affordable housing complexes, the extent of bus stops within a quarter-mile radius of selected social service providers was also determined. Full results are located in Appendix B. In contrast to the affordable housing complexes; the majority of the social service providers are within a quarter-mile of both MARTA rail and bus transit. As

evident by Table 2 below, an overwhelming majority of the providers are also located in close proximity – more than what was seen with the affordable housing complexes.

Table 2. Relation of Social Service Providers to MARTA Bus Lines		
Bus Lines	Total #	Percentage
<=1	1	7.69
2-4	2	15.39
5-7	1	7.69
>7	9	69.23

This difference can most likely be attributed to the fact that both MARTA rail and bus service routes run through Atlanta's central business district – where the majority of these social service providers are located. This level of accessibility is beneficial for residents of the affordable housing at or near transit. However, mismatch between several of these complexes to rail and bus service illustrate the need for increased connectivity. Although this dynamic might not be unique to Atlanta, the following case studies will demonstrate how bus rapid transit can serve as a transit option that might alleviate this issue.

Case Studies

While the issue of spatial mismatch as it relates to housing and affordability is clearly a widespread issue across the U.S., that is not to say that there are not successful examples of transportation planning practices that fill the gaps between these components. Several cities have received recognition for the successes that their BRT systems have had on community and economic development. The following section will present several case studies that illustrate how cities have been able to effectively address the mismatch that access to social service providers and affordable housing present from inadequate transit options -- particularly through implementing bus rapid transit (BRT) systems.

Cleveland (Euclid Corridor)

Prior to the creation of Cleveland's bus rapid transit system, many neighborhoods along one the city's main thoroughfares, Euclid Avenue, had suffered from decades of disinvestment. Along with many other Rust-Belt cities, the rapid collapse of the manufacturing industry and demographic changes discussed above contributed to social and economic devastation throughout Cleveland. While the city did have two major commercial districts—University Circle and Public Square—these areas along what many called the “Euclid Corridor” lacked connectivity. Plans for incorporating a transit system along this corridor were discussed through the terms of several mayors, but were largely unsuccessful until Mayor George Voinovich took office. Voinovich and his cabinet made establishing a BRT system along the Euclid Corridor a priority, hoping to emulate the success of Curitiba's system. (Institute for Sustainable Communities, 2012)

After securing sufficient funding and support from outside agencies, construction on the Healthline began in 2006, with the system officially opening in 2008. Currently, the Healthline (named in reference to Cleveland Clinic's role as a sponsor) operates a system of 6.8 miles, serving 59 stations. Some of the major institutions that the system serves are Cleveland Clinic, Case Western Reserve University, and the Playhouse Square Center.

The creation of the Healthline has had a significant impact on community and economic development along the Euclid Corridor, much of which has resulted in a surge of activity for the area. From a spatial mismatch perspective, the BRT system has connected many struggling neighborhoods to the wealth of jobs that institutions like Cleveland Clinic and Case Western University provide. The fact that busses operate 24 hours a day further illustrates the success of BRT in alleviating problems of spatial mismatch, as the system has become a reliable mode of transportation for neighborhood residents.

Social Service Provider Locations

Figure 3 below illustrates the location of 14 social service providers in Cleveland that individuals seeking affordable housing might consult. Some of these providers include Neighborhood Connections (housing agency), Towards Employment (employment assistance agency), and the Debt Hero: Cleveland (financial assistance).

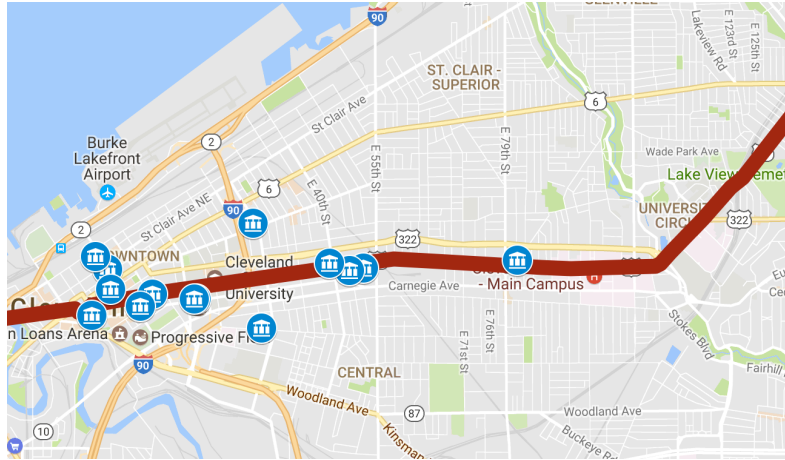


Figure 3. Social Service Providers and Healthline BRT Route

Unlike Atlanta, the locations of social service providers in Cleveland are more dispersed. While there is a cluster of providers located downtown, providers are also located in the Hough and Central neighborhoods. More importantly, an overwhelming majority of the service providers are located within a quarter-mile of the Healthline BRT route. The Healthline BRT system allows for more efficient access to many of the social service providers that serve the city, of which several are downtown. Table 3 below illustrates the proximity that several BRT stops are to social service providers.

Table 3. Proximity of Social Service Providers to Healthline BRT Stations		
Station	Social Service Provider	Distance (walking)
Euclid Ave & 40th St.	Jane Edna Hunter Service Org	371 ft. (2 minutes)

Euclid Ave & East 40th St.	Ease At Work	.2 miles (6 minutes)
Euclid Ave & East 51st St.	Neighborhood Connections	10 ft. (1 minute)
Euclid Ave & East 79th St	Cleveland Housing Network	197 ft. (1 minute)

For example, the Euclid Avenue & East 40th Street Station is within a three- minute walking distance to the Jane Edna Hunter Social Services organization, and a four-minute walk to East at Work (employment agency). Furthermore, the Euclid Avenue and East 79th Street Station in the Fairfax neighborhood are located near multiple social service providers, most notably the Cleveland Housing network (two minute walk). When examining their proximity to bus lines (Figure 3) to that of providers in Atlanta, it appears that Cleveland is similarly connected.

