IMPACTS OF URBAN GREENWAYS ON NEARBY RESIDENTS: AN ANALYSIS OF ENVIRONMENTAL JUSTICE ON THE ATLANTA BELTLINE

by

SAMUEL JAMES KEITH

(Under the Direction of Kyle Maurice Woosnam)

ABSTRACT

In recent years, greenways have become increasingly popular amenities for cities to develop to enhance economic development, public health, and sustainability. Greenways' connective nature allows residents to access them from many points in a geographical area. Residents living near greenways have been understudied. Because the average greenway user lives near the greenway they utilize and nearby residents live with the daily benefits and drawbacks of the trails, the perceptions of residents living in greenway-adjacent communities are critical.

Urban greenways have been found to be correlated with issues of environmental justice, such as environmental gentrification and procedural injustice. The Atlanta BeltLine is an urban greenway project in Atlanta, Georgia that has residents concerned about the effects the trail has on nearby communities. Most environmental justice research has been qualitative or secondary data-based quantitative studies, and few have investigated the impact environmental justice perceptions and experiences have on urban greenway support.

This study has three objectives: 1) understand the roles neighborhood attachment, gentrification worldview, and political empowerment play in predicting greenway support; 2)

further understand differences between residential subgroups' experiences and perspectives concerning gentrification worldview, political empowerment, and greenway support; and 3) provide a tool for researchers to measure residents' perceptions of gentrification indicators within their neighborhood. Results have implications for greenway managers, planners, city officials, and researchers in their understanding of the roles greenways and gentrification play in neighboring communities.

INDEX WORDS: gentrification, public participation, resident attitudes, urban green space

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SAMUEL JAMES KEITH

B.S., Texas A&M University, 2014

M.S., Clemson University, 2016

A Dissertation Submitted to the Graduate Faculty of The University of Georgia in Partial Fulfillment of the Requirements for the Degree

DOCTOR OF PHILOSOPHY

ATHENS, GEORGIA

2021

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SAMUEL JAMES KEITH

Major Professor:	Kyle Maurice Woosnam
Committee:	B. Bynum Boley
	Alessandro Rigolon
	Richard Martin

Electronic Version Approved:

Ron Walcott
Dean of the Graduate School
The University of Georgia
May 2021

ACKNOWLEDGEMENTS

I would like to first thank my lovely wife, Abby, for her constant love, encouragement, patience, and support. Throughout this season of graduate school, we have experienced trials and celebration and she remained gracious and joyful. During my PhD program, we bought a house, became parents, and endured life in a pandemic. I love you, Abby!

I would also like to thank our son, Walker, for providing joy and fun (along with sleepless nights) throughout my final year of graduate school. Walker was born the week the world shut down due to COVID-19 and has kept us entertained and grateful for God's provision of a child. I love you, Walker!

My gratitude extends to my advisor, Dr. Kyle Woosnam, for his guidance, mentorship, constructive criticism, and professional wisdom throughout my time at the University of Georgia. I consider him a friend as well as a colleague. I would also like to thank the members of my dissertation committee, Dr. Bynum Boley, Dr. Alessandro Rigolon, and Dr. Richard Martin for their assistance in developing and writing my dissertation.

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CHAPTER 1

INTRODUCTION AND LITERATURE REVIEW

Introduction

The pace of urbanization in recent years has been rapid—2.5 billion residents are estimated to move in to urban areas by 2050 (United Nations, 2014; Wei & Ewing, 2018). In addition, over 50% of the world's population lives in an urban area (World Health Organization, 2014), while four out of five people in the United States live in such a setting (United States Census Bureau, 2012). With increasing populations, urban areas are correspondingly sprawling outward, consuming green spaces in the wake (Walmsley, 2006). These natural settings are being developed over by "grey space" (e.g., roads, buildings, parking lots) (Swanwick, Dunnett, & Woolley, 2003). Increasing populations in urban areas highlight the need for urban conservation initiatives in an effort to provide residents adequate access to nearby green space (Elmqvist et al., 2015; Shanahan et al., 2015). However, urban green spaces (UGS) have been viewed as an amenity, not an essential piece of urban infrastructure (Landers & Nahlik, 2013). Cities have identified green spaces as amenities and have thus increasingly invested in green "hotspots" around the city to enhance economic growth (Gould & Lewis, 2017) and help mitigate climate change (Oliveira, Andrade, & Vaz, 2011).

Among the various types of urban green spaces, greenways have significantly grown in popularity. Greenways are linear parks that generally include walking and cycling trails and bring a number of social and environmental benefits into the fabric of urban environments (Keith, Larson, Shafer, Hallo, & Fernandez, 2018; Larson, Keith, et al., 2016). Often referred to as "trails" and "urban trails," the term "greenway" has been used in many ways. Within this

work, these greenways can be defined as, “multiple objective, open space corridors that perform natural functions while offering desirable aesthetic qualities to humans as they recreate or commute along trails” (Shafer, Lee, & Turner, 2000, p. 164). In other words, such greenway trails provide conservation, recreation, and transportation benefits to the areas in which they are located.

Some have deemed greenways as “corridors of benefits,” (Moore & Ross, 1998) because of their diverse range of benefits for communities. Many connect other green spaces, neighborhoods, shopping centers, businesses, and other public spaces. Users of these trails have experienced a higher quality of life (Shafer et al., 2000) and well-being (Chiesura, 2004; Larson, Jennings, & Cloutier, 2016). They have also been found to provide a space for social interaction with family and friends (Kaźmierczak, 2013; Kaźmierczak & James, 2007; Keith et al., 2018; Larson, Keith, et al., 2016). Not only do greenways enhance habitat connectivity and biodiversity (Ahern, 2013; Bryant, 2006), they also provide opportunities for humans to interact with nature (Chon & Shafer, 2009; Gobster, 1995; Weber, Boley, Palardy, & Johnson Gaither, 2017). The alternative transportation and recreation opportunities that greenways provide can also help improve the overall health of users (Harnik & Welle, 2011). It is clear that greenways can benefit both the natural and social environment of a community.

Although users of greenways generally experience these benefits, their use may not be equitably distributed across the population. Greenway users are typically White and have a high income and educational attainment (Coutts & Miles, 2011; Keith et al., 2018; Lindsey, 1999; Lindsey, Han, Wilson, & Yang, 2006; Reed, 2014; Wolch et al., 2010). There are myriad reasons why this inequity of use exists in greenways and other green spaces.

Evidence for access to and availability of green spaces by racial and ethnic minority people and low-income individuals is inconsistent, perhaps because of the complex dynamics of cities. Many cities have more parks in White, high income areas (Abercrombie et al., 2008; Rigolon, 2016; Rigolon, Browning, Lee, & Shin, 2018). However, these findings are not true in every context. Others have found that low-income racial and ethnic minority people have a higher degree of access to greenways than individuals with higher incomes (Lindsey, Maraj, & Kuan, 2001). There is mixed evidence considering the equity of spatial distribution of parks and green spaces, however some have found that neighborhoods with a higher concentration of low-income racial and ethnic minority people have smaller, lower quality parks than their White, wealthy counterparts (Rigolon, 2016; Sister, Wolch, & Wilson, 2010). Other reasons why there is an inequitable use of greenways could be due to greenways not being designed to meet the needs of racial and ethnic minority cultures (Byrne & Wolch, 2009) or structural constraints such as lack of leisure time (Crawford & Godbey, 1987). Additionally, finding an ideal physical location to develop greenways can be a challenge due to geographical constraints (Miller, Collins, Steiner, & Cook, 1998).

A phenomenon called environmental (or green) gentrification sheds light on why social inequities exist in the context of greenways (Gould & Lewis, 2017; Immergluck & Balan, 2018; Pearsall, 2010; Rigolon & Németh, 2018). When greenways and other green spaces are developed, they can make a previously disinvested community more desirable for investment and residence, increasing housing prices and attracting newcomers that are often more affluent, college-educated, and White (Immergluck & Balan, 2018). The increased cost of living in neighborhoods around greenways can lead to displacement of long-time residents who can no longer afford to live in their neighborhood (Anguelovski, 2016; Curran & Hamilton, 2018;

Gould & Lewis, 2017; Lang & Rothenberg, 2017). Cleaning up brownfields (Pearsall, 2010) and developing parks (Loughran, 2014) and waterfronts (Gould & Lewis, 2017) have all been found to contribute to environmental gentrification. For example, both the High Line in New York City (Loughran, 2014) and the 606 Trail in Chicago (Harris, 2018; Rigolon & Németh, 2018) have contributed to the gentrification of surrounding neighborhoods.

Some residents support the existence of greenways in their community (Keith et al., 2018; Palardy, Boley, & Johnson Gaither, 2018), and some are opposed to them largely because of the effects of gentrification (Harris, Schmalz, Larson, Fernandez, & Griffin, 2019). Indeed, one's support for a greenway may be determined by one's gentrification worldview (Mullenbach, Baker, & Mowen, 2021), neighborhood attachment (Betancur, 2011; Harris et al., 2019), and political empowerment (Hays & Kogl, 2007; Low, 2013). Evidence suggests that differences in perception of the above constructs exists between individuals of varying socio-economic backgrounds, however, research comparing these differences is lacking (González, 2017; Harris, Rigolon, & Fernandez, 2020; Harris et al., 2019; Jackson & Buckman, 2020). Hence, chapters two and three of this dissertation will explore the antecedents of greenway support and the differences between groups of residents in their perceptions of gentrification worldview, political empowerment, and greenway support, respectively.

Though gentrification worldview is important to understand, an "on-the-ground" measurement of residents' perceptions of gentrification indicators can provide further understanding of what is happening within a neighborhood (Mullenbach, Baker, & Mowen, 2020). The majority of studies seeking to measure gentrification in communities either uses secondary data (Immergluck & Balan, 2018; Martin, 2017; Rigolon & Németh, 2020) or interviews with community members (Harris, Rigolon, et al., 2020; Harris, Schmalz, Larson, &

Fernandez, 2020; Harris et al., 2019). Both of these methods help researchers understand components of gentrification in communities, but they lack the benefits of large-scale data collection from residents who experience various gentrification indicators. Hence, the fourth chapter of this dissertation will highlight the construction and testing of the Neighborhood Gentrification Scale that measures residents' experiences with various gentrification indicators within their community.

At the time this research was undertaken, no study has asked residents living adjacent to a greenway that has been proposed, was in development, or under construction about their perceptions of gentrification. These residents that have perhaps either not yet experienced gentrification in their neighborhood or are currently experiencing the effects of gentrification during greenway planning and development may have different opinions than residents who live near an already completed greenway. That is, if greenways can contribute to gentrification and associated displacement, some of the residents that were present before the greenway was completed may have moved away. With this gap in mind, this research involved sampling residents living near a greenway that was under construction at the time of data collection and a greenway that has been open to the public for eight years. This research is unique in that it considers a myriad of environmental justice issues in the context of residents living in close proximity to a specific green space, rather than a general population.

Methods

Study Site: Atlanta BeltLine

The Atlanta BeltLine is an urban greenway system that is partially developed and will eventually encircle the entirety of downtown Atlanta, Georgia, USA, a city with a history of complicated race relations (Hankins, Cochran, & Derickson, 2012). Once completed, the

BeltLine will include 33 miles of trail (and 22 miles of transit), connecting 45 neighborhoods (Atlanta BeltLine Inc., 2020). Thirteen hundred acres of new greenspace and 700 acres of renovated greenspace are also included in the current plan for the BeltLine corridor. At the time of this study, the sections of trail were not connected, but some of the sections in between are in either the planning, development, or construction phase. The Eastside Trail (over 3 miles), Northside Trail (about 1 mile), Westside Trail (South Section 2.5 miles), and West End Trail (2.25 miles) are the completed portions of the BeltLine. The uncompleted sections of trail include the Northside Trail (Extension), Eastside Trail (North Section), Eastside Trail (South Section), Southeast Trail, and Westside Trail (North Section). Similar to other long-distance greenways, the Atlanta BeltLine currently (and will continue to) traverse diverse communities connecting residents of varying socio-demographic groups.

Neighborhoods surrounding the Atlanta BeltLine have experienced environmental gentrification (Immergluck & Balan, 2018) since the greenway's inception and this will be the focus of this study. Property values for homes within a half-mile of the BeltLine rose between 17.9 to 26.6 percent more than other Atlanta homes between 2011 and 2015 (Figure 1.1); Immergluck & Balan, 2018), providing evidence that these neighborhoods have gentrified. Controlling for a variety of structural and locational characteristics of homes, property values of homes within a half-mile of the BeltLine corridor increased more than similar homes located at least a half-mile from the BeltLine (Figures 1.2 and 1.3). The entire BeltLine has not been completed so its effects have not been fully realized. However, the corridor for the future trails have already been identified and gentrification in the areas without a complete section of trail has already begun (see Southside and Westside (North Section) trail segments in Figure 1.1).

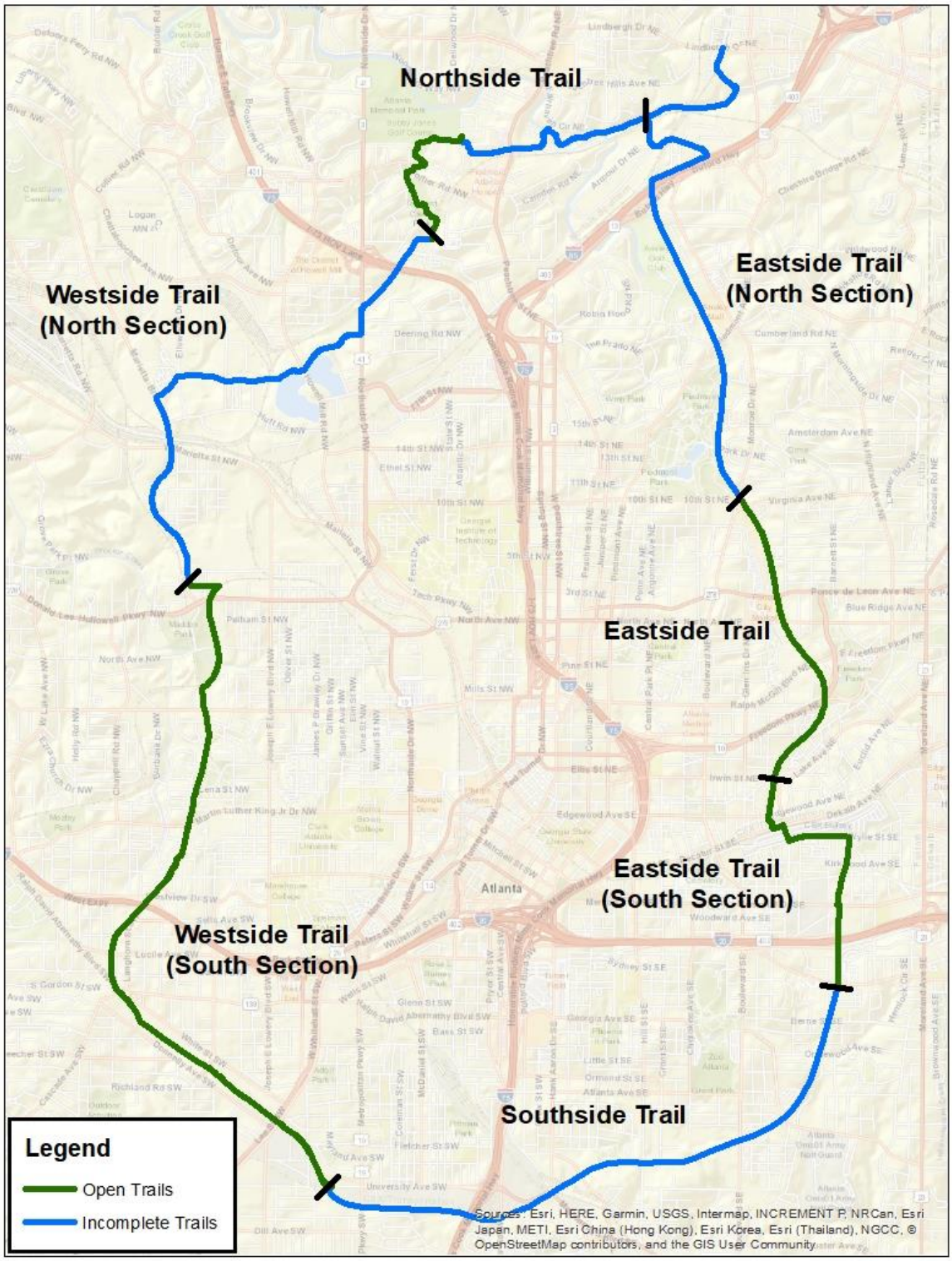

Figure 1.1. Atlanta BeltLine Trails status as of time of study. Map created by author using ArcMap 10.5.

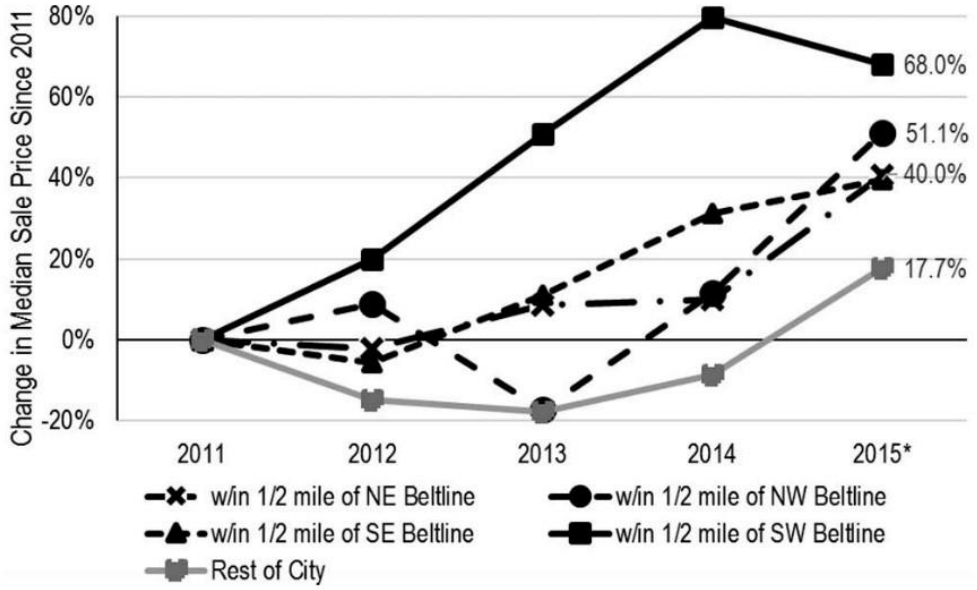

Figure 1.2. Cumulative change in median sales price along Atlanta BeltLine since 2011; 2012 to 2015 (Immergluck & Balan, 2018).

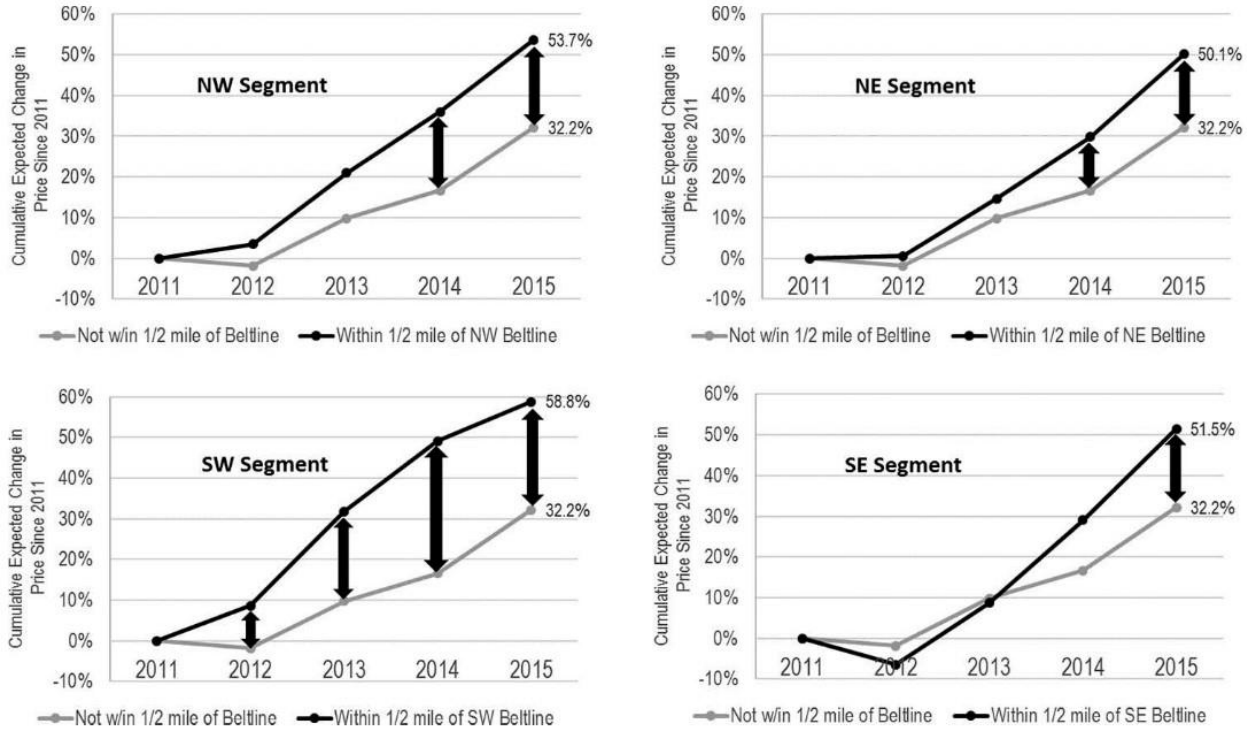

Figure 1.3. The effect of being within a half-mile of a BeltLine segment on cumulative home value appreciation, 2011 to 2015 (Immergluck & Balan, 2018).