Table 4. Relation of Social Service Providers to Bus Lines		
Bus Lines	Total #	Percentage
<=1	1	7.69
2-4	5	38.46
5-7	0	0
>7	7	53.85

Affordable Housing Locations

Figure 4 below illustrates the location of 23 affordable complexes throughout Cleveland, in relation to the route of the Healthline BRT system. These include complexes sponsored by organization such as the Cuyahoga Housing Authority, Northern Ohio Affordable Housing, and the Cleveland Housing Network. The HUD voucher program was also excluded for the same reasons discussed above. Similar to Atlanta, affordable housing is not concentrated to one neighborhood. Nevertheless, many of these complexes appear to be close to the Healthline route.

In addition to connecting several neighborhoods to an area flourishing with jobs, the Healthline has also linked many affordable housing complexes to the social service providers and resources that one might consult when applying for housing. As evident in (Figure 2) below, over 20 affordable housing complexes alone are located along Euclid Avenue within a 10 minute walk of a Healthline BRT station – seven of which are on Euclid Avenue alone.

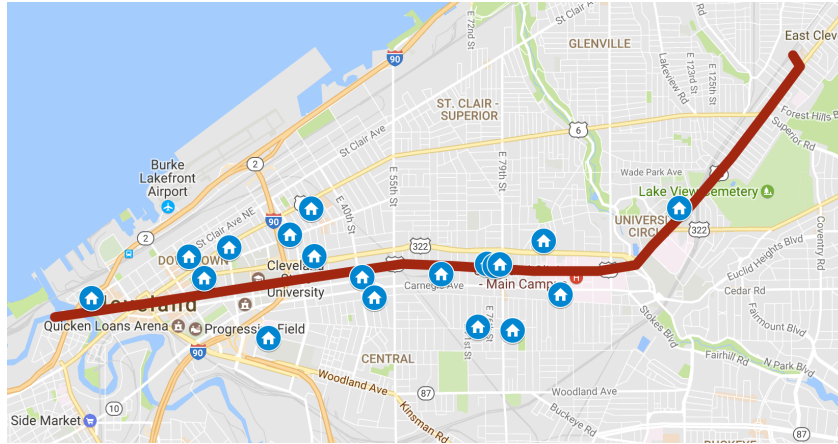


Figure 4. Affordable Housing Complexes in Comparison to Healthline Service Route

When comparing these affordable housing complexes in terms of the bus lines that lie within a quarter-mile radius, the results differ from Atlanta in that complexes are serviced by a smaller amount of bus routes. Table 5 below shows that over 32 percent of the affordable housing complexes have access to one or less bus routes – a much higher percentage compared to Atlanta.

Table 5. Relation of Affordable Housing to Bus Lines		
Bus Lines	Total #	Percentage
<=1	7	32.25
2-4	3	62.5
5-7	7	3.125
>7	10	3.125

At first glance, this data illustrates a clear disconnect between Cleveland's affordable housing and bus system. However, out of the seven complexes that are serviced by one or less bus lines, six are located directly on the Healthline route. Given that the Healthline operates on a 24-hour schedule, the location of these complexes allows for practically seamless connectivity to the social service providers discussed above – many of which are also on the Healthline service route. That said, one could argue that the Healthline BRT system can serve as a viable transit alternative that provides greater accessibility, as it can compensate for the disconnect that lack of bus service can present for riders.

Pittsburgh (Port Authority Busways)

While the Healthline is widely considered to be one of the most successful bus rapid transit systems in the U.S, there are other successful examples worth noting. The City of Pittsburgh became the leader in implementing bus rapid transit, designing several routes during the 1970s that would provide quick commuting access to the city's central business district from outlying neighborhoods. Similar to the case in Cleveland, many of the neighborhoods serviced by the busways were relatively underserved and disconnected from the economic activity that was concentrated downtown.

What makes Pittsburgh's BRT system unique when compared to other systems, however, is the fact that the system operates entirely on dedicated "busways" that are separate from the right of way. Today, the BRT system consists of three busways, which have an average weekday, daily ridership of over 30,000 commuters. (Pittsburgh Port Authority, 2017) Upgrades to the system continue even today, with new station upgrades being made to the East Busway route most notably.

The East Liberty neighborhood is one of the most notable examples of a community that has directly reaped the benefits of the BRT system. Located on the Eastern side of the city, the historically African American neighborhood struggled for decades to offset high levels of crime, unemployment, and overall disinvestment. The neighborhood was also the location of many of Pittsburgh's affordable housing complexes, which created the need for better connection to downtown. Following the construction of the East Busway, development in and around East Liberty grew substantially. Businesses relocated to mixed-use developments in the area, most notably Bakery Square.

Affordable Housing Locations

In what ways has Pittsburgh's BRT system provided support to the housing, social service, and transportation accessibility issue discussed? Similar to the Healthline, the busways pass through neighborhoods in where there are several affordable housing complexes. Figure 5 below depicts the locations of over twenty affordable housing complexes. As one can see, many of these complexes are located in neighborhoods served by the Martin Luther King Busway (red) – principally the neighborhoods of East Liberty, Larimer, and Shadyside.

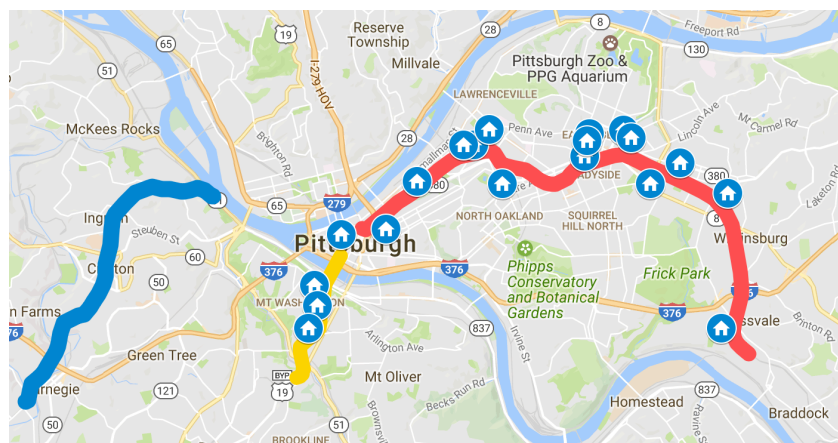


Figure 5 Affordable Housing Complexes and Pittsburgh BRT Busways

With respect to the connectivity that affordable housing complexes are to the city's bus system, Pittsburgh appears to have the highest level of connectivity. As noted in Table 6, more 85% of the affordable complexes have five or more bus lines within a quarter-mile, which is much higher than Atlanta (6.25%) and Cleveland (6.25%).

Table 6. Relation of Affordable Housing to Bus Lines		
Bus Lines	Total #	Percentage
<=1	0	0
2-4	3	15
5-7	7	35
>7	10	50

In other words, the connectivity that Pittsburgh's bus system provides to affordable housing supplements the existing connectivity that from the city's BRT system, both of which demonstrate a high level of accessibility between affordable housing and transit for Pittsburgh residents.

Social Service Locations

Unlike Cleveland but similar to Atlanta, the majority of social service providers in Pittsburgh are concentrated in the city's central business district. While the location of these providers may not be as scattered as they are in other cities, the fact that all of the busways either terminate in the CBD or are directly connected to other forms of transit accessible in the CBD (i.e. rail and bus) make for relatively easy accessibility.

Table 7 below better illustrates this accessibility, denoting the travel time between five of the service providers selected and the nearest busway or busway-accessible transit stop. The housing provider Action Housing Inc., for instance, is located a mere seven minute walk from Stop A of the East Busway, while the Allegheny County Health Department is half a mile from the Station Square station. Surely, these distances are further than the standard quarter-mile

radius that was used for analysis. However, the fact that downtown has more variety of transit options than Cleveland and Atlanta could compensate for slightly longer walking distances.

Table 7. Proximity of Social Service Provides to Port Authority BRT Stations		
Station	Social Service Provider	Distance (walking)
East Busway (Stop A)	Action Housing Inc.	.3 miles (7 minutes)
Steel Plaza Station (heavy rail/busway)	Allegheny County Assistance Office	.7 miles (14 minutes)
East Busway at Penn Station	Pennsylvania Department of Transportation	.4 miles (9 minutes)
Station Square Station (heavy rail/busway)	Allegheny County Health Department	.5 miles (11 minutes)

Surely, the successes of Pittsburgh's BRT system further illustrate how this form of transit can serve as an innovative model of urban redevelopment, and potential way of addressing the transit and affordable housing mismatch in cities. A BRT system that is completely removed from traffic allows for the potential of options such as express service, which can significantly reduce travel time of commuters. From an accessibility standpoint, this reduction in commute time certainly provides for easier access to social services.

Boston (MBTA Silver Line)

As in the case of both Pittsburgh and Cleveland, Boston also had existing rapid transit systems in place before the discussion of adding BRT. However, officials from the Massachusetts Bay Transportation Authority (MBTA) recognized the necessity for improved connectivity between Dudley Square in the Roxbury neighborhood, and Downtown Boston. Given the vibrancy of downtown and Roxbury's revitalization, establishing an efficient link of transit between these neighborhoods would benefit the city greatly. Following a feasibility study,

construction on the system began in 2001 service along the Silver Line began operating in July of 2002.

As of 2015, MBTA's Silver Line operates four routes of BRT throughout Boston, several of which replaced previous low-performing bus routes. Originally, the system operated 13 stops within the Downtown-Dudley Square corridor. However, the success of the system spurred discussions of extending the system—particularly towards neighborhoods in the neighboring city of Chelsea and through Boston's Logan International Airport. Although not within Boston city limits, officials from MBTA and the Massachusetts Department of Transportation (MassDOT, 2015) recognized the need for improved connectivity.

Officially titled the “Silver Line Gateway” this project would “fill a critical gap in access between residents in Chelsea, East Boston, and other Blue Line Communities to the rapid growth in employment opportunities across Boston Harbor in the Seaport District.” (MassDOT, 2015) Interestingly enough, the Silver Line Gateway project is not merely a transit project, but one that seeks to incorporate affordable housing into development plans. For example, “The Box District” – a 248 unit mixed-use development constructed on the site of a former warehouse district was awarded the 2014 Jack Kemp Excellence in Affordable & Workforce Housing Awards by the Urban Land Institute (ULI). (Urban Land Institute, 2014) The project was recognized not only for its commitment to providing more affordable housing, but also ensuring that such housing was accessible to transit. It is for this reason, among others, that Boston's Silver Line represents the effectiveness that a BRT system can have for a metro area.

Affordable Housing Locations

Figure 6 below illustrates the location of 32 affordable housing complexes throughout Boston, as well as the route of the MBTA Silver Line. As one can see, a majority of the

complexes appear to be clustered around neighborhoods in where the silver line provides service (i.e. South End, Roxbury, Shawmut, Chinatown).