The neighborhoods that were sampled for this study are located within one-half mile of the Eastside Trail (main and south section) and the Southside Trail of the BeltLine. While the Eastside Trail has been open to the public since 2012, the Southside Trail began construction in January 2020 and remained under construction throughout data collection (Atlanta BeltLine Inc., 2020). The trail corridor and neighborhoods sampled can be found in Figure 1.4.

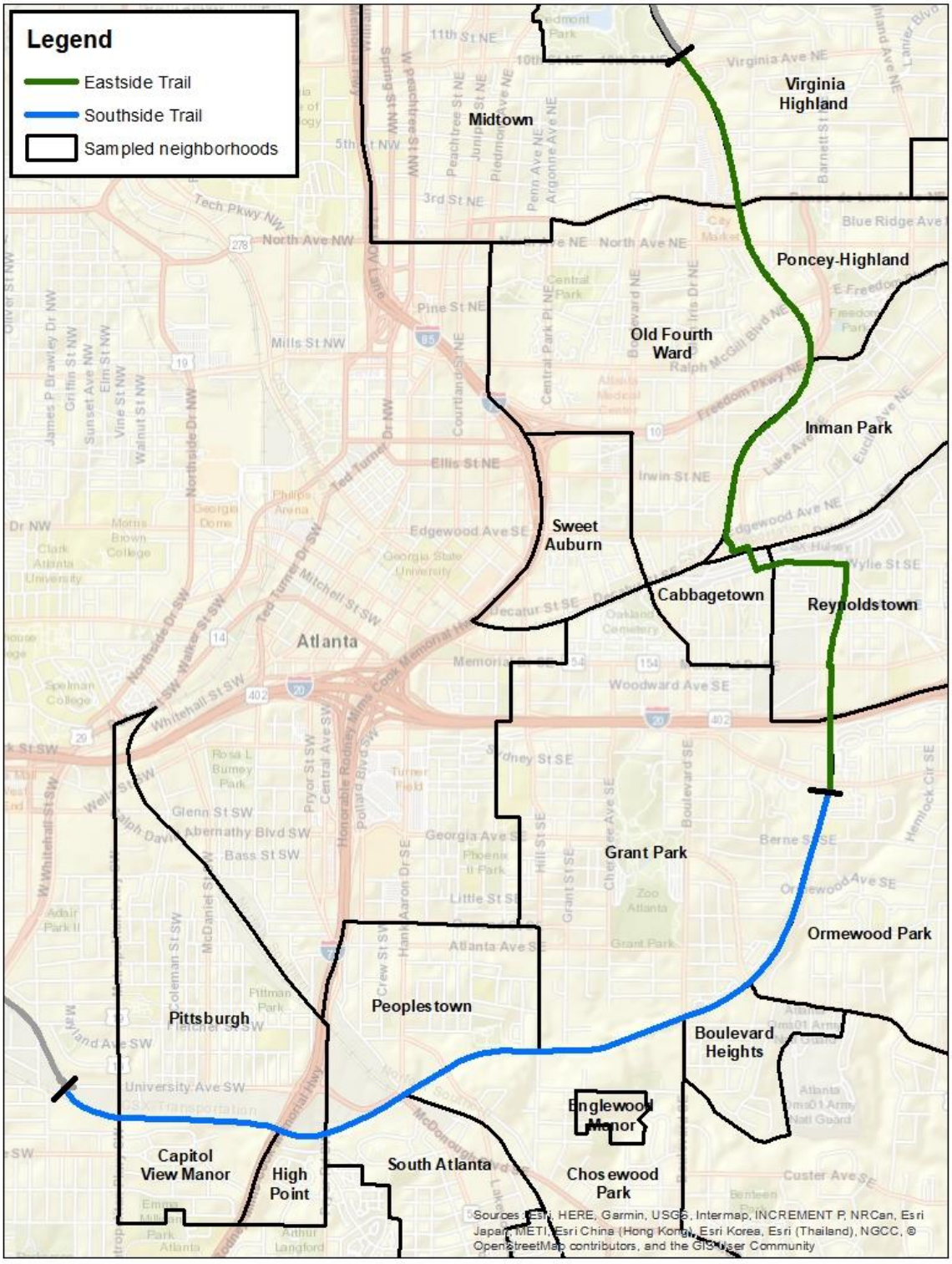

Figure 1.4. Sampled neighborhoods adjacent to the Eastside and Southside segments of the Atlanta BeltLine. Map created by author using ArcMap 10.5.

Survey Methods

Questionnaires were distributed to residents living in neighborhoods within one-half mile of the Southside and Eastside Trails (Figure 1.2) of the Atlanta BeltLine. To identify homes within one-half mile of the trail, I used ArcMap 10.5 to measure the distance and create boundaries to stay within during data collection. A proportionate census-guided systematic random sampling technique was employed to collect surveys from residents living in homes within one-half mile of the Southside Trail. This method used the U.S. Census Bureau's census block groups to develop a stratified sampling framework based on the number of households within each neighborhood. Because of the COVID-19 pandemic restrictions, this in-person data collection method was suspended. An online Qualtrics questionnaire was delivered to neighborhood groups located within a half-mile of each trail segment in an effort to reach the 300 surveys per trail segment goal. Using ArcMap 10.5, these neighborhoods were selected using the "Select by Location" tool which allowed me to select existing neighborhoods that had a border within one-half mile of each trail segment. These neighborhood groups were contacted via their website and Facebook groups in order to receive permission to administer the questionnaire. Once permission was granted, surveys were posted on Facebook groups or sent via email on a total of five dates per neighborhood to yield maximum responses. Groups that did not respond were also contacted five times to increase the chances of receiving permission to distribute from the group. The group leader or I sent the questionnaires to residents, depending on the preferences of the group.

The in-person portion of data collection occurred in the Southside Trail neighborhoods on Saturdays between January and March of 2020. During this in-person data collection, a total of 619 households were visited, resulting in contact with 245 eligible residents who were

at least 18 years of age and permanent residents of Atlanta. Of these 245 residents, 177 agreed to participate for a participation rate of 72%. Out of the 177 distributed questionnaires, 109 were returned for a return rate of 62%. Three incomplete questionnaires were removed, resulting in 106 usable questionnaires.

In June and July of 2020, online questionnaires were collected. Requests to distribute the survey were sent out to 17 neighborhood groups with 15 neighborhoods agreeing to distribute. A total of 922 online questionnaires were collected and 523 were usable after removing incomplete and haphazardly completed surveys, resulting in an online survey completion rate of 57%. After combining surveys collected from each method, a total of 629 were collected. Finally, 36 responses were removed containing multivariate outliers considering Mahalanobis Distance (MD) (Erul, Woosnam, & McIntosh, 2020). Once MDs were calculated, they were compared against the cumulative χ^2 distribution with 30 degrees of freedom and *p*-value of 0.001, as MDs with a *p*-value smaller than 0.001 were considered containing multivariate outliers. The final sample size for this study was 593. Within the Eastside Trail neighborhoods, 313 questionnaires were collected while 280 were collected from the Southside Trail neighborhoods.

There were significant demographic differences between the in-person sample and the online sample (Table 1.1). The online respondents were significantly Whiter, older, more educated, and higher income than the in-person respondents. This is not surprising given those who have internet access would be more likely to have higher incomes and education levels. Also, the in-person surveys were collected exclusively in non-gentrified neighborhoods adjacent to the under-construction Southside Trail, whereas the online surveys were collected from neighborhood adjacent to both the Southside and Eastside Trail. The latter of which is higher

income and gentrified. However, this bias is presented as a limitation throughout this dissertation.

Table 1.1. Demographic comparison between online and in-person samples.

	Online	In-Person	Between Methods Diff. Tests
Race/Ethnicity			$X^2(2) = 206.610$, $p < .001$
Black or African American	5.1	60.8	
White or Caucasian	86.7	32.0	
Other/Multiracial	8.2	7.2	
Age Group			$X^2(3) = 13.917$, $p = .003$
35 or younger	20.5	35.1	
36 - 49	37.9	36.1	
50-59	21.7	9.3	
60 or older	19.9	19.6	
Education (Highest Level)			$X^2(6) = 119.846$, $p < .001$
Less than high school	0.0	2.0	
High school or GED	1.2	14.1	
Technical, vocational or trade school	0.4	8.1	
Some college	5.5	21.2	
4-year college	48.9	33.3	
Master's degree	27.9	16.2	
Ph.D./Professional Degree	16.1	5.1	
Household Income			$X^2(2) = 64.339$, $p < .001$
Less than $40,000	5.1	26.9	
$40,000 - $79,999	15.1	29.0	
$80,000 or more	79.8	44.1	

Note. In-person surveys were collected only in neighborhoods near the Southside Trail, whereas online surveys were majority Eastside Trail-proximate residents.

Measures

The Gentrification Worldview Instrument (GWI) (Mullenbach et al., 2020) was used to measure gentrification worldview and consists of three dimensions: development support,

neighborhood preservation, and social integration (all measured with a 7-point Likert scale). As of the time of this study, the only time the GWI had been used was in a sample of the general resident population of Philadelphia, Pennsylvania in reference to park development overall (Mullenbach et al., 2021). This study will be using the GWI in the context of questions referencing a specific green space that the respondents live near: The Atlanta BeltLine. Palardy et al.'s (2018b) political empowerment scale (four questions on a 7-point Likert scale) was used to measure residents' involvement in planning the BeltLine. Support for the development of the BeltLine was measured using Palardy et al.'s (2018b) scale (four questions on a 7-point Likert scale). Neighborhood attachment was adopted from Bonaiuto et al. (1999) and Bonnes et al. (1997), and was measured using a 7-point Likert scale. A Neighborhood Gentrification Scale was created (see chapter four) and used in this questionnaire. Basic demographic information was also collected from the residents.

Structure of the Dissertation

The chapters of this dissertation are organized to present the role environmental gentrification plays in communities located near urban greenways and highlights the necessity of collecting large-scale data from residents living in gentrification-susceptible, gentrifying, or gentrified communities. The current chapter (Chapter 1) introduces the study and briefly summarizes past research on greenways and environmental gentrification, while presenting the methods and layout of the dissertation. Chapters 2, 3, and 4 comprise the main three articles of this study that are intended for future submission to academic journals. Although conclusions, recommendations, and management implications are incorporated throughout the manuscript-style chapters, Chapter 5 provides a summary of conclusions and recommendations based on the overall project. Chapter titles are listed below:

- Chapter 1 – Introduction, Methods, and Structure of Dissertation
- Chapter 2 – Gentrification worldview and support for urban greenways: Findings from the Atlanta BeltLine
- Chapter 3 – Demographic differences in residents' gentrification worldview, political empowerment, and support for an urban greenway
- Chapter 4 – Neighborhood Gentrification Scale: Construction and testing on the Atlanta BeltLine
- Chapter 5 – Conclusions and Recommendations

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CHAPTER 2

GENTRIFICATION WORLDVIEW AND SUPPORT FOR URBAN GREENWAYS: FINDINGS FROM THE ATLANTA BELTLINE[1]

[1]Keith, Samuel J.; Woosnam, Kyle M.; Boley, B. Bynum. To be submitted to *Landscape and Urban Planning.*

Abstract

In recent years, cities have increasingly implemented greenway systems to advance economic development, public health, and sustainability. The connective nature of greenways allows residents to access them from many areas within a city. Despite their popularity within urban planning, the perceptions of residents living near greenways have been understudied. Because the average greenway user lives near the greenway they utilize and nearby non-users live with the daily benefits and drawbacks of the trails, the perceptions of residents living in neighboring communities are critical for the long-term sustainability of urban greenways.

Urban greenways have been found to bring about issues of environmental justice, such as environmental gentrification and procedural injustice (Rigolon & Németh, 2018). The Atlanta BeltLine is an urban greenway project in Atlanta, Georgia that has residents concerned about the effects the trail has on nearby communities. Most environmental justice research has been qualitative or secondary data-based quantitative studies, and none have investigated the impact environmental gentrification perceptions and political empowerment have on urban greenway support.

This study sought to understand the roles neighborhood attachment, gentrification worldview, and political empowerment play in predicting urban greenway support. Overall, residents were generally supportive of the greenway, but they did not claim to be very involved in the planning process. The more attached residents were to their neighborhood, the less supportive of general development, but more supportive of the greenway they were. As residents were more involved in greenway decision-making, they were also more supportive of the greenway. These results highlight the importance of giving voice to nearby residents

during greenway development and that greenways may not be seen as the problem when it comes to injustice.

Introduction

Greenway trails have become popular investments for cities to boost economic development, public health, and sustainability (Gould & Lewis, 2017; Harnik & Welle, 2011; Salici & Altunkasa, 2014). These corridors have also been linked to improving users' quality of life (Shafer, Lee, & Turner, 2000), providing cultural ecosystem services (Larson et al., 2016), and enhancing the connectedness of an area (Gobster, 1995), which provides opportunities for alternative transportation (Hirsch et al., 2017). Greenways encourage users to exercise through active (e.g., bicycling, running, walking), rather than sedentary recreation (Coutts & Miles, 2011; Gobster, 1995; Keith, Larson, Shafer, Hallo, & Fernandez, 2018; Lindsey, Han, Wilson, & Yang, 2006; Reynolds et al., 2007).

The linear, connective nature of greenways also allows residents to access them from many areas within a city. Research suggests the majority of greenway users live relatively close to the greenway (i.e., under five miles) (Furuseth & Altman, 1991; Gobster, 1995; Reed, Hooker, Muthukrishnan, & Hutto, 2011). Greenways located nearer to city centers attract residents who live even closer, (i.e., roughly one mile away) (Keith et al., 2018). This suggests the primary stakeholders for urban greenways are nearby residents since they are the ones who either disproportionately use the greenway or experience the positive and negative impacts of urban greenways within their neighborhood.

Despite their importance as urban greenway stakeholders, little research has been conducted on residents living near urban greenways (Harris, Rigolon, & Fernandez, 2020;

Harris, Schmalz, Larson, Fernandez, & Griffin, 2019; Ivy & Moore, 2007; Palardy, Boley, & Johnson Gaither, 2018a, 2018b; Weber, Boley, Palardy, & Johnson Gaither, 2017). Because the average greenway user lives near the greenway they utilize, the perceptions of residents living in neighboring communities are critical. Additionally, residents in the neighboring communities who do not use greenways also prove to be valuable since they are living with the day-to-day benefits and drawbacks of the trails. Some of those drawbacks of living near greenways include damage to property, crime, privacy, traffic, gentrification, and dog-related issues (Corning, Mowatt, & Chancellor, 2012; Crewe, 2001; Lindsey et al., 2006; Luymes & Tamminga, 1995). Residents whose property physically touches greenway corridors have been found to possess more negative attitudes about, and are less likely to support, a future greenway coming to their neighborhood (Ivy & Moore, 2007). This is not surprising since adjacent landowners could be most affected by potential problems caused by the greenway.

Other studies have examined the perceptions of residents living near the Atlanta BeltLine, a greenway in Atlanta, Georgia, USA. Such research has demonstrated that the support for the greenway was based on a myriad of factors including frequency of use, economic benefits resulting from the trail, sociodemographic characteristics of an individual, psychological empowerment, and social empowerment (Palardy et al., 2018a, 2018b). However, it is valuable to consider larger greenway developments like the BeltLine from the lens of its various sections around the city of Atlanta. As was found, one of the more affluent communities was more likely to perceive the impacts of the BeltLine as more positive than a less-affluent, gentrifying neighborhood (Weber et al., 2017).

Though greenways may provide many benefits to users and some residents, they are not always enjoyed by the entire population they were meant to serve (Rigolon & Németh, 2018). In

most cases, the majority of greenway users are White, well-educated, and have above-average incomes (Coutts & Miles, 2011; Keith et al., 2018; Reed, 2014; Wolch et al., 2010). Furthermore, residents living near greenways have been concerned about gentrification, including both physical and cultural displacement of long-time residents (Gould & Lewis, 2017; Harris et al., 2019; Rigolon & Németh, 2018).

In consideration of the differing opinions and experiences of greenways and their role in cities and neighborhoods, this paper seeks to further understand support for the development of greenways. A few studies have tested the antecedents to residents' support for urban greenways (Palardy et al., 2018a, 2018b); however, they have not considered the role gentrification worldview and neighborhood attachment play in residents' support or opposition to greenway development. The hypothesized support for the BeltLine is suggested to be a function of their attachment to their neighborhood, gentrification worldview, and political empowerment. Gentrification, in its essence, includes neighborhood change. People who are attached to their neighborhood may welcome change to spur economic development or oppose this change to keep things stable and how they have always been. Finally, one's ability to have a voice in greenway planning activities may influence their support for the project. This research provides valuable insight for managers, city leaders, and academics as to what factors are involved in determining if residents support or oppose urban greenways. The proposed conceptual model and its corresponding hypotheses are found below (Figure 2.1), supported by extant literature in the proceeding literature review.

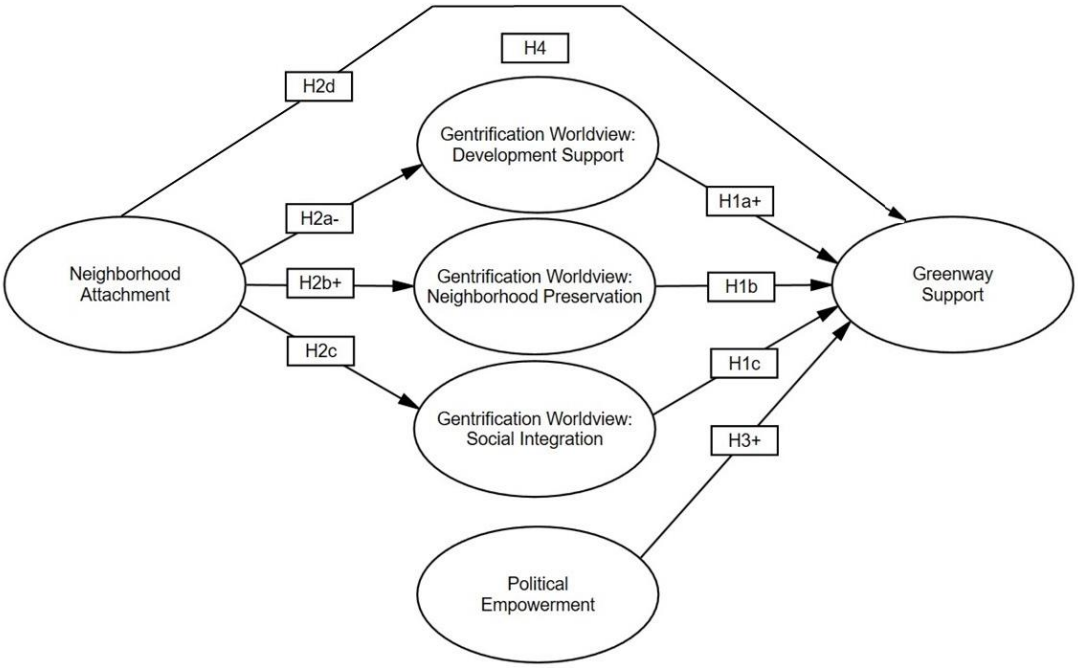

Figure 2.1. Proposed Model of Support for the Atlanta BeltLine greenway.

Literature Review & Hypotheses Development

As mentioned previously, White, affluent individuals generally use greenways disproportionately more than racially/ethnically minoritized groups and/or individuals who have lower incomes (Coutts & Miles, 2011; Keith et al., 2018; Reed, 2014; Wolch et al., 2010). Truth be told, these former groups have less access to quality green spaces than others (Rigolon, 2016). To combat this, cities have chosen to develop greenways in majority low-income and/or minority communities to provide individuals with requisite access to trails that can improve their health and well-being (Rigolon & Németh, 2018).