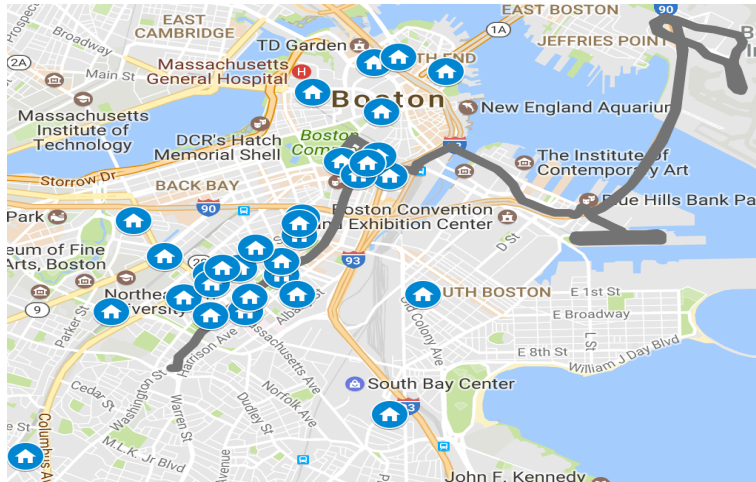


Figure 6. Boston Affordable Housing and MBTA Silver Line

Although there are several complexes not within a quarter-mile proximity to the Silver Line – including many in the city’s Central Business District – it is important to note that these areas are well serviced by other forms of transit (i.e. heavy rail and bus). For example, MBTA’s Orange and Green Rail lines, as well as the Red Line, provide accessible service to the five complexes in the city’s North End, Downtown, and Beacon Hill neighborhoods. Table 8 below provides a breakdown of affordable housing as it relates to bus service.

Table 8. Relation of Affordable Housing to Bus Lines		
Bus Lines	Total #	Percentage
<=1	1	4.76
2-4	6	28.57
5-7	9	42.86
>7	5	23.81

When compared to Pittsburgh, Cleveland, and Atlanta, there appears to be more variation in Boston’s bus service. On the one hand, nine affordable housing complexes have between five

and seven bus lines within a quarter mile (42.86%). Yet, less than 24% of complexes have more than seven bus lines within the same radius.

Social Service Providers

Figure 7 illustrates the location of 11 social service providers throughout Boston and neighboring Chelsea. Similar to Atlanta, Cleveland, and Pittsburgh, Boston's social services appear to cluster primarily around the city's downtown. While the Chelsea office of the Massachusetts Department of Transitional Assistance is clearly outside of Boston city limits, the proposed extension of the Silver Line would place the office within a six minute walk (.3 miles) of the BRT station.

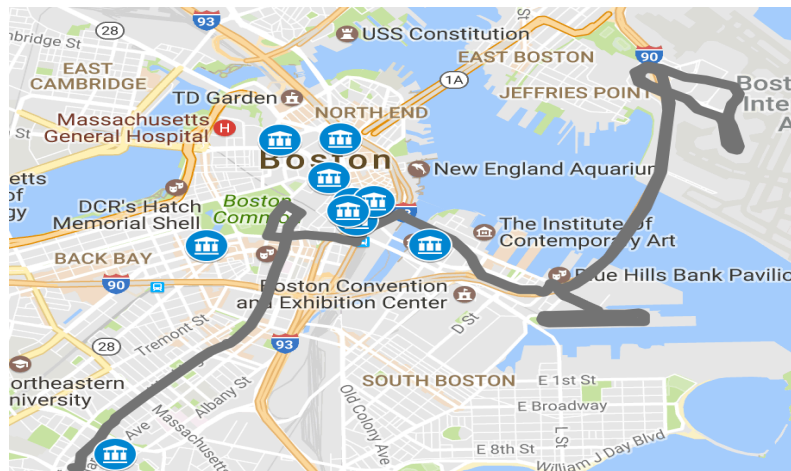


Figure 7. Boston Social Service Providers and MBTA Silver Line

Proposed Bus Rapid Transit in Atlanta

Although Atlanta does not currently have any bus rapid transit systems in place, discussions regarding implementing a system have been ongoing for years. The following section discusses proposals from several agencies – both in the public and private sectors - to

implement bus rapid transit. Specifically, the proposals highlight bus rapid transit as a transit solution that would seek to better connect communities that lack viable transit options.

I-20 East Transit Initiative

Beginning in 2010, MARTA conducted a Detailed Corridor Analysis (DCA) as part of the organization's I-20 East Transit Initiative. The initiative, also referred to as the Local Preferred Alternative (LPA), calls for extension of the east-west heavy rail transit past the Indian Creek Station towards the Mall at Stonecrest (Green Line), as well as a bus rapid transit system that would link Downtown Atlanta to Interstate 285 in DeKalb County. Figure 8 illustrates the route of the proposed plan.

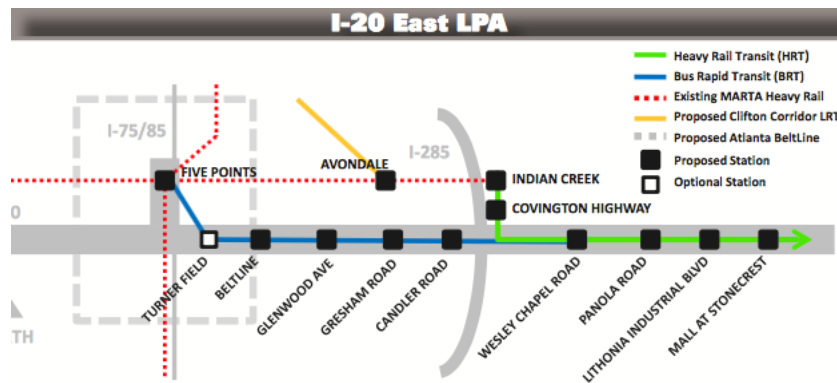


Figure 8. Proposed I-20 East Transit Initiative BRT Route

Although plans for the BRT system do not include its own right of way, busses would operate along the existing high-occupancy vehicle (HOV) lanes on I-20. One benefit from the system is that it seeks to not only provide an additional transit option for residents along the I-20 corridor, but also allow for more connectivity by linking the BRT route to the existing heavy rail system. From an accessibility standpoint, the I-20 would provide seamless connectivity to the cluster of social services in Downtown Atlanta discussed above.

Northside Drive Bus Rapid Transit

In addition to implementing BRT service to provide greater east-west connectivity, need for a BRT system along Northside Drive has also been proposed. A 2012 studio from Georgia Tech's School of City and Regional Planning recommended BRT as a way of bridging the disconnect between the Westside, Midtown, and Downtown. The report, titled, "Northside Drive – The Great Transit Boulevard," identified the Northside Drive Corridor as one that has contributed to decades of physical, social, economic, and racial divide between Westside neighborhoods and Downtown/Midtown –all of which contribute to a lack of accessibility. (Georgia Tech, 2012). In essence, a BRT system would have the potential to alleviate these issues.

Following the release of the Georgia Tech studio report, MARTA also expressed interest in Northside Drive serving as a location for BRT service. A proposal that built upon the studio was incorporated into update to the 2008 *Connect Atlanta Plan* – which seeks to provide increase mobility, continued economic growth, and desired quality of life for the Atlanta region. (City of Atlanta, 2008) Specifically, the bus rapid transit was proposed as part of a "Complete Street" project to redevelop Northside Drive from Interstate 75 to Atlanta Metropolitan College in the Sylvan Hills neighborhood – a distance of around seven miles.

Northwest Corridor Project

Similar to the I-20 East Transit Initiatives, officials in Cobb County have also discussed the potential of implementing bus rapid transit A collaborative effort between the Georgia Department of Transportation (GDOT), Georgia Regional Transportation Authority (GRTA) seeks to provide greater access between the City of Atlanta and surrounding suburbs in Cobb and

Cherokee Counties. The Northwest Corridor Project includes an extension of the HOV lanes on both I-75 and I-575, particularly in the form of 29.7 miles reversible toll lanes.

In addition to the highway extension, officials also explored the potential of adding a BRT route as part of the project. The BRT route, operating on dedicated lanes, would traverse U.S. Route 41 (i.e. Cobb Parkway) through Cobb County into Midtown Atlanta. The route would connect several notable areas, including Kennesaw State University, SunTrust Park, and the Cumberland Mall. Figure 9 illustrates the proposed route.

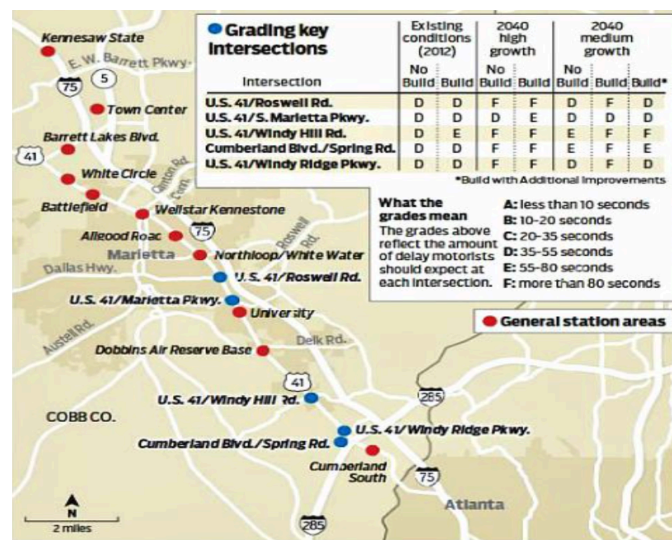


Figure 9. Northwest Corridor BRT Proposed Route

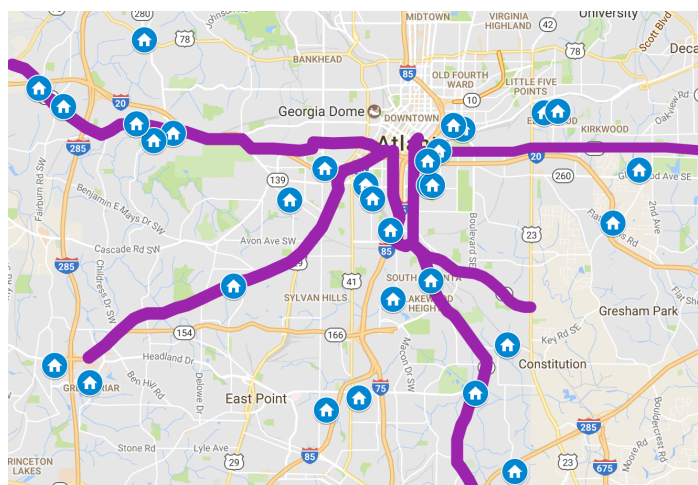
However, the project has encountered several hurdles worth noting. Results from an Environmental Assessment (EA) indicated that the BRT route would do little to reduce traffic and congestion along the route. These results, combined with the failure to secure federal funding, and alleged mismanagement from project officials in the plan, have suspended the BRT component of the project.