However, the presence of a greenway can then attract investors, increase property values and rents, and ultimately displace a portion of the residents the trail was designed to serve

(Crompton & Nicholls, 2019; Rigolon & Németh, 2018, 2020). This phenomenon is referred to as ecological (Dooling, 2009), green (Gould & Lewis, 2017), or environmental (Checker, 2011) gentrification. Even if residents are able to avoid physical displacement, they may feel excluded once newcomers arrive (Harris et al., 2020). Having physical access to greenways is of particular importance for individuals from lower-income backgrounds, given their lower overall physical health (Braveman, Cubbin, Egerter, Williams, & Pamuk, 2010; National Center for Health Statistics, 2016; Ogden, Carroll, Kit, & Flegal, 2014; Weinstein, Geller, Negussie, & Baciu, 2017).

Though some residents find greenways as primarily a benefit to their community (e.g., Keith et al., 2018; Palardy, Boley, & Johnson Gaither, 2018a), others do not support these developments due to the negative effects of gentrification (e.g., Harris, Schmalz, Larson, Fernandez, & Griffin, 2019). If individuals are using greenways, they likely see their benefits and support their existence. Additionally, if gentrification and displacement have occurred in neighborhoods adjacent to the greenway, these more affluent residents would not experience the level of the negative effects of gentrification compared to their counterparts from lower-income backgrounds. Hence, including residents of adjacent neighborhoods in the planning of greenways is vital to the success of the project (Gobster, 2001; Moore, Graefe, & Gitelson, 1994).

Social exchange theory (SET) (Homans, 1958; Blau, 1964; Thibaut & Kelley, 1959) has been used to explain greenway support in past literature and aligns with the present topic. SET posits that individuals seek maximum reward with minimal cost and calculates the costs and benefits before engaging in action. If rewards outweigh the costs over time, individuals are willing to engage, or support, a particular situation. For example, if residents find greenways to be a benefit to themselves and/or their community through access to a recreational site and

associated economic development (via gentrification), they may support the greenway. SET would suggest this conclusion particularly if the aforementioned benefits outweighed the potential negative effects of a greenway (e.g., displacement, unwanted neighborhood change).

Harris et al. (2019) conducted interviews with residents living in neighborhoods adjacent to a newer greenway (The 606 Trail in Chicago, Illinois) and found mixed results considering the support for the project. Many of the long-term residents enjoyed using The 606 as a safe recreational corridor and even supported some of the revitalization that developed in the neighborhood. However, these and other residents were vocal about the negative changes gentrification brought to their community. These are similar sentiments Rigolon and Németh (2018) found in their research on The 606.

An individual's perceptions of gentrification and its associated benefits and drawbacks may determine whether or not they support the development of a greenway. Gentrification worldview, a "set of evaluative beliefs representing one's worldview of gentrification" (Mullenbach, Baker, & Mowen, 2020, p. 1) has been found to have a positive relationship with support of park development (Mullenbach, Mowen, & Baker, 2021). Gentrification worldview is composed of three dimensions (see Table 2.2 for specific items): 1) neighborhood preservation, 2) development support, and 3) social integration. Neighborhood preservation includes items that ask about the maintenance of the culture and residents within a neighborhood, such as resisting new development (Mullenbach et al., 2020). Development support is the degree to which individuals support new development and its associated outcomes. Finally, social integration consists of items relating to support for a mixed composition of race/ethnicities, income levels, and housing stock within an area.

The only study to use the Gentrification Worldview Instrument sampled the general population in Philadelphia, Pennsylvania, but asked about support of park development in general rather than a specific park or green space (Mullenbach, Mowen, & Baker, 2021). This study uses gentrification worldview as one of the factors to predict support of a specific green space, the Atlanta BeltLine. Mullenbach et al.'s (2021) model also consisted of gentrification worldview predicting gentrification attitudes, which predicted support of park development. They found social integration and development support had positive and significant relationships with gentrification attitudes. In past work, support for urban greenways have been predicted by perceived economic benefits (Palardy et al., 2018b), which includes similar items to that of the development support dimension of gentrification worldview. Based on this review, the following hypotheses pertaining to residents' perspectives are advanced:

H_{1a}: *The development support dimension of gentrification worldview will positively and significantly explain greenway support.*

H_{1b}: *The neighborhood preservation dimension of gentrification worldview will significantly explain greenway support.*

H_{1c}: *The social integration dimension of gentrification worldview will significantly explain greenway support.*

Neighborhood attachment is a construct that represents an individual's emotional and physical connection to their neighborhood (Bonaiuto, Aiello, Perugini, Bonnes, & Ercolani, 1999; Bonnes, Bonaiuto, Aiello, Perugini, & Ecolani, 1997; Comstock et al., 2010). Formed by perceptions and features of the built environment within the community, one's neighborhood attachment encourages participation and investment in both the physical and social aspects of the

neighborhood (Hummon, 1992). Neighborhood attachment may influence people's gentrification worldview which, in turn, predicts their support for a park or greenway. For example, some residents living near The 606 Trail in Chicago liked the trail, but they suggested it was not built for them and lamented having to protect the neighborhood from both physical and cultural displacement (Harris et al., 2019). Indeed, they have become attached to their neighborhood and its associated culture over the years, but are concerned about its future due to the negative effects of gentrification. Another Chicago-based study found "blue-collar" residents selling their homes and taking advantage of rising property values in a majority low-income, gentrifying neighborhood (Betancur, 2011). These homeowners seem to not have been attached to their neighborhood and supportive of the benefits garnered through gentrification.

Long-term residents have also had direct or indirect conflict with newcomers in their neighborhoods, such as: physical displacement (Betancur, 2011), citizen-based policing of youth of color (Harris et al., 2020), conflict with particular recreation styles and ethics on trails (Harris et al., 2019), newcomers' lack of concern with the neighborhood issues (Curran & Hamilton, 2012), and newcomers wanting public art representing long-term residents' culture to be painted over (Harris et al., 2019). Sense of community has been found to have a negative relationship with gentrification (Gibbons, Barton, & Reling, 2020), however, this is not always the case (Curran & Hamilton, 2012; Freidus, 2019). Though the majority of gentrification research presents gentrifiers in a negative light from the perspective of long-term residents, the relationship between gentrification's social integration and attachment to one's neighborhood is unclear. However, the items under social integration are worded in such a way that promotes general diversity in a neighborhood, rather than highlighting the potential conflict that may arise between newcomers and long-term residents. As such, the following hypotheses are proposed:

H_{2a}: *Neighborhood attachment will negatively and significantly explain the development support dimension of gentrification worldview.*

H_{2b}: *Neighborhood attachment will positively and significantly explain the neighborhood preservation dimension of gentrification worldview.*

H_{2c}: *Neighborhood attachment will significantly explain the social integration dimension of gentrification worldview.*

H_{2d}: *Neighborhood attachment will have a significant relationship with greenway support.*

Political empowerment is the process by which individuals in a community are able to have a voice, control, and agency over development decisions that affect them (Scheyvens, 1999). Political empowerment is similar to the idea of procedural justice, a component of environmental justice that suggests stakeholders should be involved in the decision-making process of development (Low, 2013). Providing ample opportunity for and making changes based on public participation in planning green spaces is important to give stakeholders a chance to be heard (Fiorino, 2000).

Research is mixed on political empowerment's relationship to greenway or tourism support (Palardy et al., 2018b) Though political empowerment, in the case of a previous Atlanta BeltLine study (Palardy et al., 2018b), was not a strong predictor of resident support, evidence suggests one's perceptions of their ability to influence policy decisions may play a role in predicting support for a project (Hays & Kogl, 2007; Hays, 2015; Manzo & Perkins, 2006; Peterson, Peterson, Agre, Christens, & Morton, 2006). Long-term residents living near greenways have been frustrated by their lack of voice in development decisions pertaining to

housing affordability and neighborhood cultural change (Harris et al., 2019; Rigolon & Németh, 2018). Perhaps the inclusion of more long-term residents in the communities surrounding the undeveloped section of the BeltLine will shed more light on political empowerment's relationship with greenway support.

H_3: *Political empowerment will positively and significantly explain greenway support.*

In this study, gentrification worldview may mediate the relationship between neighborhood attachment and greenway support. In other words, for residents who are attached to their neighborhood, their view of gentrification may determine whether or not they support a greenway development. Though someone may be attached to their neighborhood, this can manifest in different ways. One person may be attached to their neighborhood and hope its core remains preserved as it always has been, while another resident may be attached to their neighborhood while desiring renovation and change to improve it in their eyes (Harris et al., 2020). The presence or lack of change in a neighborhood could be correlated with the presence or lack of gentrification. Since conversations surrounding urban greenways and other green spaces are often paired with issues such as gentrification (Harris et al., 2019; Immergluck & Balan, 2018; Martinez, 2019), it is reasonable to suggest one's gentrification worldview could mediate the relationship between residents' neighborhood attachment and greenway support.

H_4: *Gentrification worldview will mediate the relationship between neighborhood attachment and greenway support.*

Methods

Study Site: Atlanta BeltLine

The Atlanta BeltLine is a partially-completed urban greenway system near downtown Atlanta, Georgia, USA (Figure 2.2). Atlanta is of particular interest due to its history of racism and Civil Rights activity (Connor, 2015). The BeltLine will eventually encircle Atlanta for a total of 33 miles of trail (and 22 miles of transit), connecting 45 Atlanta neighborhoods (Mitchell, 2018). The current plan will also include the addition of 1,300 acres of new greenspace and 700 acres of renovated greenspace. Christopher Leinberger, a metropolitan land use strategist and advocate of "walkable urbanism," claims the BeltLine is, "the most important rail-transit project that's been proposed in the country, possibly in the world" (Fausset, 2016). Noted as a "staggeringly ambitious engine of urban revitalization" (Fausset, 2016), the BeltLine will have quite the impact on the city of Atlanta. As of the time of this study, the Eastside Trail (3 miles), Northside Trail (approximately 1 mile), Southwest Connector Trail (1.15 miles), West End Trail (2.25 miles), and Westside Trail South Section (2.5 miles) are the BeltLine trail sections that are complete and open to the public (Figure 2.2).

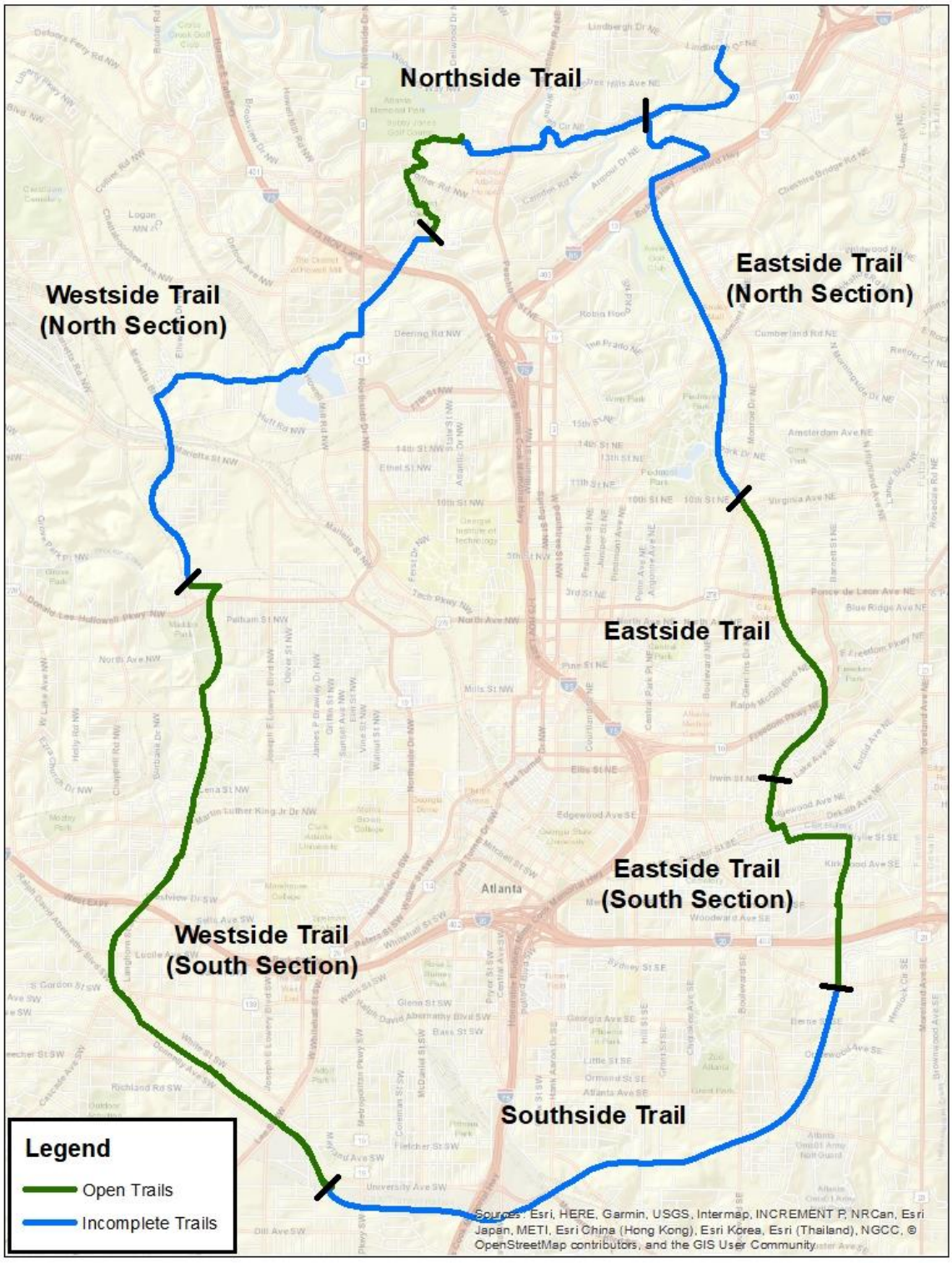

Figure 2.2. Atlanta BeltLine Trails status as of time of study. Map created by author using ArcMap 10.5.

The Atlanta BeltLine is a prime example of an urban greenway that has caused environmental gentrification in the communities surrounding the trails (Immergluck & Balan, 2018). A recent study found property values for homes within a half-mile of the BeltLine rose between 17.9 to 26.6 percent more than other Atlanta homes between 2011 and 2015 (Immergluck & Balan, 2018). The BeltLine is often promoted when real estate agents advertise properties that are located near the trail (Immergluck & Balan, 2018; Pendergrast, 2017).

The two sections of trail that were sampled for this study are the Eastside Trail (both the main trail and south section) and the Southside Trail. The Eastside Trail has been open to the public since 2012 and has since expanded southward (Atlanta Beltline Inc., 2018). The Southside Trail broke ground on construction in January 2020 (Atlanta Beltline Inc., 2020) and remained under construction throughout the data collection phase of this study.

As of the date of this research, no study has asked residents living adjacent to a greenway that has been proposed, was in development, or under construction about their perceptions of gentrification. These residents that have perhaps not experienced gentrification in their neighborhood may have different opinions than those who have been previously sampled. Having the perspectives of residents living near a long-completed greenway and one that is not yet open should provide robust and diverse results.

Survey Methods

A questionnaire to residents living in neighborhoods adjacent to the Southside Trail and Eastside Trail (Figure 2.3) of the Atlanta BeltLine was distributed to determine residents' gentrification worldview, involvement in and support for BeltLine planning, neighborhood

attachment, perceptions of neighborhood change, current/planned use of the BeltLine, and general demographics.

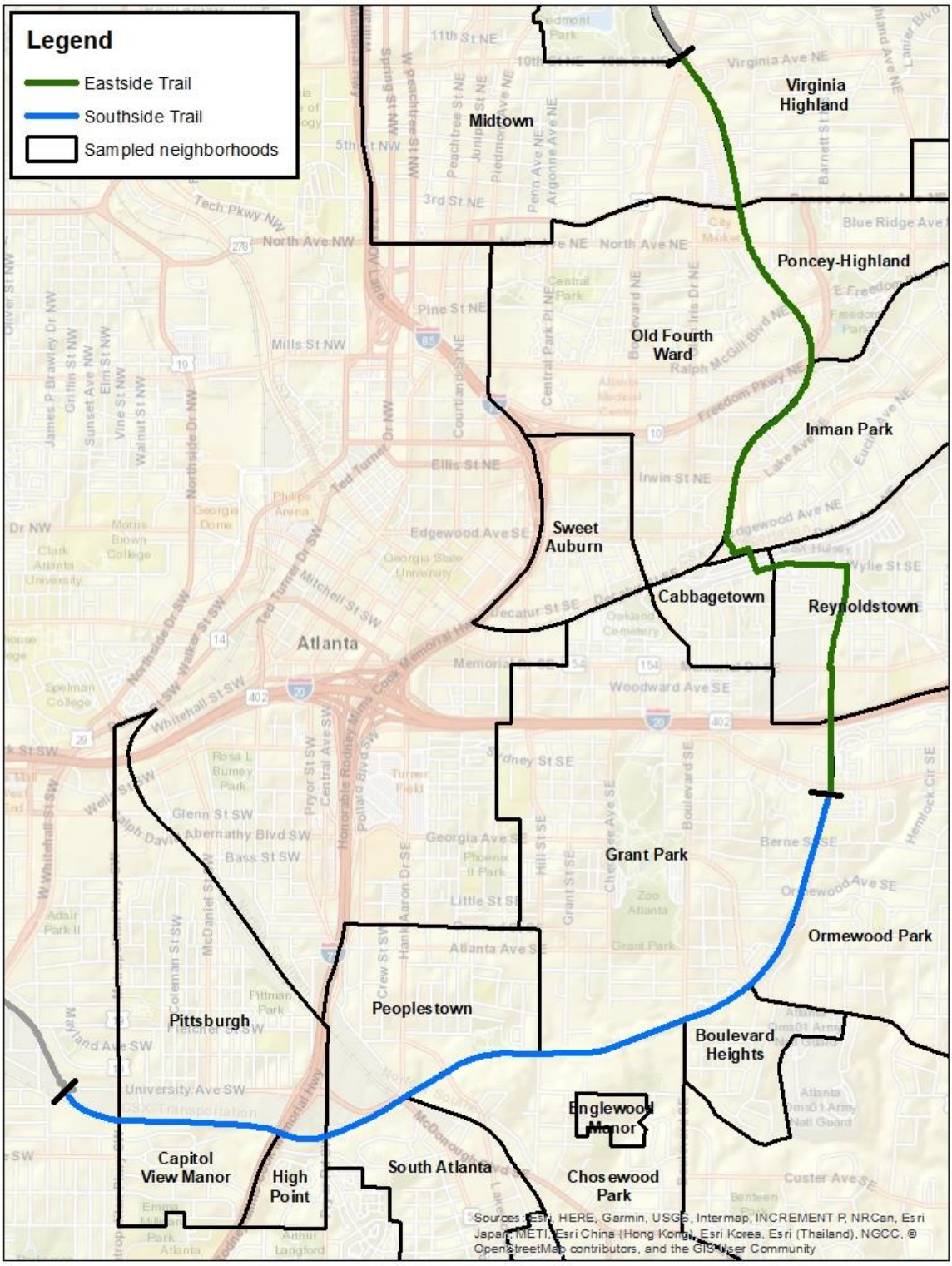

Figure 2.3. Sampled neighborhoods adjacent to the Eastside and Southside segments of the Atlanta BeltLine.

The questionnaire for the Southside Trail asked questions about the future trail (since it was under construction at the time of the data collection), while the Eastside Trail questionnaire asked about the trail that has already been open for eight years. Each questionnaire asked past tense questions about whether or not, and to what extent, residents have been involved in the trail planning process, since the planning phase has already commenced for both trails.

A proportionate census-guided systematic random sampling method (Woosnam, 2011) was used to achieve a representative sample of residents living in census blocks within one-half mile of the Southside Trail. Using the U.S. Census Bureau's census block groups, this method helped develop a stratified sampling framework based on the number of households within each neighborhood.

Due to the COVID-19 pandemic restrictions, the in-person data collection method was suspended. In order to reach the goal of 300 surveys per trail segment, an online questionnaire via Qualtrics was dispersed to neighborhood groups located within a half-mile of the trail segment. Neighborhood groups were contacted via their website and Facebook groups to achieve permission to disperse the questionnaire. If a neighborhood group responded with permission to distribute the questionnaire, four additional requests (for a total of five distribution dates) were made to yield more responses. Groups that did not respond were also followed up with a total of five times to give them a chance to distribute the questionnaire. Depending on the preferences of the neighborhood group, either the leader of the group or the first author sent the questionnaires to residents via the email listserv and/or Facebook post on the neighborhood page.

In-person questionnaires were administered to homes within one-half mile of the Southside Trail on Saturdays between January and March, 2020. During the in-person data collection, a total of 619 households were visited, resulting in contact with 245 eligible residents

who were permanent residents of Atlanta and 18 years of age. Out of the 245 eligible residents, 177 agreed to participate, with 68 declining, for a participation rate of 72%. Of the 177 distributed questionnaires, 109 were returned, for a return rate of 62%. Three incomplete questionnaires were removed, resulting in 106 usable questionnaires.