Recommendations for BRT in Atlanta

The proposed projects discussed above illustrate Atlanta's numerous attempts to incorporate bus rapid transit into its existing transportation network. Despite these efforts, there are some limitations worth noting. These projects cater to either to commuters of Atlanta's northern suburbs (i.e. Northwest Corridor), or individuals residing in areas that have multiple forms of transit in place (i.e. I-20 East Transit Initiative). From an accessibility standpoint, all of these projects would provide better access to the concentration of social service providers in Downtown Atlanta. However, the location of these projects is heavily concentrated does little to address to mismatch of affordable housing and transit in South Atlanta.

The fact that no BRT projects have been proposed for South Atlanta demonstrates a lack of concern on behalf of the city to address the transit and housing mismatch that this area faces. Individuals residing in these areas that lack proper transit are more likely to have higher commute times than people living in transit-rich areas –which makes accessing services more cumbersome. In what ways could BRT still serve as a viable option to address this concern?

Figure 10 illustrates four proposed routes for BRT service in South Atlanta, as well as the location of the affordable housing complexes mapped earlier.



Implementing a BRT route along U.S. 54 (Jonesboro Road) would be beneficial, as it passes through several of the affordable housing complexes in the study area. A route along U.S. 42 (McDonough Boulevard) is another viable option, as it also provides direct access to Downtown Atlanta. Moreover, Cambelton Road in Southwest Atlanta can serve as an effective BRT route, as this street both provides access to Downtown Atlanta, and can provide connection to several other transit options (i.e. MARTA heavy rail). Both Memorial Drive and U.S. 139 (Martin Luther King Jr. Drive) can provide effective East-West connectivity to Downtown Atlanta, the latter of which also which passes through several affordable housing complexes in the study area.

The proposed routes above provide only a glimpse into the potential that BRT can have in addressing the mismatch and accessibility issues between transportation, affordable housing, and social services in Atlanta. Surely, these routes would need to be examined in greater detail to ensure that they are truly feasible. However, as the case studies have demonstrated, bus rapid transit does have the potential to provide greater accessibility for individuals seeking affordable housing and social services. Despite several failed attempts to propose BRT in Atlanta, it is hoped that official reconsider BRT as a viable solution to addressing issues of accessibility in Atlanta.

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Appendices

Appendix A. Number of Bus Stops within ¼ Mile of Affordable Housing Complexes (Atlanta)			
<u>Housing Name</u>	<u>Address</u>	<u># Of Accessible Bus Stops</u>	<u>Bus Line(s)</u>
Sycamore Street Apartments	124 West Sycamore Street	12	40, 39, 41, 44, 51L, Y1, Y45, Y46, Y47, Y49
Constantin Building	5720 Friendship Avenue	27	87, 71A, 71C, 77, 64, 82, 86, P7, P10, P12, P16, P17, P67, P68, P69, P71, P76, P78, 71B,
O' Hara Place Apartments	3629 Liberty Avenue	13	54, 86, 87, 88
Liberty Point Apartments	3417 Liberty Avenue	19	54, 88, 86, 87, 91, P7, P10, P12, P16, P17, P67, P68, P69, P71, P76, P78, P1, P2, P78,
Wood Street Commons	2525 Liberty Avenue	10	54, 86, 87, 88, 91
Pennley Park Apartments	5601 Penn Avenue	16	71A, 71C, 77, 87, 88, 89, 71B
St. Justin's Plaza	120 Boggs Avenue	27	43, 40,
William Morehead Tower	375 North Craig Street	21	77, 93, 82, 54, 71A, 71C, 93, 83
Midtown Towers	643 Liberty Avenue	33	7, 15, 28X, G2, P10, P12, P16, P67, 81, 83, 71A, 71C, 71D, 61A, 61B, 61C, P1, P2, 1, 3, 4, 6, 11, 15, 39, 40, 44, 91, 7, 8, 19L, 21, O1, O12, 51L, Y46, Y47, Y49, 48, 17
Pennley Commons	5653 Broad Street	18	71A, 77, 71C, 88, 87, 71B, 89, 75, 71B

Silver Lake Commons Senior Apartments	6934 Frankstown Avenue	14	77, 86, 71D, 74, 77
York Commons Senior Apartments	4003 Penn Avenue	24	54, 88, 64, 93, 87,
Fairmont Apartments	5641 Penn Avenue	19	71A, 71C, 77, 87, 88, 74, 82, 86
Roosevelt Arms Apartments	6707 Penn Avenue	14	71C, 71D, 88, P10,
Swissvale Towers Senior Apartments	1826 Monongahela Avenue	24	61B, 71, P71, 59. 61B, 71, P7
Harriet Tubman Terrance Senior Apartments	550 Negley Run Boulevard	17	75, 89, 71B, 71C, 74, 77, 82, 86, 88
East Liberty Gardens	220 Larimer Avenue	14	74, 75, 89, 71B
K. Leroy Irvis Towers Senior Apartments	715 Mercer Street	22	81, 82, 83, 1, 6, 11, 15, 39, 40, 44, O5,
Just-Inn Transition Senior Apartments	215 Lelia Street	21	43, 40, 39, 41, 44, Y1, Y45, Y46, Y47, Y49
Bethesda Homewood Properties	566 Brushton Avenue	16	71D, 86, 67, 71C, 77,