Online questionnaires were collected in June and July, 2020. Requests to distribute the survey were sent out to 17 neighborhood groups with 15 neighborhoods agreeing to distribute. A total of 922 online questionnaires were collected and 523 were usable after removing incomplete and haphazardly completed surveys, resulting in an online survey completion rate of 57%. After combining online and in-person surveys, a total of 629 surveys were collected. Finally, 36 responses were removed containing multivariate outliers considering Mahalanobis Distance (MD) as Woosnam (2011) suggested. Once MDs were calculated, they were compared against the cumulative χ^2 distribution with 30 degrees of freedom and *p*-value of 0.001, as MDs with a *p*-value smaller than 0.001 were considered containing multivariate outliers. The final sample size for this study was 593.

Measures

In order to measure gentrification worldview, the Gentrification Worldview Instrument was utilized (Mullenbach et al., 2020). Gentrification worldview consists of three dimensions: Development support, neighborhood preservation, and social integration. Items across each of these dimensions were measured using a 7-point Likert scale, from strongly disagree (1) to strongly agree (7). Mullenbach's (2020) Gentrification Worldview Instrument has only been used on a broad scale asking residents in Philadelphia about gentrification, but has not asked

residents specifically about gentrification associated with a particular green space near where they live.

To measure resident involvement in planning the BeltLine, Palardy et al.'s (2018) four-question political empowerment scale was used. To measure resident support of the greenway, Palardy et al.'s (2018) six-question scale was used. Neighborhood attachment was adopted from Bonaiuto et al. (1999) and Bonnes et al. (1997), and was measured with six questions. Each of these scales used a 7-point Likert scale ranging from strongly disagree (1) to strongly agree (7). Finally, data were collected regarding demographics and use of the BeltLine.

Data Analysis

Analyses examining the aforementioned hypotheses were conducted using IBM SPSS v.27 and AMOS v.27. Descriptive analysis for each variable in the dataset was conducted to explore frequency distributions. To examine psychometric properties of each scale and corresponding factors, full first-order confirmatory factor analysis (CFA) was run with all factors and items: six items under neighborhood attachment, five items under development support (gentrification worldview), five items under neighborhood preservation (gentrification worldview), three items under social integration (gentrification worldview), five items under political empowerment, and six items under greenway support. This CFA helped determine reliability and validity estimates for each factor, along with the quality of the measurement model. After establishing the measurement model, each hypothesis was tested through structural equation modeling (SEM). The two-step CFA and SEM analytical approach is consistent with the recommendations of Anderson and Gerbing (1988).

Results

Demographics

The majority of the sample identified themselves as female (60%), White (78%), and between 36-49 years of age (38%) (Table 2.1). Respondents were highly educated, as 86% of them had at least a four-year degree, if not a graduate degree. The most common (35%) income range was more than $160,000 per year and the vast majority (81%) of respondents were homeowners. Lastly, 94% of respondents claimed to have previously used one of the Atlanta BeltLine trail segments.

Table 2.1. Demographics Characteristics of residents living in neighborhoods within one-half mile of the Eastside and Southside Atlanta BeltLine trails.

	n	%
Gender	**591**	
Female	357	60.4
Male	224	37.9
Other / Prefer not to respond	10	1.7
Race/Ethnicity	**586**	
Black or African American	84	14.3
Asian	16	2.7
Native Hawaiian/Other Pacific Islander	1	0.2
White	455	77.6
Hispanic/Latino(a)[a]	25	4.3
Other	16	2.7
Multiracial	14	2.4
Age Group	**580**	
35 or younger	133	22.9
36-49	218	37.6
50-59	114	19.7
60 or older	115	19.8
Education (Highest Level)	**590**	
Less than high school	2	0.3
High school or GED	20	3.4
Technical, vocational or trade school	10	1.7
Some college (includes junior college)	48	8.1
4-year college (Bachelor's degree)	273	46.3
Master's degree	153	25.9
Ph.D./Professional Degree	84	14.2
Household Income	**563**	
Less than $40,000	49	8.7
$40,000 - $79,999	98	17.4
$80,000 - $119,999	104	18.5
$120,000 - $159,999	117	20.8
More than $160,000	195	34.6
Homeownership	**587**	
Renter	113	19.3
Homeowner	474	80.7
Atlanta BeltLine use[b]	593	
Have used the BeltLine (any trail segment) previously[c]	555	93.6
Plan to use the Southside BeltLine in the future	251/280	89.6

[a] "Do you identify as Hispanic or Latino/a?" was asked separately from "Which category best describes your race?"

[b] The residents living near the Eastside Trail were asked "Have you ever used the Eastside Trail?" and "If you use the BeltLine's Eastside Trail, about how often do you use it?", while the Southside residents were asked "Have you ever used any of the Atlanta BeltLine trails?" and "When the BeltLine's Southside Trail is complete, do you plan on using it?" This was done because the Eastside Trail was open to the public, but the Southside Trail was under construction at the time of data collection.

[c] This item combines the responses from "Have you ever used the Eastside Trail?" given to Eastside residents and "Have you ever used any of the Atlanta BeltLine trails?" given to the Southside residents.

Measurement and structural models

The model fit for the measurement model was acceptable, though some items had low factor loadings, which indicated potential reliability and validity issues. In fact, neighborhood preservation (as part of the gentrification worldview construct) was found highly problematic due to its weak composite reliability (CR), average variance extracted (AVE) and discriminant validity. One item was removed at a time (i.e., the item with the lowest factor loading) (Byrne, 2016) until an "ideal model" (Woosnam & Norman, 2010) was achieved and no further issues regarding internal reliability, convergent validity, or discriminant validity were present. This resulted in the removal of the entire neighborhood preservation dimension of gentrification worldview. Through the two-step process, whereby the measurement model was established through CFA and structural path model through SEM, each factor had high reliability (e.g., composite reliabilities or CR above 0.80, ranging from 0.84 to 0.96) and high validity (e.g., average variance extracted or AVE was greater than or equal to 0.50, ranging from 0.50 to 0.79). Furthermore, the 25 items had standardized factor loadings in excess of 0.6 (see Table 2.2), the threshold suggested by Hair et al. (2018).

The incremental model fit indices for the measurement model (e.g., Incremental Fit Index (IFI), Tucker-Lewis index (TLI), and Comparative Fit Index (CFI)) were all above 0.90, and the absolute model fit index (e.g., Root mean square error of approximation (RMSEA)) was lower than 0.10. These results indicate acceptable model fit (see Hair et al., 2018): χ^2 = 833.103 $_{(265)}$; p < 0.001; IFI = 0.944; TLI = 0.937; CFI = 0.944; RMSEA = 0.060 [0.056, 0.065]; SRMR = 0.0599 (see Table 2.3). This model achieved discriminant validity, as the square root of the AVE for each factor was greater than the factor inter-correlations (i.e., the correlation between factors in corresponding rows or columns in Table 2.4) (Hair et al., 2018).

Table 2.2. Factor items and factor loading

Factors and items	*Std. Load.*	*M*	*SD*	*CR*	AVE
Neighborhood Attachment		**5.39**	**1.05**	**0.88**	**0.54**
This is the ideal neighborhood to live in	0.666	5.77	1.09		
This neighborhood is currently a part of me	0.750	5.85	1.09		
There are places in my neighborhood to which I am very emotionally attached	0.685	5.54	1.31		
It would be very hard for me to leave this neighborhood	0.882	5.50	1.41		
I would not willingly leave this neighborhood (reverse coded from "would willingly leave")	0.721	4.93	1.56		
I would not willingly leave this neighborhood for another	0.695	4.76	1.57		
Development Support (Gentrification Worldview)		**4.48**	**1.14**	**0.84**	**0.50**
Property value increases are a good thing for my city neighborhood	0.757	5.05	1.48		
People being displaced or "priced out" of their neighborhood is an unavoidable part of living in cities	0.638	3.75	1.61		
It is good for neighborhoods when higher-value housing fills empty lots	0.734	4.66	1.45		
New non-local businesses, such as Starbucks, are a sign that a neighborhood is moving in the right direction	0.653	3.34	1.36		
New development is a sign that a neighborhood is moving in the right direction	0.757	4.86	1.37		
Neighborhood Preservation (Gentrification Worldview)		-	-	-	-
It is important to resist business develop. when it disrupts local culture	-	-	-		
There are instances when residents have to say "no" to certain businesses or residential developments	-	-	-		
It is important for the city government to protect locally-owned businesses	-	-	-		
New residents should help maintain the current culture and character of their new neighborhood	-	-	-		
Neighborhoods benefit from low residential turnover	-	-	-		
Social Integration (Gentrification Worldview)		**6.10**	**1.00**	**0.84**	**0.65**
It is important for cities to prioritize affordable housing	0.732	6.01	1.16		
It is important to have a mix of residents of different races and ethnicities in city neighborhoods	0.733	6.51	0.82		
It is important to have a mix of residents of different income levels in city neighborhoods	0.930	6.20	1.03		
Political Empowerment		**3.62**	**1.41**	**0.92**	**0.70**
I have a voice in development decisions pertaining to the BL	0.862	3.62	1.59		
I have access to the decision-making process when it comes to the BL	0.885	3.69	1.64		
My vote makes a difference in how the BL is developed	0.869	3.65	1.57		
I have an outlet to share my concerns about the BL	0.819	4.08	1.60		
My vote makes a difference in how affordable housing policies around the BL are developed	0.724	3.13	1.60		
Greenway Support		**6.33**	**0.99**	**0.96**	**0.79**
In general, the positive benefits of the BL will outweigh its negative impacts in my neighborhood	0.872	6.14	1.22		
I believe that the construction of the BL should be actively encouraged within my neighborhood	0.902	6.19	1.15		
I support the construction of the BL	0.954	6.41	1.02		
Building the BL will be a great idea (reverse coded from "will be a mistake")	0.848	6.40	1.09		
My neighborhood should continue to support building the BL	0.929	6.29	1.07		
I want to see the BL completed all the way around Atlanta	0.823	6.54	0.97		

Note. Model fit indices: χ^2= 833.103 $_{(265)}$; $p < 0.001$; CFI = 0.944; TLI = 0.937; IFI = 0.944; RMSEA = 0.060 [0.056, 0.065]; SRMR = 0.0599

Items whose factor loading are not provided are the ones that were discarded due to poor loading.

Descriptive statistics for the constructs in question (i.e., neighborhood attachment, development support, social integration, political empowerment, and greenway support) are included in Table 2.2. Overall, respondents were very supportive of the development of the Atlanta BeltLine (M = 6.3, on a 7-point scale). Respondents were generally on the supportive side of the gentrification worldview scale (means in excess of 4.0 for each factor), however, residents were in greater agreement concerning social integration (M = 6.1) than development support (M = 4.5). Finally, they were overall attached to their neighborhood (M = 5.4), and were mixed in their perspective of being politically empowered (M = 3.6).

Table 2.3. Fit indices of measurement and structural models.

Fit indices[a]	CMIN(χ^2)	*df*	*p*-value	χ^2/df	IFI	TLI	CFI	RMSEA
Measurement Model	833.103	265	0.000	3.144	0.944	0.937	0.944	0.060
Structural Model	947.208	269	0.000	3.521	0.934	0.926	0.933	0.065

[a]CMIN(χ^2): Chi-square; *df*: degrees of freedom; *p*-value: Probability level; IFI: Incremental Fit Index; TLI: Tucker-Lewis index; CFI: Comparative Fit Index; RMSEA: Root mean square error of approximation.

Table 2.4. Discriminant validity analysis results.

Factors	CR	AVE	MSV	MaxR	1	2	3	4	5
1. Neighborhood Attachment	0.88	0.54	0.08	0.90	**0.73**				
2. Political Empowerment	0.92	0.70	0.12	0.93	0.14	**0.84**			
3. Greenway Support	0.96	0.79	0.23	0.97	0.17	0.35	**0.89**		
4. Social Integration (Gentrification Worldview)	0.84	0.65	0.12	0.90	0.28	0.02	-0.01	**0.81**	
5. Development Support (Gentrification Worldview	0.84	0.50	0.23	0.84	-0.13	0.31	0.48	-0.34	**0.71**

Note. The bold diagonal values are the square root of the AVE.
Off-diagonal values are the correlations between factors. For discriminant validity, the diagonal values should be larger than any other corresponding row or column entry.
All items were asked on a 7-point scale where 1 = strongly disagree and 7 = strongly agree.
Discriminant validity can also be measured MSV < AVE (Byrne, 2016).

The structural model also demonstrated acceptable fit χ^2 = 947.208 $_{(269)}$; CFI = 0.933; TLI = 0.926; IFI = .934; RMSEA = 0.065 [0.061, 0.070], SRMR = 0.1005 (see Table 2.3). The results suggest that each of the factors significantly predicted their corresponding hypothesized

dependent variable (see Table 2.5). Neighborhood attachment significantly predicted the development support and social integration factors of gentrification worldview. However, neighborhood attachment had a negative relationship with development support (i.e., as the degree to which residents are attached to their neighborhood increases, their support of new nearby development decreases) and a positive relationship with social integration. Additionally, gentrification worldview (via development support and social integration) significantly explained residents' support for the greenway. Both neighborhood attachment and political empowerment also had significant and positive relationships with greenway support. The SEM was able to explain 29% of the variance for support for the greenway (explained by neighborhood attachment, gentrification worldview, and political empowerment) and 10% of the variance for gentrification worldview (explained by neighborhood attachment).

Finally, gentrification worldview was discovered to inconsistently mediate the relationship between neighborhood attachment and greenway support (see Table 2.6). Since the neighborhood attachment dimension of gentrification worldview was removed from the model altogether, it did not mediate the relationship between neighborhood attachment and greenway support. Development support inconsistently mediated (i.e., suppressed) the relationship between neighborhood attachment and greenway support. The direct effect of neighborhood attachment on greenway support was positive. However, the relationship between neighborhood attachment and development support was negative, while the relationship between development support and greenway support was positive. The total effect of neighborhood attachment on greenway support, mediated by development support, was small because the direct and indirect effects cancel each other out (see MacKinnon, Krull, & Lockwood, 2000, for more information about

inconsistent mediation or suppression). Finally, social integration did not mediate the relationship between neighborhood attachment and greenway support.

Table 2.5. Structural model results from hypothesis testing.

Hypothesized relationship	(Beta) β	Supported?
H_{1a}: Development Support (Gentrification Worldview) → Greenway Support	0.475^{***}	Yes
H_{1b}: Neighborhood Preservation (Gentrification Worldview) → Greenway Support	-	-
H_{1c}: Social Integration (Gentrification Worldview) → Greenway Support	0.074^{*}	Yes
H_{2a}: Neighborhood Attachment → Development Support (Gentrification Worldview)	-0.143^{***}	Yes
H_{2b}: Neighborhood Attachment → Neighborhood Preservation (Gentrification Worldview)	-	-
H_{2c}: Neighborhood Attachment → Social Integration (Gentrification Worldview)	0.284^{***}	Yes
H_{2d}: Neighborhood Attachment → Greenway Support	0.187^{***}	Yes
H_{3}: Political Empowerment → Greenway Support	0.205^{***}	Yes

Note. Model fit indices: $\chi^2 = 947.208_{(269)}$; CFI = 0.933; TLI = 0.926; IFI = 0.934; RMSEA = 0.065 [0.061, 0.070], SRMR = 0.1005
$^{*}p < 0.05$, $^{***}p < 0.001$
H_{1b} and H_{2b} were not tested since GWNP was removed in the CFA stage
Bootstrapping with 2000 samples was done for enhanced rigor.
$\boldsymbol{R^2_{SMC}}$: Development support = 0.02, Social integration = 0.08, and Greenway support = 0.29

Table 2.6. Influence of GWDS and GWSI as mediators.

	Path coefficient			
Path	Without GWDS or GWSI in between	With GWDS in between	With GWSI in between	Decision
H_4: Neighborhood Attachment → Greenway Support	0.163^{***}	0.235^{***}	0.185^{***}	Inconsistent mediation

Note. Baron and Kenny's (1986) method was used when testing the mediation (http://davidakenny.net/cm/mediate.htm#BK).
Inconsistent mediation is a special case of mediation where a mediation in fact acts like a suppressor. For further information see: MacKinnon, D. P., Fairchild, A. J., & Fritz, M. S. (2007). Mediation analysis. *Annual Review of Psychology*, *58*, 593-614.
Bootstrapping with 2000 samples was done for enhanced rigor.

Discussion and Conclusions

This research used neighborhood attachment, gentrification worldview, and political empowerment to predict nearby residents' support for an urban greenway, the Atlanta BeltLine in Atlanta, Georgia. As such, it is the first quantitative study to consider the gentrification worldview of residents living in neighborhoods adjacent to a specific green space, instead of a

general population (Mullenbach, Baker, & Mowen, 2021). It also contributes to the growing amount of research that samples residents living in neighborhoods adjacent to trails (e.g., Harris et al., 2020, 2019; Keith & Boley, 2019; Palardy et al., 2018b, 2018a; Weber et al., 2017), recommended by Corning et al. (2012). The majority of residential greenway research has sampled residents living in neighborhoods near greenways that are already open to the public, but this study is one of the few (e.g., Ivy & Moore, 2007) quantitative studies that includes residents living in neighborhoods adjacent to a greenway that is not yet completed or open to the public. Findings from this study highlight the need to sample residents living near an incomplete greenway and also to include environmental justice issues like environmental gentrification and political empowerment/procedural justice when modeling support for greenways and other green spaces.

Results are also consistent with findings from previous studies. It was not surprising that neighborhood attachment had a significant and negative relationship with development support. This is consistent with findings from previous studies where homeowners who were not attached to their neighborhoods were more willing to move for the economic benefits of selling their home that had recently increased in value due to gentrification (Betancur, 2011). On the other hand, some studies found residents who were more attached to their neighborhood lamenting new development as a threat of future physical and social displacement for them and their neighbors (Harris et al., 2019). Furthermore, though residents who were attached to their neighborhoods generally did not support new development, they did support the greenway's development. Other studies have found residents to support green space projects themselves, but not the other associated new development (Harris et al., 2019; Rigolon & Németh, 2018). Perhaps some residents' ideal situation would be to have the benefits of a greenway without it

dramatically changing the landscape of their neighborhood. This dichotomy may shed light on why development support serves as an inconsistent mediator (or suppressor) in the relationship between neighborhood attachment and greenway support. Though there have been issues between long-time residents and newcomers in gentrifying or gentrified neighborhoods (Betancur, 2011; Curran & Hamilton, 2012; Harris et al., 2020, 2019), this study found neighborhood attachment to have a positive and significant relationship with social integration. This relationship may be positive because the wording of the social integration items indicate agreement with general socioeconomic diversity within neighborhoods, rather than bringing up issues that could lead to conflict (e.g., encroachment on neighborhood culture, citizen policing, etc.).

Development support had a positive and significant relationship with greenway support, which is consistent with Palardy et al.'s (2018b) economic benefits having the same relationship with greenway support. This is logical, since if someone is already supportive of new development in an area, they would likely be in support of a new greenway development. Contrary to what some previous research found (Boley, McGehee, Perdue, & Long, 2014; Maruyama, Woosnam, & Boley, 2017; Palardy et al., 2018b; Strzelecka, Boley, & Strzelecka, 2017), political empowerment had a positive and significant relationship with support for greenway development. Palardy et al. (2018b) sampled residents living in neighborhoods adjacent to only completed sections of a greenway, where residents may or may not have lived in the area when the planning of greenway development occurred. Whereas the present study included residents who lived in neighborhoods adjacent to a section of greenway that is not yet completed and open to the public. These residents (who live near the incomplete greenway segment) likely lived in the greenway-adjacent neighborhoods during the planning process for

the trail and can speak more to whether or not they were politically empowered throughout the greenway planning phase.

The two strongest predictors of greenway support were development support and political empowerment. This provides important implications for greenway planners, managers, and city leaders. Respondents who were especially attached to their neighborhood were less inclined to support development, but those who supported development were more inclined to support the greenway. Additionally, those who felt more politically empowered (i.e., had a voice in the decision-making process for the greenway) were more inclined to support the greenway. These results highlight the importance of giving voice to nearby residents when developing greenways and other green spaces. Since there were mixed feelings about development support, perhaps more energy should also be spent considering the needs and desires of residents before implementing other non-green space related development.

Limitations and Future Research

This study does have limitations. The first being that, due to the COVID-19 pandemic, the method of data collection was changed from in-person door-to-door sampling to completely online. Door-to-door sampling afforded the opportunity to secure a more representative sample, while the online method could be skewed in favor of individuals with 1) internet access (and thus perhaps higher incomes and education levels) and 2) enough interest in their neighborhood to join a neighborhood group listserv or Facebook group. Future research seeking residents perceptions should sample entirely through the door-to-door method (see Keith & Boley, 2019; Palardy et al., 2018b, 2018a; Weber et al., 2017), once the pandemic is stabilized and we return back to a greater sense of normalcy.

Another limitation of this study is its cross-sectional nature. That is, it provides residents' perspectives at a single point in time. Future greenway research should conduct longitudinal studies to better understand how residents' perspectives change over time. This would be of particular relevance when investigating issues of environmental gentrification and sampling a neighborhood near a greenway over time, at various stages of the greenway's development (e.g., funding acquired, ground breaking, and opening to the public). Studying residents' perceptions before a green space is open to the public could provide helpful information about residents before gentrification and its associated displacement occurs.

Future urban greenway, park, and other green space researchers should consider asking users and residents questions concerning their gentrification worldview. The growing amount of research and publicity around this topic is bringing environmental gentrification to the forefront of many people's minds when they think about large green infrastructure projects around the world. Better understanding the dynamics of one's gentrification worldview and support for green space can help us understand how to care for all stakeholders involved in green space developments. The Neighborhood Preservation dimension of Gentrification Worldview had to be removed due to poor factor loading, however, future studies should include the Neighborhood Preservation items to test them in different contexts. Similarly, future studies should also include issues of political empowerment or procedural justice when investigating perceptions and experiences with urban green space. Not only is it important for individuals to feel politically empowered, but it may be more important that their concerns and suggestions make a difference in urban green space development.

This study was conducted in neighborhoods surrounding two Atlanta BeltLine trail segments. There are many other similar greenways, large parks, and green spaces that may have

unique issues and benefits. Future research should improve on this model of greenway support and test it in other contexts (e.g., The 606 Trail in Chicago, The High Line in New York City, Rail Park in Philadelphia, etc.).

More research should consider the unique perspectives of residents living near urban greenways. This line of research is currently small, but more researchers are getting involved. This study adds to this growing field through its quantitative measurement of gentrification worldview to a large group of residents and its inclusion of a greenway segment that was not yet open to the public. Findings from this study serve to inform greenway planners, managers, and city leaders about the unique perspectives of residents living in greenway-adjacent neighborhoods to help increase support and equity for all stakeholders impacted by these resources.

Acknowledgements

The authors would like to thank the residents of Atlanta, Georgia for their participation in this study. Also, we would like to acknowledge the hard work of Mr. Charles Davis, Mr. Kevin Ronczkowski, Ms. Embrylee Sago, and Mr. Quinn Webb—each of whom helped during the data collection process.

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CHAPTER 3

DEMOGRAPHIC DIFFERENCES IN RESIDENTS' GENTRIFICATION WORLDVIEW, POLITICAL EMPOWERMENT, AND SUPPORT FOR AN URBAN GREENWAY[2]

[2]Keith, Samuel; Woosnam, Kyle; Rigolon, Alessandro. To be submitted to *Journal of Urban Affairs.*

Abstract

Greenways are multiuse trails that traverse urban, suburban, and rural landscapes providing opportunities for active recreation and transportation. Greenways not only have impacts on their users, but they also indirectly impact non-users. The primary users of greenways are residents living within about one-half mile from the trail and non-users living within this distance experience their indirect benefits and drawbacks. However, research on these nearby residents is historically lacking.

Though users and non-users can both experience benefits and drawbacks associated with greenways, it is important to better understand the perspectives of the subgroups that exist within nearby residential populations. These distinctions are particularly relevant when considering race and income groups' views. Though greenways can be places in low-income communities of color to help provide residents access to quality green space, sometimes these communities experience levels of environmental gentrification. Environmental gentrification is neighborhood change involving new or renovated development, increasing property values and rents, and displacement of long-term residents.

This study seeks to further understand differences between residential subgroups' (e.g., race, income, and neighborhood groups) experiences and perspectives concerning gentrification worldview, political empowerment, and greenway support. In-person and web-based questionnaires were distributed to residents living within one-half mile of two different segments of the Atlanta BeltLine, an urban greenway in Atlanta, Georgia. One of the trail segments had been open for eight years prior to data collection and the other was under construction throughout the data collection process.

Results indicated that residents living near the greenway that was open to the public, White residents, and those with higher incomes were in more agreement with the value of having a mix of residents with different income levels than residents living near the greenway that was under construction, Black residents, and those with lower incomes, respectively. There were no significant differences between residential groups on their support for general development in their neighborhood or their experience of political empowerment. Residents living near the greenway that was open to the public supported the greenway significantly more than residents living near the greenway that was under construction. Similarly, the highest income group and residents who were either White or some other race supported the greenway significantly more than the middle-income group and Black residents. Better understanding residential groups' support for greenways and various environmental justice issues can help decision-makers care for the entire community that live near urban greenways and other green spaces.

Introduction

A unique form of public green space is the greenway. These corridors are home to trails that provide recreation and transportation opportunities for residents and visitors alike (Shafer, Lee, & Turner, 2000). Additionally, these trails can provide a host of benefits for both users and non-users. Users experience direct physical and emotional health benefits through active recreation and transportation (Harnik & Welle, 2011; Hirsch et al., 2017; Keith, Larson, Shafer, Hallo, & Fernandez, 2018; Reynolds et al., 2007) and enjoy spending time with family and friends on greenways (Larson et al., 2016; Shafer et al., 2000). Some of the value of greenways to non-users is derived from ecological enhancement (Linehan, Gross, & Finn, 1995; Salici & Altunkasa, 2014) the potential for reduced crime levels in neighboring areas (Crewe, 2001;

Harris, Larson, & Ogletree, 2018), and increases in property values (Crompton & Nicholls, 2019).

The primary users of greenways live within walking or cycling distance from the trail itself (Furuseth & Altman, 1991; Gobster, 1995; Keith et al., 2018; Reed, Hooker, Muthukrishnan, & Hutto, 2011). However, Non-users are also important stakeholders as they have to live with the day-to-day indirect benefits and drawbacks of the presence of the trail. Despite their proximity to the impacts of urban greenways, research on nearby residents is historically lacking and has only just began to grow in popularity (Harris, Schmalz, Larson, Fernandez, & Griffin, 2019; Ivy & Moore, 2007; Palardy, Boley, & Johnson Gaither, 2018a; Weber, Boley, Palardy, & Johnson Gaither, 2017). Carefully considering the perspectives of greenway-adjacent residents is critical to garner support for the development and gauge individuals' sense of empowerment through the process (Palardy, Boley, & Johnson Gaither, 2018b). As Littke, et al. (2016, p. 353) suggests, "great landscaping does not create great places without careful consideration of the surrounding communities."

Though users and non-users can both experience benefits and drawbacks associated with greenways, it is important to better understand the perspectives of the subgroups that exist within nearby residential populations. These distinctions are particularly relevant when considering race and income groups' views. In some cases, greenways and other green spaces are placed in low-income communities of color to rejuvenate a community and/or provide residents critical access to recreation and transportation amenities (Rigolon & Németh, 2018). However, gentrification along with cultural and physical displacement has been a concern among residents in these contexts (Gould & Lewis, 2017; Harris et al., 2019; Rigolon & Németh, 2018). Residents have also voiced concerns about developers' inclusion of their perspectives pertaining to equity in

greenway projects (Harris et al., 2019; Rigolon & Németh, 2018). Additionally, the majority of greenway users across the United States tend to be White, have above-average incomes, and are well-educated (Coutts & Miles, 2011; Keith et al., 2018; Reed, 2014; Wolch et al., 2010). These concerns highlight the need to give voice to stakeholders of diverse backgrounds.

However, the majority of quantitative research on residential perspectives of greenways focuses on nearby residents as a whole, rather than residential subgroups (Palardy et al., 2018a, 2018b; Weber et al., 2017). More recently, qualitative work has exposed the different perspectives between these subgroups and have indeed found differences in opinion and experience based on where people live along a particular greenway, their race, and household income (Harris, Rigolon, & Fernandez, 2020; Harris, Schmalz, Larson, & Fernandez, 2020; Harris et al., 2019; Osborne, Jelks, Jennings, & Rigolon, 2021). This study seeks to further understand differences between residential subgroups' experiences and perspectives concerning gentrification worldview, political empowerment, and greenway support.

The greenway in question for this study is the Atlanta BeltLine, a trail that has multiple segments in Atlanta, Georgia, USA that are in various stages of development. Comparisons are drawn between racial groups, household income groups, and residents living near one of two BeltLine trail segments (e.g., Eastside Trail and Southside Trail) at different stages of development. The Eastside Trail has been open to the public for eight years prior to this writing and the Southside Trail began construction on January 22, 2020, just before data collection began. Results will inform greenway managers, city leaders, and scholars by providing valuable insight into various stakeholders' perceptions of urban greenways.

Literature Review and Hypothesis Development

Inequities in park use and access are well-documented (Rigolon, Browning, & Jennings, 2018; Rigolon & Németh, 2019; Smiley et al., 2016; Stodolska, Shinew, & Camarillo, 2019). In an effort to reduce these inequities, greenways and other green spaces have been introduced into communities that have a majority low-income and/or minority population (Rigolon & Németh, 2018). Whether or not these efforts are well-intentioned, they do not always meet the project leaders' goals in achieving environmental justice.

During the process of greenway development, investors may be attracted to the area to contribute further improvements which collectively can increase property values and rent costs (Crompton & Nicholls, 2019; Immergluck & Balan, 2018). One of the negative consequences of rising housing prices is the displacement of residents who can no longer afford to live in the area. This process is called environmental gentrification and can lead to both physical and cultural displacement (Harris, Rigolon, et al., 2020).

Some see gentrification as a positive process of economic development for neighborhoods to experience, while others see it as a threat (Jackson & Buckman, 2020). Most gentrification research finds the negative consequences of gentrification affecting long-time, minority, and/or low-income residents (Checker, 2011; Curran & Hamilton, 2018; Harris et al., 2019; Mullenbach & Baker, 2018; Rigolon & Németh, 2019). As a result of new residents moving into a neighborhood, some minority residents have experienced discrimination while using greenways (Harris, Rigolon, et al., 2020; Harris, Schmalz, et al., 2020). Minority residents are also less likely to have a say in the design or development of greenways and have thus felt politically disempowered, raising a concern over procedural environmental justice (González, 2017; Low, 2013; Rigolon & Németh, 2018, 2019). Residents of primarily minority

neighborhoods may also have more negative perceptions and attitudes concerning greenways (Weber et al., 2017). Additionally, minorities are less likely to use parks (Smiley et al., 2016) and may have more access to lower quality parks than White individuals (Rigolon et al., 2018; Sister, Wolch, & Wilson, 2010). Research suggests that White residents tend to be more in favor of gentrification and its role in rejuvenating an area than minority residents (Harris, Rigolon, et al., 2020). However, results are mixed in terms of minorities' support for greenway development and gentrification worldview (Harris et al., 2019; Rigolon & Németh, 2018). Based on these studies, the following hypotheses pertaining to differences between racial groups' perspectives are advanced:

H_{1a}: *White residents will be significantly more politically empowered throughout the Atlanta BeltLine development than Black residents. Residents identifying as part of other race will not differ significantly from White or Black residents.*

H_{1b}: *White residents will report a significantly more positive gentrification worldview than Black residents. Residents identifying as part of other racewill not differ significantly from White or Black residents.*

H_{1c}: *White residents will be significantly more supportive of the development of the Atlanta BeltLine than Black residents. Residents identifying as part of other races will not differ significantly from White or Black residents.*

Much like the differences in racial groups' perceptions of these issues, differences may also be present between income groups. The physical displacement component of gentrification, due to rises in living costs, is particularly concerning for low-income residents (Harris et al., 2019). Low-income residents may see new development and associated gentrification as a threat, while higher income residents may not (Antunes, March, & Connolly, 2020). Residents with

lower incomes than their gentrifying counterparts have voiced concern over whether or not particular greenways were developed for them, suggesting they did not have much input in the planning process (Harris et al., 2019). Similar to minorities, individuals with lower-incomes have more access to lower quality parks (Sister et al., 2010). In terms of support for greenway development, it is unknown whether or not the concern about physical displacement would outweigh the benefits of living near a high-quality green space. In light of this work, the following hypotheses are proposed considering differences between income groups:

H_{2a}: *Residents of the highest income group will be significantly more politically empowered throughout the Atlanta BeltLine development than residents of the lowest income group.*

H_{2b}: *Residents of the highest income group will possess a significantly more positive gentrification worldview than residents of the lowest income group.*

H_{2c}: *Residents of the highest income group will be significantly more supportive of the development of the Atlanta BeltLine than residents of the lowest income group.*

Location and timeline are also important variables when considering residents' perceptions of greenways. If greenways bring about gentrification and displacement, it would be worth also comparing the perceptions of residents in neighborhoods near a future greenway to residents in neighborhoods living near a greenway that has already been open to the public for years. If the effects of gentrification (e.g., physical displacement) have not begun in the neighborhood where the future greenway is located, the neighborhood may house longer-time residents who have different perspectives than 'gentrifiers.' Indeed, long-term residents are more likely to oppose gentrification than newer residents (Jackson & Buckman, 2020; Pearsall, 2012). These longer-term residents may not feel like the greenway was built with their concerns and

preferences in mind (Harris et al., 2019; Rigolon & Németh, 2018). As a reminder, the Eastside Trail had been open to the public for eight years before data collection, while the Southside Trail had just begun construction. Based on this, the following hypotheses are proposed:

H_{3a}: *Residents living near the Eastside Trail will be significantly more politically empowered throughout the Atlanta BeltLine development than residents living near the Southside Trail.*

H_{3b}: *Residents living near the Eastside Trail will report a significantly more positive gentrification worldview than residents living near the Southside Trail.*

H_{3c}: *Residents living near the Eastside Trail will be significantly more supportive of the development of the Atlanta BeltLine than residents living near the Southside Trail.*

Methods

Study Site: Atlanta BeltLine

The Atlanta BeltLine, an urban greenway in Atlanta, Georgia, USA (Figure 1), will eventually surround the entirety of downtown Atlanta for a total of 33 miles of trail (Atlanta BeltLine Inc., 2020). A city with a history of racism and Civil Rights activity provides fertile ground for environmental justice research (Connor, 2015). With a proposed 1,300 acres of new greenspace and 700 acres of renovated green space that will be developed along the BeltLine, the project may be "the most important rail-transit project that's been proposed in the country, possibly in the world," (Fausset, 2016). At the time of this study, completed trail sections of the BeltLine that were open to the public include: the Eastside Trail (3 miles), Northside Trail (approximately 1 mile), Southwest Connector Trail (1.15 miles), West End Trail (2.25 miles), and Westside Trail South Section (2.5 miles) (Figure 3.1).

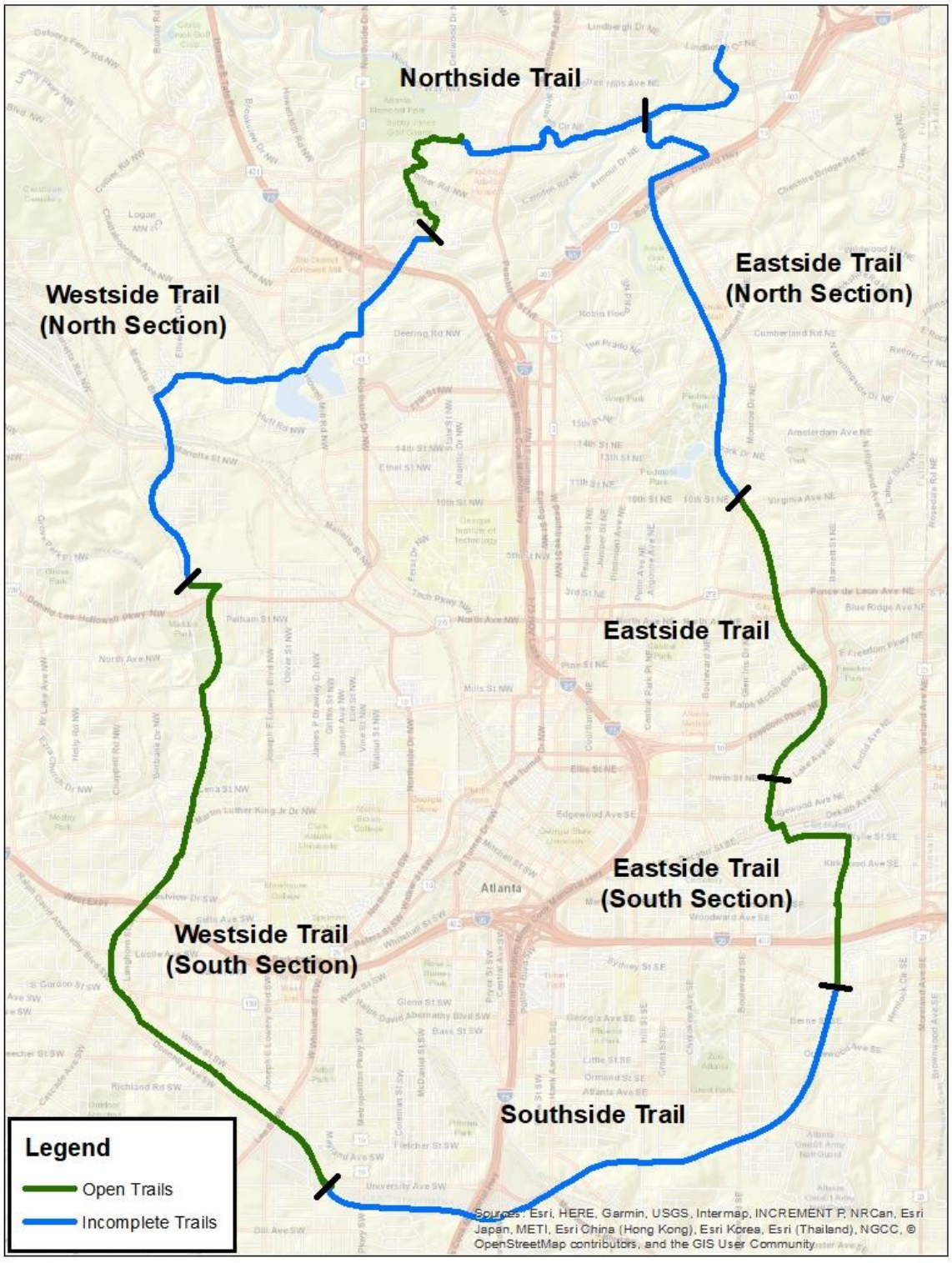

Figure 3.1. Atlanta BeltLine Trails status as of time of study. Map created by author using ArcMap 10.5.

Neighborhoods surrounding the BeltLine have experienced gentrification over the course of the trail's lifetime (Immergluck & Balan, 2018). Specifically, homes within a half-mile of the BeltLine rose between 17.9 and 26.6 percent more than other Atlanta homes between 2011 and 2015. Much like other amenities, the BeltLine is commonly cited as a nearby amenity to homes listed by real estate agents (Immergluck & Balan, 2018; Pendergrast, 2017). Living near the BeltLine is a common desire for Atlanta urban dwellers.

Neighborhoods within one-half mile of the Eastside Trail (main and south section) and the Southside Trail of the BeltLine were sampled for this study. The Eastside Trail opened to the public in 2012 (Atlanta Beltline Inc., 2018) and the Southside Trail's construction began in January 2020 (Atlanta Beltline Inc., 2020) and remained under construction throughout the data collection phase of this study. Figure 3.2 displays the trail corridor and neighborhoods sampled.