Appendix B. Number of Bus Stops within ¼ Mile of Affordable Housing Complexes (Cleveland)			
<u>Housing Name</u>	<u>Address</u>	<u># Of Accessible Bus Stops</u>	<u>Bus Line(s)</u>
Village Green Elderly	18221 Euclid Avenue	4	28-28A, 34
Emerald Alliance V	7515 Euclid Avenue	4	2, Healthline
Erie Square Apartments	7621 Euclid Avenue	6	2, Healthline
Rudwick Apartments	17500 Euclid Avenue	5	28-28A
Rainbow Place Apartments	7829 Euclid Avenue	4	2, Healthline 9 (Near SS)
Mannering Apartments	16908 Euclid Avenue	6	28-28A
Cotman Vistas	1725 East 115 th Street	8	38, Healthline, Rail
Independence Place	4019 Prospect Avenue East	7	Healthline, 8 (near SS)
Edgehill Properties	1830 East 87 th Street	1	7, 32
1850 Superior Building	1850 Superior Avenue	12	3, 10, 11, 1, 22, 26, 38
Fairfax Elderly	8100 Central Avenue	6	2, 11
Emeritus House	4450 Cedar Avenue	9	8, 16
Cleveland Housing Network	2999 Payne Avenue	12	38, 3
Central Ave Apartments	7309 Central Avenue	6	2, 8
Chn VII	1539 East 34 th Street	10	3, 38
National Terminal Warehouse	1215 West 10 th Street	7	61, 63, 62, 1, 3, 38, RAIL

Skyline Tower Apartments	2250 Community College Avenue	10	11, 14, 15, 8,
Saint Clair Place Apartments	1380 East 13 th Street	14	1, 10, 11, 12, 13, 39-39F, 60, 77F, 90F, 1, 3, 22, 26, 38
WECO Fund Apartments	3209 Chester Avenue	5	HealthLine,
NACA Apartments	6555 Carnegie Avenue	8	HealthLine, 8,
Antioch Towers	8920 Carnegie Avenue	9	8, HealthLine
Allerton Apartments	1802 East 13 th Street	16	10, 11, 12, 13, 53F, 55A, 55B, 55C, 251, 263,

Appendix C. Number of Bus Stops within ¼ Mile of Affordable Housing Complexes (Boston)			
<u>Housing Name</u>	<u>Address</u>	<u># Of Accessible Bus Stops</u>	<u>Bus Line(s)</u>
Symphony Plaza East & West Senior Apartments	333 Massachusetts Avenue	8	9, 39, 9701, 9702, 9703, 1, CT1, 170, SUBWAY
West Newton Senior Apartments	94 West Newton Street	14	43, 170, CT1, 10, 15, SL4, SL5
Frederick Douglass Senior Apartments	755 Tremont Street	11	1, 170, CT1, 43, 8, 10, 15, SL4, SL5
Eva White Senior Apartments	440 Tremont Street	12	9, 43, 15, SL4, SL5
Bellflower Senior Apartments	24 Bellflower Street	11	16, 17, 18
Ausonia Senior Apartments	185 Fulton Street	4	4
Armory Street Senior Apartments	125 Armory Street	5	14, 22, 29, 41, 44, 9703, SUBWAY,
West Broadway Apartments	81 Orton Marotta Way	10	9, 11
Cathedral Apartments	1472 Washington Street	9	43, 10, 170, 15, SL4, SL5, 8
Camden Street Apartments	136 Lenox Street	5	5, 1, 170, CT1
Alice Heyward Apartments	250 Ruggles Street	3	8, 19, 47, 15, 19, 22, 23, 28, 29, 43, 44, 45, 47, SUBWAY

Greater Boston Legal Services	197 Friend Street	6	92, 93, 111, 117, 424, 426, 428, 434, 450, SUBWAY, 89, 4, EZRIDE
Metropolitan Boston Housing Partnership	125 Lincoln Street	78	501, 504, 505, 553, 554, 556, 558, 7, 11, 448, 449, 459, SUBWAY
Action for Boston Community Development	178 Tremont Street	3	15, 39, 43, 55, 57, SL5, 11, 15, SUBWAY
Boston Housing Authority	52 Chauncy Street	2	7, 11, 448, 449, 459, 501, 504, 505, 553, 554, 556, 558, SUBWAY
Ebenezer Homes	170 West Springfield Street	8	1, 170, CT1, 43, 15, 170, SL4, SL5
East Springfield Street	38 East Springfield Street	9	1, CT1, 15, 170, SL1, SL4, 15
East Canton Street	79 East Canton Street	10	8, 10, 47, CT1, CT3, 170
Dwight Street 43-45	43 Dwight Street	8	43, 9, 15, SL4, SL5
Concord Street Elderly	1640 Washington Street	9	8, 10, 15, SL4, SL5, 1, CT10
Chinagate Apartments	15 Beach Street	6	11, 15, SL4, SL5, 553, 7, 11,
Concord House	715 Tremont	8	1, 170, 43, CT1,
Casa Maria	130 Endicott Street	6	89/93, 92, 111, 117, 424, 426, 428, 434, 450, 352, 434,
Burbank Apartments	18 Haviland Street	5	55, 1, 57, CT1, 39
Bradley Properties	336 Shawmut Avenue	9	43, 10, 170, 8, SL4, SL5

Anderson Park	250 Cambridge Street	2	SUBWAY, 10, 12
Dartmouth Street	10 Dartmouth Street	9	43, 10, 170, SL4, SL%
Chauncy Street	10 Chauncy Street	6	7, 11, 15, 39, 43, 55, 57, 195, SL4, SL5, 448, 449, 459
Castle House	484 Tremont Street	7	7, 11, 448, 449, 459, 57, 92, 93, SUBWAY
Citizens Housing & Planning Association	18 Tremont Street	9	15, 39, 57, 352, 354, 43, 55, 92, 93, SUBWAY