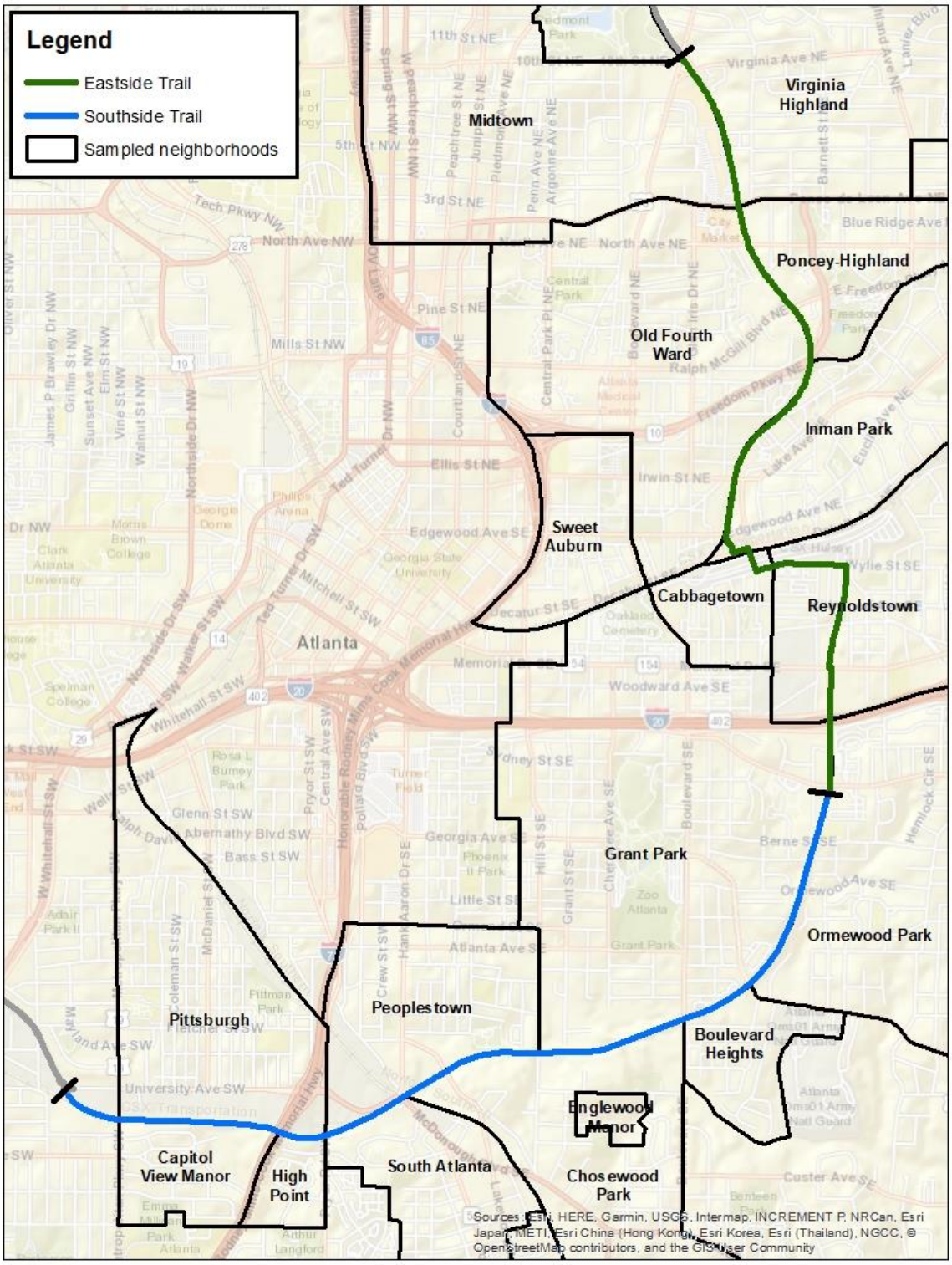

Figure 3.2. Sampled neighborhoods adjacent to the Eastside and Southside segments of the Atlanta BeltLine. Map created by author using ArcMap 10.5.

Very little research (see Ivy & Moore, 2007) has included the sampling of residents living near a proposed greenway. No known study at the time of this writing has asked residents within close proximity to incomplete greenways about their perceptions of political empowerment or gentrification worldview. As can be inferred, residents living in the neighborhoods before a greenway is open to the public may have different opinions than those who remain living in greenway-adjacent neighborhoods.

Survey Methods

A questionnaire was distributed to residents living in neighborhoods adjacent to the Southside Trail and Eastside Trail (Figure 3.2) of the Atlanta BeltLine to determine residents' gentrification worldview, involvement in and support for BeltLine planning, neighborhood attachment, perceptions of neighborhood change, current or planned use of the BeltLine, and general demographics. The questionnaire for the Southside Trail asked questions about the future trail (since it was under construction at the time of the data collection), while the Eastside Trail questionnaire asked about the trail that has been open since 2012. Each questionnaire asked past-tense questions about whether or not, and to what extent, residents have been involved in the trail planning process, since the planning phase has already commenced for both trails.

A proportionate census-guided systematic random sampling method (Woosnam, 2011b) was used to achieve a representative sample of residents living in census blocks within one-half mile of the Southside Trail. Using the U.S. Census Bureau's census block groups, this method helped develop a stratified sampling framework based on the number of households within each neighborhood.

Due to the COVID-19 pandemic restrictions, the in-person data collection method was suspended. In order to reach the goal of 300 surveys per trail segment, an online questionnaire

via Qualtrics was dispersed to neighborhood groups located within a half-mile of the trail segment. Neighborhood groups were contacted via their website and Facebook groups to achieve permission to disperse the questionnaire. If a neighborhood group responded with permission to distribute the questionnaire, four additional requests (for a total of five distribution dates) were made to yield more responses. Groups that did not respond were also followed up with a total of five times to give them a chance to distribute the questionnaire. Depending on the preferences of the neighborhood group, either the leader of the group or the first author sent the questionnaires to residents via the email listserv and/or Facebook post on the neighborhood page.

In-person questionnaires were administered to homes within one-half mile of the Southside Trail on Saturdays between January and March, 2020. During the in-person data collection, a total of 619 households were visited, resulting in contact with 245 eligible residents who were permanent residents of Atlanta and 18 years of age. Out of the 245 eligible residents, 177 agreed to participate, with 68 declining for a participation rate of 72%. Of the 177 distributed questionnaires, 109 were returned for a return rate of 62%. Three incomplete questionnaires were removed, resulting in 106 usable questionnaires.

Online questionnaires were collected in June and July, 2020. Requests to distribute the survey were sent out to 17 neighborhood groups with 15 neighborhoods agreeing to distribute. A total of 922 online questionnaires were collected and 523 were usable after removing incomplete and haphazardly completed surveys, resulting in an online survey completion rate of 57%. After combining online and in-person surveys, a total of 629 surveys were collected. Finally, 36 responses were removed containing multivariate outliers considering Mahalanobis Distance (MD) (Erul, Woosnam, & McIntosh, 2020). Once MDs were calculated, they were compared against the cumulative χ^2 distribution with a degrees of freedom of 30 and *p*-value of 0.001, as

MDs with a *p*-value smaller than 0.001 were considered containing multivariate outliers. The final sample size for this study was 593. Of the total questionnaires collected, 313 were from the Eastside Trail neighborhoods and 280 from Southside Trail neighborhoods.

Measures

The Gentrification Worldview Instrument (GWI) (Mullenbach, Baker, & Mowen, 2020) was used to measure gentrification worldview and consists of three dimensions: development support, neighborhood preservation, and social integration (all measured with a seven-point Likert scale). As of the time of this study, the only time the GWI had been used was in a sample of the general resident population of Philadelphia, Pennsylvania in reference to park development overall (Mullenbach, Baker, & Mowen, 2021; Mullenbach et al., 2020). This study will be using the GWI in the context of questions referencing a specific green space that the respondents live near: The Atlanta BeltLine. Palardy et al.'s (2018b) political empowerment scale (four questions on a seven-point Likert scale) was used to measure residents' involvement in planning the BeltLine. Support for the development of the BeltLine was measured using Palardy et al.'s (2018b) scale (six questions on a seven-point Likert scale). Each of the Likert scales were measured using an agreement scale, where 1=strongly disagree and 7=strongly agree. Basic demographic information was also collected from the residents.

Data Analysis

Analyses were completed using IBM SPSS v.27 and EQS v.6.3. To better understand the basic demographics of the sample, descriptive analysis for each demographic variable was conducted. To confirm the factor structure of each construct, three confirmatory factor analyses (CFA) were undertaken; one for each construct—political empowerment, gentrification worldview (and its three dimensions of development support, neighborhood preservation, and

social integration) and BeltLine support. Such an approach is in keeping with the work by Woosnam, (2011a); Woosnam, Aleshinloye, and Maruyama (2016); Woosnam, Erul, and Ribeiro (2017); Woosnam, Van Winkle, and An (2013). This CFA helped determine reliability and validity estimates for each factor. After confirming the factor structures of each construct, t-tests and multivariate analysis of variance (MANOVA) were run to determine if differences existed in political empowerment, gentrification worldview, and BeltLine support across races, income level, and trail segment. Finally, analysis of variance (ANOVA) with Bonferroni post-hoc tests revealed where specific differences were found within MANOVAs.

Results

Demographics

The majority of sample participants were female (60%), White (78%), and between the ages of 36 and 49 (38%) (Table 3.1). Individuals were also highly educated (86.4% held at least a 4-year degree) and had a high annual income (74% made $80,000 or more per year). Half of the sample had lived in their current neighborhood for seven or more years and over 75% owned homes. Finally, the vast majority (94%) of participants had previously used the Atlanta BeltLine before.

Table 3.1. Demographics Characteristics of Eastside and Southside Trail residents.

	n	%
Gender	**591**	
Female	357	60.4
Male	224	37.9
Other / Prefer not to respond	10	1.7
Race/Ethnicity	**586**	
Black or African American	84	14.3
White	455	77.6
Other / Multiracial	47	8.0
Age Group	**580**	
35 or younger	133	22.9
36-49	218	37.6
50-59	114	19.7
60 or older	115	19.8
Education (Highest Level)	**590**	
Less than high school	2	0.3
High school or GED	20	3.4
Technical, vocational or trade school	10	1.7
Some college (includes junior college)	48	8.1
4-year college (Bachelor's degree)	273	46.3
Master's degree	153	25.9
Ph.D./Professional Degree	84	14.2
Household Income	**563**	
Less than $40,000	49	8.7
$40,000 - $79,999	98	17.4
$80,000 or more	416	73.9
Length of residency	**587**	
2 years or less	152	25.9
3 – 6 years	144	24.5
7 or more years	291	49.6
Homeownership	**587**	
Renter	113	19.3
Homeowner	474	80.7
Trail	**593**	
Eastside	313	52.8
Southside	280	47.2
Atlanta BeltLine use[a]	**593**	
Have used the BeltLine (any trail segment) previously[b]	555	93.6
Plan to use the Southside BeltLine in the future	251/280	89.6

[a] The residents living near the Eastside Trail were asked "Have you ever used the Eastside Trail?" and "If you use the BeltLine's Eastside Trail, about how often do you use it?", while the Southside residents were asked "Have you ever used any of the Atlanta BeltLine trails?" and "When the BeltLine's Southside Trail is complete, do you plan on using it?" This was done because the Eastside Trail was open to the public, but the Southside Trail was under construction at the time of data collection.

[b] This item combines the responses from "Have you ever used the Eastside Trail?" given to Eastside residents and "Have you ever used any of the Atlanta BeltLine trails?" given to the Southside residents.

Confirmatory Factor Analysis (CFA) Results

In order to determine the factor structures of political empowerment, gentrification worldview, and Atlanta BeltLine support, three confirmatory factor analyses were performed (Tables 3.2 – 3.5). For political empowerment, each item was added incrementally through LaGrange multiplier (LM) tests in EQS v6.3 in order to determine cross-loading items and error covariances (of which there were three). Without compromising the $\Delta\chi^2/df$ critical value of 3.84 (Tabachnick & Fidell, 2013). Wald tests were used to remove two error covariances. The final measurement model resulted in the following: Satorra-Bentler χ^2 (4, n = 593) = 15.95, $p < 0.01$, comparative fit index (CFI) = 0.99, root mean square error of approximation (RMSEA) = 0.05 (see Table 3.2). Political empowerment consisted of five items with factor loadings exceeding the threshold of 0.60 (Hair, Black, Babin, & Anderson, 2018) (Table 3.2). *T* values for each of these items were all significant at the 0.05 level, achieving convergent validity (Kline, 2015; Tabachnick & Fidell, 2013).

Table 3.2. Confirmatory factory analysis[a] of Political Empowerment items

Factor and corresponding items	Mean[b]	Standardized factor loading (*t* value)
Political Empowerment	**3.62**	
I have a voice in development decisions pertaining to the BeltLine	3.62	0.87 (8.74)
I have access to the decision-making process when it comes to the BeltLine	3.69	0.89 (9.79)
My vote makes a difference in how the BeltLine is developed	3.65	0.86 (9.77)
I have an outlet to share my concerns about the BeltLine	4.08	0.82 (11.79)
My vote makes a difference in how affordable housing policies around the BeltLine are developed	3.13	0.70 (13.47)

Note. AVE = average variance extracted; CFI = comparative fit index; RMSEA = root mean square error of approximation.
[a]Satorra-Bentler χ^2 (4, n = 593) = 15.95, p = 0.003, CFI = 0.99, RMSEA = 0.05.
[b]Items were asked on a 7-point scale where 1 = strongly disagree and 7 = strongly agree.

Confirmatory factor analysis was also run for the gentrification worldview construct (Table 3.3). Factors were added incrementally through LM tests, revealing five cross-loading items and 17 error covariances. Wald tests allowed for the trimming of the model without

compromising the standard established by Tabachnick and Fidell (2013) (i.e., $\Delta\chi^2/df$ greater than 3.84). Twelve error terms were removed. Additionally, seven items were removed from the final measurement model including the five Neighborhood Preservation items and "People being displaced or 'priced out' of their neighborhood is an unavoidable part of living in cities" and "it is important to have a mix of residents of different races and ethnicities in city neighborhoods." The final measurement model was Satorra-Bentler χ^2 (8, n = 593) = 19.88, $p < 0.05$, CFI = 0.99, RMSEA = 0.05. Two factors with a total of six items revealed standardized factor loadings exceeding Hair et al.'s (2018) threshold of 0.60. Each of the t values for the loadings were significant ($p < 0.05$), indicating convergent validity (Kline, 2015; Tabachnick & Fidell, 2013). Average variances extracted exceeded 0.50 and were greater than the squared correlations between the factors, indicating discriminant validity (Hair et al., 2018) (Table 3.4).

Table 3.3. Confirmatory factory analysis[a] of Gentrification Worldview items.

Factor and corresponding items	Mean[b]	Standardized factor loading (*t* value)	AVE[c]
Development Support	**4.48**		**0.53**
Property value increases are a good thing for my city neighborhood	5.05	0.73 (19.58)	
People being displaced or "priced out" of their neighborhood is an unavoidable part of living in cities	3.75	-	
It is good for neighborhoods when higher-value housing fills in empty lots	4.66	0.74 (19.65)	
New non-local businesses, such as Starbucks, are a sign that a neighborhood is moving in the right direction	3.34	0.68 (16.58)	
New development is a sign that a neighborhood is moving in the right direction	4.86	0.77 (20.17)	
Neighborhood Preservation	-		-
It is important to resist business development when it disrupts local culture	4.63	-	
There are instances when residents have to say "no" to certain businesses or residential developments	5.90	-	
It is important for the city government to protect locally-owned businesses	5.95	-	
New residents should help maintain the current culture and character of their new neighborhood	5.64	-	
Neighborhoods benefit from low residential turnover	5.41	-	
Social Integration	**6.10**		**0.71**
It is important for cities to prioritize affordable housing	6.01	0.95 (14.23)	
It is important to have a mix of residents of different races and ethnicities in city neighborhoods	6.51	-	
It is important to have a mix of residents of different income levels in city neighborhoods	6.20	0.71 (11.38)	

Note. AVE = average variance extracted; CFI = comparative fit index; RMSEA = root mean square error of approximation.
[a]Satorra-Bentler χ^2 (8, n = 593) = 19.88, $p < 0.05$, CFI = 0.99, RMSEA = 0.05.
[b]Items were asked on a 7-point scale where 1 = strongly disagree and 7 = strongly agree.
[c]Average variance extracted, or AVE, is the square root of the variance shared between factors and their measures; each reported exceeded squared factor correlation estimates.

Table 3.4. Discriminant validity analysis results.

Factors	CR	1	2
1. Social Integration (Gentrification Worldview)	0.82	**0.53**	
2. Development Support (Gentrification Worldview)	0.82	-0.39	**0.71**

Note. The bold diagonal values are the square root of the variance shared between the factors and their measures (average variance extracted).
Off-diagonal values are the correlations between factors. For discriminant validity, the diagonal values should be larger than any other corresponding row or column entry.
All items were asked on a 7-point scale where 1 = strongly disagree and 7 = strongly agree.

Finally, the confirmatory factor analysis for support of the Atlanta BeltLine was run. One at a time, items were added through LM tests and two error covariances were found. According to the $\Delta\chi^2/df$ threshold of 3.84 (Tabachnick & Fidell, 2013), both error covariances were removed safely. All six items were included and the measurement model resulted in the following: Satorra-Bentler χ^2 (9, n = 593) = 24.16, $p < 0.01$, CFI = 0.99, RMSEA = 0.03 (Table 3.5). Each of the factor loadings were in excess of 0.60, the threshold suggested by Hair et al. (2018). Convergent validity was achieved, as the t values were all significant ($p < 0.05$) (Kline, 2015; Tabachnick & Fidell, 2013).

Table 3.5. Confirmatory factor analysis[a] of Atlanta BeltLine support items.

Factor and corresponding item	Mean[b]	Standardized factor loading (t value)
Atlanta BeltLine Support	**6.33**	
In general, the positive benefits of the BeltLine will outweigh its negative impacts in my neighborhood	6.14	0.87 (16.42)
I believe that the construction of the BeltLine should be actively encouraged within my neighborhood	6.19	0.90 (15.29)
I support the construction of the BeltLine	6.41	0.96 (13.85)
Building the BeltLine will be a great idea (reverse coded from "will be a mistake")	6.40	0.85 (12.77)
My neighborhood should continue to support building the BL	6.29	0.93 (15.48)
I want to see the BL completed all the way around Atlanta	6.54	0.83 (9.98)

Note. AVE = average variance extracted; CFI = comparative fit index; RMSEA = root mean square error of approximation.
[a]Satorra-Bentler χ^2 (9, n = 593) = 24.16, $p < 0.01$, CFI = 0.99, RMSEA = 0.03.
[b]Items were asked on a 7-point scale where 1 = strongly disagree and 7 = strongly agree.

Political Empowerment, Gentrification Worldview, and Atlanta BeltLine Support Across Trail Segment, Race, and Income Groups

Before analyzing differences in political empowerment, gentrification worldview, and Atlanta BeltLine support across race, income, and trail segment, we calculated overall means for each construct (see Tables 3.2, 3.3, and 3.5). In order to examine mean differences in political empowerment, gentrification worldview, and Atlanta BeltLine support across race, income, and

trail segment, t-tests and MANOVA analyses with Wilks' Λ were performed. If differences were found in the MANOVA, an ANOVA (analysis of variance) was run using the Bonferroni post hoc method to control for Type 1 errors and determine where the differences were.

Race comparison

The first set of t-tests examined differences between racial groups' (e.g., Black and White) perceptions of political empowerment, gentrification worldview, and Atlanta BeltLine support. Overall, significant differences were not found between the racial groups on their perceptions of political empowerment and did not perceive themselves to be very politically empowered (Table 3.6).

Table 3.6. Political Empowerment across race

Political Empowerment items	Means[a]		t	*p*
	Black	White		
Political Empowerment	**3.59**	**3.54**	-0.27	.791
I have a voice in development decisions pertaining to the BeltLine	3.63	3.53	-0.53	.598
I have access to the decision-making process when it comes to the BeltLine	3.67	3.56	-0.55	.587
My vote makes a difference in how the BeltLine is developed	3.56	3.57	0.08	.940
I have an outlet to share my concerns about the BeltLine	4.01	3.98	-0.16	.876
My vote makes a difference in how affordable housing policies around the BeltLine are developed	3.06	3.06	-0.01	.999

[a]Items were asked on a 7-point scale where 1 = strongly disagree and 7 = strongly agree.

There were no significant differences in development support between racial groups (Table 3.7). The t-test examining differences between racial groups' perceptions of social integration yielded significant differences (Table 3.7). Black residents agreed significantly less

on the item, “It is important to have a mix of residents of different income levels in city neighborhoods” than White residents (Table 3.7).

Table 3.7. Gentrification worldview factors across race

Gentrification Worldview factors and items	Means[a]		t	*p*
	Black	White		
Development Support	**4.41**	**4.48**	0.44	.660
Property value increases are a good thing for my city neighborhood	4.93	5.04	0.58	.562
People being displaced or "priced out" of their neighborhood is an unavoidable part of living in cities	-	-	-	-
It is good for neighborhoods when higher-value housing fills in empty lots	4.63	4.66	0.16	.874
New non-local businesses, such as Starbucks, are a sign that a neighborhood is moving in the right direction	3.45	3.32	-0.71	.478
New development is a sign that a neighborhood is moving in the right direction	4.63	4.90	1.47	.145
Neighborhood Preservation				
It is important to resist business development when it disrupts local culture	-	-	-	-
There are instances when residents have to say "no" to certain businesses or residential developments	-	-	-	-
It is important for the city government to protect locally-owned businesses	-	-	-	-
New residents should help maintain the current culture and character of their new neighborhood	-	-	-	-
Neighborhoods benefit from low residential turnover	-	-	-	-
Social Integration	**5.86**	**6.13**	1.82	.071
It is important for cities to prioritize affordable housing	5.81	6.02	1.24	.218
It is important to have a mix of residents of different races and ethnicities in city neighborhoods	-	-	-	-
It is important to have a mix of residents of different income levels in city neighborhoods	5.92	6.24	2.66	.008

[a]Items were asked on a 7-point scale where 1 = strongly disagree and 7 = strongly agree.

Finally, the last t-test compared support for the BeltLine among racial groups and found significant differences (Table 3.8). There were significant differences between racial groups on each BeltLine support item, where Black residents were significantly less supportive than White residents (see Table 3.8). However, each racial group were generally in support of the BeltLine.

Table 3.8. Greenway support across race

Greenway Support items	Means[a]			
	Black	White	t	*p*
Greenway Support	**5.81**	**6.44**	5.60	< .001
In general, the positive benefits of the BeltLine will outweigh its negative impacts in my neighborhood	5.67	6.26	4.31	< .001
I believe that the construction of the BeltLine should be actively encouraged within my neighborhood	5.57	6.31	5.64	< .001
I support the construction of the BeltLine	5.95	6.50	4.71	< .001
Building the BeltLine will be a great idea (reverse coded from "will be a mistake")	5.85	6.51	5.31	< .001
My neighborhood should continue to support building the BeltLine	5.70	6.41	5.75	< .001
I want to see the BeltLine completed all the way around Atlanta	6.12	6.63	4.58	< .001

[a]Items were asked on a 7-point scale where 1 = strongly disagree and 7 = strongly agree.

Income group comparison

The next set of MANOVAs compared responses between participants with household incomes below $40,000; between $40,000 and $80,000; and above $80,000 on their perceptions of political empowerment, gentrification worldview (including development support and social integration factors), and support for the BeltLine. The first MANOVA, comparing the incomes groups' perceptions of political empowerment, did not reveal any significant differences in perceptions of political empowerment, Wilks' $\Lambda = 0.987$, $F(2,560) = 0.748$, and $p = 0.680$ (Table 3.9).

Table 3.9. Political Empowerment across trail household income groups[a]

Political Empowerment items	Means[b]			ANOVA results	
	< $40k	$40 – 80k	> $80k	*F*	*p*
Political Empowerment	**4.06**	**3.69**	**3.54**		
I have a voice in development decisions pertaining to the BeltLine	3.35	3.74	3.63	1.03	.359
I have access to the decision-making process when it comes to the BeltLine	3.33	3.78	3.72	1.39	.250
My vote makes a difference in how the BeltLine is developed	3.59	3.66	3.66	0.04	.960
I have an outlet to share my concerns about the BeltLine	3.75	4.13	4.11	1.19	.306
My vote makes a difference in how affordable housing policies around the BeltLine are developed	2.86	3.17	3.13	0.73	.482

Note. ANOVA = analysis of variance; MANOVA = multiple analysis of variance.
[a]MANOVA model: Wilks' $\Lambda = 0.987$, $F(2,560) = 0.748$, and $p = 0.680$.
[b]Items were asked on a 7-point scale where 1 = strongly disagree and 7 = strongly agree.

Each income group's responses about political empowerment fell between somewhat disagree and neither agree or disagree. Similarly, no significant differences were found between the three income groups' perceptions of the development support factor of gentrification worldview, Wilks' $\Lambda = 0.984$, $F(2,560) = 1.159$, and $p = 0.32$ (Table 3.10). Overall, the income groups tended to agree with the development support items. Significant differences were found pertaining to the income groups' perceptions of social integration, Wilks' $\Lambda = 0.982$, $F(2,560) = 2.482$, and $p < 0.05$ (Table 3.10). After conducting ANOVAs with the Bonferroni post hoc test, we found the highest income group (i.e., more than $80,000) more strongly and significantly agreed with the item, "It is important to have a mix of residents of different income levels in city neighborhoods" than the lowest income group (i.e., less than $40,000). Overall, the income groups somewhat agreed or agreed with the social integration items.

Table 3.10. Gentrification Worldview factors across household income groups.

Gentrification Worldview factors and items	Means[c]			ANOVA results	
	< $40k	$40 – 80k	> $80k	*F*	*p*
Development Support[a]	**4.43**	**4.42**	**4.50**		
Property value increases are a good thing for my city neighborhood	5.16	4.84	5.09	1.24	.291
People being displaced or "priced out" of their neighborhood is an unavoidable part of living in cities	-	-	-	-	-
It is good for neighborhoods when higher-value housing fills in empty lots	4.78	4.68	4.66	0.15	.865
New non-local businesses, such as Starbucks, are a sign that a neighborhood is moving in the right direction	3.06	3.35	3.37	1.09	.338
New development is a sign that a neighborhood is moving in the right direction	4.73	4.82	4.89	0.38	.684
Neighborhood Preservation					
It is important to resist business development when it disrupts local culture	-	-	-	-	-
There are instances when residents have to say "no" to certain businesses or residential developments	-	-	-	-	-
It is important for the city government to protect locally-owned businesses	-	-	-	-	-
New residents should help maintain the current culture and character of their new neighborhood	-	-	-	-	-
Neighborhoods benefit from low residential turnover	-	-	-	-	-
Social Integration[b]	**5.78**	**6.10**	**6.15**		
It is important for cities to prioritize affordable housing	5.76	6.03	6.04	1.36	.259
It is important to have a mix of residents of different races and ethnicities in city neighborhoods	-	-	-	-	-
It is important to have a mix of residents of different income levels in city neighborhoods	5.80[d]	6.16	6.26[d]	4.67	.010

Note. ANOVA = analysis of variance; MANOVA = multiple analysis of variance.
[a]Development support MANOVA model: Wilks' $\Lambda = 0.984$, $F(2,560) = 1.159$, and $p = 0.32$.
[b]Social integration MANOVA model: Wilks' $\Lambda = 0.982$, $F(2,560) = 2.482$, and $p < 0.05$.
[c]Items were asked on a 7-point scale where 1 = strongly disagree and 7 = strongly agree.
[d]Bonferroni Post-Hoc test significant at the 0.01 level.

The final MANOVA analyzed the differences in income groups' support for the Atlanta BeltLine and found significant differences between them, Wilks' $\Lambda = 0.982$, $F(2,560) = 2.482$, and $p < 0.05$ (Table 3.11). The Bonferroni post hoc tests revealed significant differences in five of the six items, finding the highest income group (i.e., over $80,000) were in stronger agreement than the middle income group (i.e., between $40,000 and $80,000) on the following items: "In general, the positive benefits of the BeltLine will outweigh its negative impacts in my

neighborhood," "I believe that the construction of the BeltLine should be actively encouraged within my neighborhood," "I support the construction of the BeltLine," "Building the BeltLine will be a great idea," and "I want to see the BL completed all the way around Atlanta" (Table 3.11).

Table 3.11. Greenway support across trail household income groups[a]

Greenway support items	Means[b]			ANOVA results	
	< $40k	$40 – 80k	> $80k	*F*	*p*
Greenway Support	**6.19**	**6.10**	**6.42**		
In general, the positive benefits of the BeltLine will outweigh its negative impacts in my neighborhood	6.08	5.89[c]	6.23[c]	3.64	.027
I believe that the construction of the BeltLine should be actively encouraged within my neighborhood	6.02	5.92[d]	6.29[d]	4.96	.007
I support the construction of the BeltLine	6.37	6.17[e]	6.48[e]	4.02	.019
Building the BeltLine will be a great idea (reverse coded from "will be a mistake")	6.24	6.12[f]	6.50[f]	5.84	.003
My neighborhood should continue to support building the BeltLine	6.02	6.15	6.37	3.95	.020
I want to see the BeltLine completed all the way around Atlanta	6.39	6.29[g]	6.63[g]	6.46	.002

Note. ANOVA = analysis of variance; MANOVA = multiple analysis of variance.
[a]MANOVA model: Wilks' $\Lambda = 0.945$, $F(2,560) = 2.640$, and $p < 0.01$.
[b]Items were asked on a 7-point scale where 1 = strongly disagree and 7 = strongly agree.
[c,e] Bonferroni Post-Hoc test significant at the 0.05 level.
[d,f,g] Bonferroni Post-Hoc test significant at the 0.01 level.

Trail Segment Comparison

The last set of t-tests examine the differences between respondents' political empowerment, gentrification worldview (including development support and social integration factors), and Atlanta BeltLine support between residents living in neighborhoods adjacent to the Eastside and Southside Trail of the BeltLine. Significant differences in perceptions of political empowerment were not found between Eastside and Southside residents (Table 3.12). Both sets of residents fell between somewhat disagree and neither agreed nor disagreed that they felt politically empowered during the development of the BeltLine.

Table 3.12. Political Empowerment across trail segment

Political Empowerment items	Means[a]		t	*p*
	Eastside	Southside		
Political Empowerment	**3.62**	**3.62**	0.01	.990
I have a voice in development decisions pertaining to the BeltLine	3.63	3.60	0.25	.804
I have access to the decision-making process when it comes to the BeltLine	3.67	3.67	-0.03	.979
My vote makes a difference in how the BeltLine is developed	3.61	3.65	-0.28	.783
I have an outlet to share my concerns about the BeltLine	3.98	4.13	-1.10	.271
My vote makes a difference in how affordable housing policies around the BeltLine are developed	3.20	3.04	1.21	.229

[a]Items were asked on a 7-point scale where 1 = strongly disagree and 7 = strongly agree.

There was also not a significant difference between Eastside and Southside Trail users pertaining to the development support factor of gentrification worldview (Table 3.13). Both the Eastside and Southside residents' responses fell between neither agree nor disagree and somewhat agree with development support items. The third set of t-tests, perceptions of social integration by trail segment, revealed differences between the two sets of residents (Table 3.13). The analysis revealed that Eastside residents more strongly agreed with the item, "It is important to have a mix of residents of different income levels in city neighborhoods" (Table 3.13). However, both groups overall agreed with this statement and the factor as a whole.

Table 3.13. Gentrification Worldview factors across trail segment.

Gentrification Worldview factors and items	Means[a]		t	*p*
	Eastside	Southside		
Development Support	**4.46**	**4.49**	-0.35	.726
Property value increases are a good thing for my city neighborhood	5.04	5.06	-0.13	.895
People being displaced or "priced out" of their neighborhood is an unavoidable part of living in cities	-	-	-	-
It is good for neighborhoods when higher-value housing fills in empty lots	4.67	4.65	-1.34	.180
New non-local businesses, such as Starbucks, are a sign that a neighborhood is moving in the right direction	3.28	3.40	-1.05	.291
New development is a sign that a neighborhood is moving in the right direction	4.85	4.87	-0.13	.896
Neighborhood Preservation				
It is important to resist business development when it disrupts local culture	-	-	-	-
There are instances when residents have to say "no" to certain businesses or residential developments	-	-	-	-
It is important for the city government to protect locally-owned businesses	-	-	-	-
New residents should help maintain the current culture and character of their new neighborhood	-	-	-	-
Neighborhoods benefit from low residential turnover	-	-	-	-
Social Integration	**6.17**	**6.03**	1.67	.095
It is important for cities to prioritize affordable housing	6.03	5.98	0.46	.645
It is important to have a mix of residents of different races and ethnicities in city neighborhoods	-	-	-	-
It is important to have a mix of residents of different income levels in city neighborhoods	6.31	6.08	2.79	.006

[a]Items were asked on a 7-point scale where 1 = strongly disagree and 7 = strongly agree.

Examining the differences between resident groups' support for the Atlanta BeltLine revealed significant differences between the Eastside and Southside Trail (Table 3.14). The residents living adjacent to the Eastside Trail were significantly more in agreement with all six of the BeltLine support items than those living adjacent to the Southside Trail. However, both resident groups overall supported the Atlanta BeltLine.

Table 3.14. Greenway support across trail segment

Greenway support items	Means[a]		t	*p*
	Eastside	Southside		
Greenway Support	**6.45**	**6.19**	3.25	.001
In general, the positive benefits of the BeltLine will outweigh its negative impacts in my neighborhood	6.29	5.98	3.15	.002
I believe that the construction of the BeltLine should be actively encouraged within my neighborhood	6.33	6.05	3.00	.003
I support the construction of the BeltLine	6.51	6.29	2.57	.011
Building the BeltLine will be a great idea (reverse coded from "will be a mistake")	6.51	6.28	2.61	.009
My neighborhood should continue to support building the BeltLine	6.43	6.14	3.35	.001
I want to see the BeltLine completed all the way around Atlanta	6.65	6.41	2.99	.003

[a]Items were asked on a 7-point scale where 1 = strongly disagree and 7 = strongly agree.

Discussion and Conclusion

This study analyzed differences between resident groups' (e.g., racial groups, income groups, and nearby trail segment) perceptions of political empowerment, gentrification worldview, and greenway support. This is one of the first studies to explore residents' gentrification worldview related to a specific, rather than general, green space (Mullenbach et al., 2021; Mullenbach, Baker, & Mowen, 2020). Further, it is one of many recent studies that responds to Corning et al.'s (2012) call to investigate the experiences and perceptions of residents living near greenway trails (Harris, Rigolon, et al., 2020; Harris, Schmalz, et al., 2020; Harris et al., 2019; Keith & Boley, 2019; Palardy et al., 2018a, 2018b; Weber et al., 2017). Most research on residents' perceptions of greenways focuses on greenways that are already open to the public, however, the present study is one of the few (e.g., Ivy & Moore, 2007) to investigate residents' perceptions of a greenway that is not yet open to public use or completed in its construction. This highlights the need to include the perspectives of residents who live near incomplete greenways.

In terms of gentrification worldview, there were very few differences found between resident groups. Overall, residents generally had a positive gentrification worldview, which was surprising given the typical negative attention given to the process. The item where multiple groups significantly differed was from the social integration dimension of gentrification worldview: “It is important to have a mix of residents of different income levels in city neighborhoods.” Though all groups were generally in agreement, Eastside Trail residents, White, and Other Race residents, and those in the highest income range were all in more agreement with the aforementioned statement than Southside Trail residents, Black residents, and those in the lowest income range, respectively. This may not be surprising since perhaps Southside Trail, Black, and low-income residents may not necessarily be opposed to social mixing itself, but may perhaps see it as a sign of gentrification and be less excited about its implications (Betancur, 2011; Curran & Hamilton, 2012; Harris, Rigolon, et al., 2020; Harris et al., 2019).

No significant differences between groups on the development support dimension of gentrification worldview were found. This is interesting because prior research would suggest minorities, low-income residents, and long-term residents would be less supportive of new development given its potential to bring about negative consequences (Harris et al., 2019). However, the way the development support items were worded did not highlight these negative consequences, which may explain why all groups somewhat agreed with those items. Perhaps those who would be most negatively affected by gentrification remain in general support of new development, as long as it does not bring about issues of displacement. This brings up the longstanding issue of how to make an area “just green enough” to provide valuable green space, while avoiding the negative implications of urban greening (Curran & Hamilton, 2012; Rigolon et al., 2019; Rigolon & Németh, 2020; Wolch, Byrne, & Newell, 2014).

Further, no significant differences were demonstrated between groups on any particular items within the political empowerment construct. However, all groups' responses fell between somewhat disagree and neither agree nor disagree, which is consistent with past research on residents' political empowerment and urban greenways (Palardy et al., 2018a, 2018b). Though it is encouraging that there was no discrimination in terms of political empowerment, it is concerning that residents were generally left out of the planning process for these BeltLine trail segments. This highlights the need for planners and managers to work more vigilantly to give voice to all of the stakeholders involved in a greenway or park development.

Significant differences were most common on support for the greenway. Eastside Trail residents, the highest income group (i.e., more than $80,000), and residents who were either White or some other race supported the greenway significantly more than Southside Trail residents, the middle-income group ($40-80k), and Black residents. However, all groups rated their support for the greenway between a 5 and 7 out of a 7-point Likert scale. Since the Southside Trail neighborhoods have more low-income and minority residents who could be affected by environmental gentrification, it makes sense why they would be less supportive than the more affluent Eastside Trail residents (Palardy et al., 2018a). Additionally, it is interesting to note that the significant difference was between the highest and middle-income group, as opposed to the highest and lowest. However, though the highest income group is more supportive, both groups generally support the greenway. Though all three racial groups were generally supportive of the greenway, the gap in support between White residents and Black residents may stem from felt discrimination on the trail (Harris, Rigolon, et al., 2020), potential cultural or physical displacement as a result from the trail (Harris et al., 2019), or other constraints (Stodolska, Shinew, Camarillo, et al., 2019). Implementing strategies to combat the

negative effects of gentrification and helping individuals overcome recreation constraints may go a long way in garnering support for green space projects.

Though the differences between groups existed mostly when groups were in general agreement, albeit different levels of agreement about a particular construct, the most concerning result of this study was the overall lack of political empowerment experienced by residents during the planning phase of the greenway. To reiterate a quote from earlier in the manuscript, Littke, et al. (2016, p. 353) claims that "great landscaping does not create great places without careful consideration of the surrounding communities." This not only applies to political empowerment or procedural justice, but also employing anti-gentrification strategies to help preserve the culture and livelihood of long-term, low-income, and minority residents. Some urban green space projects, including the Atlanta BeltLine, have put anti-gentrification strategies into place. Examples include initiating affordable housing initiatives, diversity in hiring practices, meaningful community engagement, and new green spaces and programming that welcome marginalized groups (Rigolon et al., 2019). Many stakeholder groups will have to work together to improve equity in greenway planning and development.

Limitations and Future Research

Limitations are indeed present in this study. Being a cross-sectional study investigating residents' perspectives at a particular point in time, longitudinal studies should be conducted in the future to seek understanding of changes in residents' perceptions over time. Longitudinal studies would also be helpful when studying environmental gentrification. Researchers could collect data from neighborhoods over time at different stages of greenway development to better understand how the gentrification process affects residents.

Due to the COVID-19 pandemic, the data collection method was changed from delivering surveys to homes in-person to distributing surveys completely online. A more representative sample was achievable through door-to-door sampling and online surveys may have been more likely to be filled out by individuals with internet access (and potentially higher levels of income and education) and residents with enough interest in the well-being of their neighborhood to join an online neighborhood group listserv or Facebook group. In the post-COVID-19 future, researchers should seek to maintain a consistent utilization of the door-to-door method (see Keith & Boley, 2019; Palardy et al., 2018b, 2018a; Weber et al., 2017).

This study was conducted in Atlanta, Georgia and the primary racial group comparison was between Black and White residents. With such a low response from residents of other races, they had to be combined into a shared category called "Other Race." A similar study to this one should be completed in other cities where the demographic distribution is different than that of Atlanta, Georgia. This would provide a stronger voice to residents of other races or ethnicities.

Few studies have asked stakeholders of greenways about their gentrification worldview or political empowerment/procedural justice. Urban green space researchers should include these constructs in their inquiries, especially given the growing attention around these topics and urban green spaces. In order for green space planners and managers to better care for their constituents, they must implement their thoughts and desires into the project and work collaboratively to preserve their livelihoods.

Acknowledgements

The authors would like to thank the residents of Atlanta, Georgia for their participation in this study. Also, we would like to acknowledge the hard work of Mr. Charles Davis, Mr. Kevin

Ronczkowski, Ms. Embrylee Sago, and Mr. Quinn Webb—each of whom helped during the data collection process.

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CHAPTER 4

NEIGHBORHOOD GENTRIFICATION SCALE: CONSTRUCTION AND TESTING ON THE ATLANTA BELTLINE[3]

[3]Keith, Samuel J.; Woosnam, Kyle; Mullenbach, Lauren; Martin, Richard. To be submitted to *Urban Studies.*

Abstract

Gentrification is a phenomenon whereby neighborhoods change once lower-income areas become attractive sites for residency among wealthier residents. A consequence of gentrification can be the cultural and physical displacement of long-time residents after property values and rents increase in their neighborhood and residents of different socioeconomic statuses move in to their neighborhood. However, others welcome gentrification as economic development due to crime reduction, increased investment, and increased tax base that helps make improvements to an area.

The majority of gentrification research has either used secondary data (e.g., U.S. Census or housing data) to measure levels of gentrification or qualitative data in the form of interviews and focus groups to understand individuals' experiences of gentrification. Secondary data provides objective data about demographics and economics within a particular area that you can track over time and is representative of an entire census tract, for example. On the other hand, qualitative data provides a rich, in-depth understanding of people's experiences and perspectives. However, neither of these approaches are both subjective and representative from larger datasets.

The purpose of this paper is to bridge the aforementioned gap to provide a tool to measure residents' experiences of gentrification indicators within their neighborhood. The Neighborhood Gentrification Scale is composed of four dimensions: Neighborhood Preservation, Development Resistance, Neighborhood Renovation, and Socio-demographic Change. A scale that helps researchers collect large-scale data about individuals' experience with various gentrification indicators can help decision-makers understand to what extent gentrification is occurring in a particular context.

Introduction

The concept of gentrification includes neighborhood change where wealthier residents become attracted to a lower-income area in proximity to urban amenities, an increase in investment, or an existing rent gap (Lees, Slater, & Wyly, 2013). Without putting protections in place for existing low-income residents, who in the U.S. are often people of color, the influx of capital into the area can price them out. Besides displacement, other disadvantages to gentrification are disintegration of social networks, temporarily higher crime, reduced health, and an increase in the number of evictions (Atkinson, 2003; Covington & Taylor, 1989; Desmond, 2012; Newman & Wyly, 2006).