Appendix D. Number of Bus Stops within 1/4 Mile Walk of Social Service Providers (Pittsburgh)			
<u>Provider Name</u>	<u>Address</u>	<u># Of Accessible Bus Stops</u>	<u>Bus Line(s)</u>
Action Housing Inc.	611 William Penn Place	10	61A, 61B, 61C, 61D, 71A, 71B, 71C, 71D, 28X, O1, O2, 87, P1, P2, P68, P71, P16, P67, 81, 88
Allegheny County Assistance Office	332 Fifth Avenue	18	19L, 61A, 61B, 61C, 61D, 71A, 71B, 71C, 71D, P12, P16, P67, 81, 82, 83, Y46, Y59, Y47, 41, 43, 44, 48, 51, 5, G2, 28X, 29, G31
Allegheny County Health Department	542 Fourth Avenue	13	3, 4, 52L, 53L, 56, 58, 57, 61A, 61B, 61C, 61D, 71A, 71B, 71C, 71D,
Eastside Neighborhood Employment Center	5321 Penn Avenue	8	88, 89, 87
Pennsylvania CareerLink	304 Wood Street	13	52L, 53L, 56, 57, 58, 39, 40, 41, 43, 44, 48, 51L, Y1, Y45
U.S. Social Security Administration	921 Penn Avenue	16	29, 31, 86, 88, 91, G31, 2, 4, 7, 8, 12, P13, 1, 28X, G2, 1, 3, 4, 5, 11, 15, 39, 40,
Allegheny County Department of Human Services	1 Smithfield Street	16	39, 40, 41, 43, 44, 48, 51, 51L, Y1, Y45, Y46, Y47, Y49, 3, 4, 52L, 53L, 56, 57, 58, 3, 4
Housing Alliance - Pennsylvania	710 Fifth Avenue #1000	7	61A, 61B, 61C, 61D, 71A, 71B, 71C, 71D, 67, 69, 19L, 77, 3, 4,

Advantage Credit Counseling	403 Sidney Street	10	48, 54, 81, 83,
Allegheny County Housing Authority	625 Stanwix Street NW	9	7, 13, 15, 16, 17, 1, 2, 4, 6, 8, 11, 12, O5, P13, 28X, G2, G3, P10, 77, 81, 82, 83, G3

Appendix E. Number of Bus Stops within 1/4 Mile Walk of Social Service Providers (Cleveland)

<u>Provider Name</u>	<u>Address</u>	<u># Of Accessible Bus Stops</u>	<u>Bus Line(s)</u>
Enterprise Community Partners	1360 East 9 th Street	10	1,10, 11, 12, 13, 39, 60, 77F, 90F, 61, 62,
Housing Services Office	1849 Prospect Avenue East	14	61, 8, 11, Healthline, 53F, 55A, 55B, 55C, 246, 251, 263,
Cleveland Housing Network	2999 Payne Avenue	12	38, 3
Cuyahoga Housing Authority	2617 Central Avenue	11	88, 11, 14, 15,
Neighborhood Connections	5000 Euclid Avenue	7	Healthline, 16
Ease At Work	4500 Euclid Avenue	5	Healthline, 16
Jane Edna Hunter Social Services	3955 Euclid Avenue	5	Healthline
Cleveland Social Security Administration	1240 East 9 th Street	9	1, 10, 11, 12, 13, 39, 60, 62, 13, 90F, 77F, 3, 26, 22, 38, 45
Towards Employment	1255 Euclid Avenue	10	61, 63, 8, 11, 14, 15, 77F, 90F, 53F, 246, 251, 263, 8
Midtown License Services	8039 Euclid Avenue	6	2, Healthline
Debt Hero: Cleveland	600 Superior Avenue	13	3, 22, 26, 38, 39, 45, 10, 11, 12, 13, 22, 61, 63, 90F, 8, 14, 15
Credit Repair USA	2033 Ontario Street	11	8, 11, 14, 15, 77F, 90F, 19, 22, 26, 39, 45, 51, 55, 61, 66, 1, 8, 3,
Cuyahoga County Human Services	2079 East 9 th Street	8	8, 11, 15, 14, 77F, 90F, 61, 63, 10, 11, 12, 13, 22,

**Appendix F. Number of Bus Stops within 1/4 Mile Walk of Social Service Providers
(Boston)**

<u>Provider Name</u>	<u>Address</u>	<u># Of Accessible Bus Stops</u>	<u>Bus Line(s)</u>
Enterprise Community Partners	334 Boylston Street	9	9, 55, 39, 57, 504, 553, 170, 502, 503, 504, 553, SUBWAY
Massachusetts Housing Partnership	160 Federal Street	112	9, 55, 4, 7, 448, 449, 459, 92, 93, 11, 449, 448, SUBWAY
Women's Institute for Housing	15 Court Square	9	57, 92, 93, 4, 15, 39, 89, 39, 326, 325, 7, 448, 449, SUBWAY
Massachusetts Housing Investment	70 Federal Street	10	4, 15, 39, 57, 89, 93, 7, 448, 449, 459,
Clearpoint Credit Counseling Solutions	225 Franklin Street	5	4, 15, 39, 57, 89, 93, 92
Department of Career Services	19 Staniford Street	6	15, 39, 57, SUBWAY, 352, 354
Boston Career Link	1010 Harrison Avenue	11	1, 9, 47, 171, 9702, 8, 10, 15, 19, SL5, SL4, 171, 15, 41, 45
JVS Boston	75 Federal Street	7	4, 7, 448, 449, 459, 11
Department of Social Services	24 Farnsworth Street	6	448, 449, 459, SL1, SL2, 4, 7
Massachusetts Department of Transitional Assistance	80 Everett Avenue	6	112, 114, 111
Massachusetts Registry of Motor Vehicles	136 Blackstone Street	7	352, 354, 92, 93, 111, 117, 424, 426, 434, 450, 4, 15, 39, 57, 89, 326, SUBWAY