Though negative experiences of gentrification exist, some have highlighted its benefits in particular neighborhoods (Berrey, 2005; Sullivan, 2007). Such individuals propose that gentrification reduces poverty and crime, increases home values, investment, retail involvement, police protection and street maintenance. Other positives of gentrification cited in the literature include increasing the tax base and enhancing socioeconomic integration (Freeman, 2005; O'Byrne, 2003). These are seen by some as positives, especially relative to the historic "White Flight" of middle-class White households escaping the inner city to the suburbs, leaving the inner-city with issues of poverty and negligence. While some suggest low-income renters in gentrifying areas are less likely to move than similar renters in non-gentrifying neighborhoods (Freeman & Braconi, 2004), others have found the opposite to be true (Freeman, 2005). Additionally, Sullivan (2007) found the majority of residents they examined supported neighborhood change through gentrification, however homeowners supported this change more than renters. In this case, long-time African-American residents were less likely to realize the benefits of gentrification.

Debates about whether gentrification is ultimately good or bad for a community are prevalent, however, the situation should be much more nuanced to identify the pros and cons of gentrification. Eckerd, Kim, and Campbell (2019, p. 273) suggest differentiating *gentrification*, "the in-migration process" of higher income households, and *displacement*, "the out-migration process" of lower socioeconomic status households. They argue gentrification itself (without displacement) could have economic benefits for communities, while displacement is problematic. Additionally, the reasons for displacement are many (e.g., higher rents, work relocation, selling homes due to increased property value) (Rayle, 2015). Displacement, too, is also a complex phenomenon composed of both physical (i.e., being forced to physically move residences) and cultural (i.e., feelings of exclusion after neighborhood cultural landscape changed) displacement (Harris, Schmalz, Larson, Fernandez, & Griffin, 2019).

Some scholars have sought to better understand various stakeholders' opinions about gentrification. Cautious optimism tends to characterize individuals experiencing or anticipating gentrification. Residents have been reported as hopeful about investment in their neighborhood while at the same time, worried about displacement potential (Shaw & Sullivan, 2011; Sullivan, 2007). Other studies of gentrification perspectives have investigated elected officials and opinions of voters (Demessie & Gillespie, 2013; Gibson, 2015), developers and businesses' attempts to improve communities through investment (De Sousa, Wu, & Westphal, 2009), and how non-profits consider their stakeholders (Curran & Hamilton, 2012; Rigolon & Németh, 2018). As expected, each of these stakeholder groups had differing perspectives on gentrification. These varying perspectives about gentrification are understood to be products of an individual's race, socioeconomic status, and political affiliation (McDevitt & Chaffee, 2002; Nowak & Szamrej, 1990; Putnam, 1966).

Though opinions of gentrification are important to understand (Mullenbach, Baker, & Mowen, 2020), measuring gentrification at a large scale can help interested individuals better understand its prevalence. However, before one can measure whether or not (or to what extent) a neighborhood is gentrifying, the neighborhood must be determined gentrifiable (Kreager, Lyons, & Hays, 2011). That is, middle- or high-income neighborhoods are not able to gentrify if they were not previously low-income. Various scholars have identified gentrifiable neighborhoods before determining whether or not those neighborhoods gentrified, each considering different parameters for what makes a neighborhood gentrifiable (Bostic & Martin, 2003; Freeman, 2005; Hammel & Wyly, 1996; Immergluck & Balan, 2018; Martin, 2017a; McKinnish, Walsh, & White, 2010; Rothschild, 2019).

Hammel and Wyly (1996) determined that when the median income of a census tract is less than the median income of the central-city, that neighborhood was considered gentrifiable. Bostic and Martin (2003) identified gentrifiable census tracts as those which have a median income less than 50 percent of the metropolitan area's median income. Freeman's (2005) gentrifiable census tracts were "(1) central city neighborhoods (2) populated by low-income households that have previously experienced (3) disinvestment" (p. 469-470). For McKinnish et al. (2010), census tracts in the bottom quintile of average family income were considered gentrifiable. Immergluck and Balan's (2018) measurement of gentrifiable areas were based on their proximity (within one-half mile) to the Atlanta BeltLine, which is based on an amenity (an urban greenway) rather than income levels. Martin's (2017) gentrifiable census tracts must have been (1) central city tracts that had (2) a median income less than 80 percent of the metropolitan statistical area. Finally, Rothschild (2019) also considered an area gentrifiable if the median income was less than 80 percent of the metropolitan area.

Once neighborhoods have been identified as gentrifiable, the next step would be to determine if there are actually gentrifying. Currently, there has been little consensus regarding the best methodology for measuring gentrification (Mujahid et al., 2019). Scholars have used census and home sales data documenting a number of variables including median household income, occupation composition, race/ethnicity composition, home-ownership rate, and others (Bostic & Martin, 2003; Freeman, 2005; Hammel & Wyly, 1996; Immergluck & Balan, 2018; Landis, 2016; Martin, 2017a; McKinnish et al., 2010; Rothschild, 2019). These quantitative measurements of gentrification are robust and the data is relatively easy to collect.

Other studies have been qualitative in nature, focusing on interviews to better understand if people perceive gentrification to be occurring in their neighborhood and how the processes of gentrification play out in their lives. Such work has interviewed low-income and homeless populations (Huyser & Meerman, 2014), users of popular green spaces (Harris et al., 2019), and non-profit developers of green spaces (Rigolon & Németh, 2018). Approaching the subject from a qualitative method provides rich, in-depth data about peoples' experience, but it lacks generalizability.

The purpose of this paper is to provide a gentrification measure that includes the benefits of both aforementioned research methods: generalizability and involving residents' experiences. Given gentrification is experienced at the neighborhood level (Finney & Jivraj, 2013), an "on-the-ground" measurement of residents' experiences with gentrification indicators in their community is lacking. Each of the aforementioned methods are helpful and essential for better understanding gentrification's effects on communities, but they lack the benefits of large-scale data collection of the experiences of residents living in specific neighborhoods (Mullenbach et al., 2020). A scale that helps researchers collect large-scale data about individuals' experience

with various gentrification indicators would help decision-makers understand to what extent residents perceive gentrification occurring in a particular context (e.g., across census tracks or distance from a specific amenity).

Methods

Scale Development

For scale testing and development, Churchill's (1979) recommendations were used and Rossiter's (2002) guidelines for content validity were followed. Both of these sets of recommendations emphasize content validity as it should be the focus of scale development, given constructs need to be based in rationalism (Churchill Jr, 1979; Rossiter, 2002). Additionally, Churchill (1979) emphasizes the need to use exploratory factor analysis (EFA) followed by confirmatory factor analysis (CFA) to psychometrically test a scale's validity and reliability.

Churchill's (1979) first step involves reviewing the literature to determine what specifically should be measured to comprise the construct. After an extensive review of the literature, it was clear that in order to measure gentrification, one needed items based on affordable housing and local business protection, physical and cultural displacement, economic development, improvements of neighborhood features, and enhancing the housing stock (Mullenbach & Baker, 2018; Mullenbach et al., 2020). The next step recommended by Churchill (1979) is to create a pool of items to measure the construct.

The items that were created for the Neighborhood Gentrification Scale (NGS) were adapted from Mullenbach's et al. (2020) Gentrification Worldview Instrument (GWI), which measures individuals' attitudes towards gentrification indicators. The Gentrification Worldview Instrument items were based on multidisciplinary gentrification research, popular press articles,

and a systematic review of environmental gentrification literature (Mullenbach et al., 2020). To read an in-depth description of the Gentrification Worldview Instrument development process, see Mullenbach et al. (2020).

The items on the Gentrification Worldview Instrument were changed for the Neighborhood Gentrification Scale to reflect the measurement of respondents' experience with the gentrification indicators in their particular community. For example, "property value increases are a good thing for a city neighborhood" (Mullenbach et al., 2020) was changed to "property values are increasing in my neighborhood." One item from the Gentrification Worldview Instrument, "it is important for cities to prioritize affordable housing," was split into two Neighborhood Gentrification items to better specify the stakeholders involved: "Atlanta city leaders prioritize building and preserving affordable housing in my neighborhood" and "residents of my neighborhood support building and preserving affordable housing." Additionally, one item on the Neighborhood Gentrification Scale did not have a Gentrification Worldview Instrument counterpart: "Many homes in my neighborhood are being renovated." This item was added because a high degree of home renovations in an area is also an indicator of gentrification (McGirr, Skaburskis, & Donegani, 2015). After all of the items were created, they were reviewed by experts in the field of gentrification research, following the suggestions of Woosnam and Norman (2010). The primary difference between the Gentrification Worldview Instrument and the present Neighborhood Gentrification Scale is that the GWI measures one's gentrification worldview, in general, while the NGS measures one's perceptions of gentrification indicators occurring within their community.

Churchill's (1979) third step of pilot testing was not conducted due to time constraints. However, their fourth step of purifying the measures through reliability analysis and exploratory

factor analysis (EFA) was used. Further description of the data analysis can be found in the "Data Analysis" section of this manuscript.

Data Collection

Questionnaires were distributed to residents living in neighborhoods within one-half mile of the Atlanta BeltLine, a greenway trail in Atlanta, Georgia, USA. These neighborhoods have experienced or are experiencing gentrification (Immergluck & Balan, 2018). In order to achieve a random sample of residents living in census block groups, a proportionate census-guided random sampling method was used (Woosnam, 2011).

Between January and March 2020, in-person questionnaires were distributed to homes. A total of 619 households were visited, resulting in contact with 245 eligible residents who were permanent residents of Atlanta and 18 years of age. Of the 245 residents, 177 agreed to participate for a participation rate of 72%. 109 surveys were returned for a 62% return rate. Three incomplete questionnaires were removed for a total of 106 usable questionnaires.

In-person data collection was suspended after COVID-19 pandemic restrictions were put in place. To collect enough data to reach the goal of 600 total surveys, a Qualtrics-based online questionnaire was distributed to neighborhood groups. Once permission was granted to distribute the questionnaire, a total of five requests were made per neighborhood to yield more responses. Neighborhood groups who did not respond were contacted a total of five times requesting permission to distribute the questionnaire. The neighborhood group leadership decided who would send the questionnaire to residents, either the neighborhood leader or the first author. Contact with residents was made through the neighborhood email listserv or Facebook group.

Online questionnaires were administered during the months of June and July 2020. Seventeen neighborhood groups were contacted and fifteen agreed to distribute the

questionnaire. In total, 922 online questionnaires were collected with 523 being usable after removing those that were incomplete or haphazardly completed (e.g., straightlining, completing the survey under seven minutes), resulting in a 57% survey completion rate. A total of 629 surveys were collected after combining online and in-person surveys. However, 36 surveys were removed because they contained multivariate outliers considering Mahalanobis Distance (MD) (Erul, Woosnam, & McIntosh, 2020). The MDs were calculated and compared against the cumulative χ^2 distribution with 30 degrees of freedom and *p*-value of 0.001. MDs with a *p*-value smaller than 0.001 were considered to contain multivariate outliers. A total of 593 surveys were used for this study.

Data Analysis

As recommended by Hinkin (1995), reliability and validity of the Neighborhood Gentrification construct was tested by using a two-step process involving an exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). The data were split in half randomly and one half was used in each analysis (Hinkin, 1995). The EFA consisted of 297 cases, while the CFA consisted of 296 cases, for a total of 593 responses. The EFA was conducted using SPSS v.27 and EQS v.6.3 was used for the CFA. Basic demographic descriptive statistics were analyzed using SPSS v.27.

Results

Demographics

The sample was majority female (60%), White (78%), and between the ages of 36 and 49 years (38%) (Table 4.1). Respondents also had a high educational attainment (86% with at least a 4-year degree) and high average household income (74% over $80,000 per year). The most

common amount of time residents lived in their current neighborhood was seven or more years. Lastly, the majority (81%) of respondents were homeowners.

Table 4.1. Demographic characteristics of respondents.

	N	%
Gender	**591**	
Female	357	60.4
Male	224	37.9
Other / Prefer not to respond	10	1.7
Race/Ethnicity	**586**	
Black or African American	84	14.3
White	455	77.6
Other / Multiracial	47	8.0
Age Group	**580**	
35 or younger	133	22.9
36-49	218	37.6
50-59	114	19.7
60 or older	115	19.8
Education (Highest Level)	**590**	
Less than high school	2	0.3
High school or GED	20	3.4
Technical, vocational or trade school	10	1.7
Some college (includes junior college)	48	8.1
4-year college (Bachelor's degree)	273	46.3
Master's degree	153	25.9
Ph.D./Professional Degree	84	14.2
Household Income	**563**	
Less than $40,000	49	8.7
$40,000 - $79,999	98	17.4
$80,000 or more	416	73.9
Length of residency	**587**	
2 years or less	152	25.9
3 – 6 years	144	24.5
7 or more years	291	49.6
Homeownership	**587**	
Renter	113	19.3
Homeowner	474	80.7

Exploratory Factor Analysis

First, the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) and Bartlett's Test of Sphericity were conducted to determine the suitability of the construct for EFA. The KMO value (0.73) was well above the 0.5 threshold suggested by Tabachnick and Fidell (2013). Bartlett's Test of Sphericity (another test to determine the suitability of conducting an EFA) was significant ($p < 0.001$). Three items, "People are being displaced, or 'priced out,' of my neighborhood," "Residents of my neighborhood support building and preserving affordable housing," and "Property values are increasing in my neighborhood" were removed because they had factor loadings below 0.5. Factor loadings for the remaining items were all above 0.50 (Hair, Black, Babin, & Anderson, 2018) and Cronbach's alphas ranged from 0.63 to 0.68 (Table 4.2). The scree plot and eigenvalues resulted in four dimensions within the construct. The EFA revealed the four dimensions explained 59% of the total variance in neighborhood gentrification.

Table 4.2. Exploratory factor analysis results.

Factor and corresponding items	Mean[a]	Standardized factor loading	Eigenvalue	Variance Explained	Chronbach alpha
Neighborhood Preservation			3.0	23.3	0.67
Locally owned businesses in my neighborhood have been protected by the city government.	4.45	0.67			
Atlanta city leaders prioritize building and preserving affordable housing in my neighborhood.	5.06	0.59			
New residents in my neighborhood have helped maintain the culture and character of our neighborhood.	4.21	0.54			
My neighborhood is experiencing [high] residential turnover. [reverse coded]	4.47	0.48			
Development Resistance			2.1	15.8	0.64
Business development in or around my neighborhood is disrupting local culture.	4.50	0.70			
There are instances when residents in my neighborhood have been frustrated with certain business or residential developments.	5.54	0.61			
New non-local businesses are moving in to my neighborhood.	4.59	0.53			
Neighborhood Renovation			1.4	10.4	0.63
Higher-value housing is filling in empty lots in my neighborhood.	5.71	0.54			
Many homes in my neighborhood are being renovated.	5.81	0.66			
New development is occurring throughout my neighborhood.	5.65	0.61			
Socio-demographic Change			1.3	9.7	0.68
My neighborhood has a mix of residents of different races and ethnicities.	5.33	0.91			
My neighborhood has a mix of residents of different income levels.	5.21	0.57			
Removed					
People are being displaced, or priced out, of my neighborhood.	5.23				
Residents of my neighborhood [do not] support building and preserving affordable housing. [reverse coded]	3.86				
Property values are increasing in my neighborhood.	5.98				

[a]Items were asked on a 7-point scale where 1 = strongly disagree and 7 = strongly agree.

Confirmatory Factor Analysis

After performing the EFA, a CFA on the other half of the sample was conducted to confirm the factor structure (resulting from the EFA) and determine construct validity across the four factors. Two items, "Atlanta city leaders prioritize building and preserving affordable housing in my neighborhood" and "Business development in or around my neighborhood is disrupting local culture," were removed due to cross-loading. The final measurement model resulted in the following: Satorra-Bentler χ^2 (31, n = 294) = 77.64, $p < 0.001$, CFI = 0.92, RMSEA = 0.07 (see Table 4.3). The four factors, across twelve items revealed standardized factor loadings in excess of the 0.50 threshold suggested by Hair et al. (2018). The *t* values for the factor loadings were all significant at the 0.05 level, achieving convergent validity (Kline, 2015; Tabachnick & Fidell, 2013). Average variances extracted were all greater than 0.55 and discriminant validity was achieved (Hair et al., 2018) (Table 4.4).

Dimensionality of Neighborhood Gentrification

The first dimension (Neighborhood Preservation) pertains to efforts from various stakeholders to maintain the present culture of the neighborhood (see Table 4.3). The second dimension (Development Resistance) is concerned with resisting development that disrupts residents' culture and well-being. The third dimension (Neighborhood Renovation) pertains to the objective occurrences of new housing and business development throughout the neighborhood. Finally, the fourth dimension (Socio-demographic Change) highlights the prevalence of social mixing of different races and income groups within a neighborhood.

Table 4.3. Confirmatory factor analysis results.

Factor and corresponding items	Mean	Standardized factor loading (*t* value)	AVE	CR
Neighborhood Preservation			0.58	0.64
Locally owned businesses in my neighborhood have been protected by the city government.	4.54	0.72 (7.29)		
Atlanta city leaders prioritize building and preserving affordable housing in my neighborhood.	-	-		
New residents in my neighborhood have helped maintain the culture and character of our neighborhood.	4.22	0.81 (7.75)		
My neighborhood is experiencing [high] residential turnover. [reverse coded]	4.46	0.75 (8.24)		
Development Resistance			0.61	0.63
Business development in or around my neighborhood is disrupting local culture.	-	-		
There are instances when residents in my neighborhood have been frustrated with certain business or residential developments.	5.55	0.77 (9.84)		
New non-local businesses are moving in to my neighborhood.	4.65	0.74 (15.51)		
Neighborhood Renovation			0.70	0.70
Higher-value housing is filling in empty lots in my neighborhood.	5.79	0.84 (8.23)		
Many homes in my neighborhood are being renovated.	5.80	0.79 (8.78)		
New development is occurring throughout my neighborhood.	5.67	0.83 (9.98)		
Socio-demographic Change			0.67	0.80
My neighborhood has a mix of residents of different races and ethnicities.	5.35	0.82 (13.99)		
My neighborhood has a mix of residents of different income levels.	5.27	0.81 (13.90)		

Note. AVE = average variance extracted; CFI = comparative fit index; RMSEA = root mean square error of approximation.
[a]Satorra-Bentler χ^2 (31, n = 294) = 77.64, $p < 0.001$, CFI = 0.92, RMSEA = 0.07.
[b]Items were asked on a 7-point scale where 1 = strongly disagree and 7 = strongly agree.
[c]Average variance extracted, or AVE, is the square root of the variance shared between factors and their measures; each reported exceeded squared factor correlation estimates.

Table 4.4. Discriminant validity analysis results.

Factors	1	2	3	4
1. Neighborhood Preservation	**0.76**			
2. Development Resistance	0.31	**0.78**		
3. Neighborhood Renovation	0.22	0.44	**0.82**	
4. Socio-demographic Change	-0.14	-0.15	0.16	**0.82**

Note. The bold diagonal values are the square root of the AVE.
Values below diagonal are the correlations between factors. For discriminant validity, the diagonal values should be larger than any correlations in rows or columns.
All items were asked on a 7-point scale where 1 = strongly disagree and 7 = strongly agree.

Discussion and Conclusion

Gentrification is a growing concern for low-income and minority individuals across the globe (Rigolon & Németh, 2019). Though tools are in place to measure gentrification using secondary data (Martin, 2017a) to better understand specific experiences with gentrification through interviews (Harris et al., 2019; Rigolon & Németh, 2018), no tool exists to gauge residents' experiences with gentrification indicators at a large scale. Past questionnaires focus on gentrification attitudes (Sullivan, 2007) and an underlying gentrification worldview (Mullenbach et al., 2020). In this study, a scale was designed and tested to measure residents' perceptions of gentrification indicators occurring within their neighborhood. This measure combines the benefits of quantitative census-based research (generalizability) and qualitative research (understanding of residents' experiences).

Though qualitative studies give a depth of voice and understanding of issues, they are not necessarily representative of an entire population. Additionally, though quantitative studies using housing and census data can be helpful in tracking gentrification trends in communities, they do not provide insight in to residents' lived experience with the byproducts of gentrification in a particular neighborhood. This scale helps fill the gaps that the aforementioned methods do not satisfy.

The CFA on the final version of the Neighborhood Gentrification Scale suggested that the construct has adequate convergent and discriminant validity. The overall construct validity of neighborhood gentrification is good and can be used by practitioners and researchers alike to better understand which gentrification indicators residents are experiencing and/or are aware of in their neighborhood.

This scale, though used in the context of Atlanta, Georgia, was designed in a way that can be used in any urban context that may or may not be undergoing gentrification. It could also prove useful to non-profit or governmental organizations to better understand the experiences of residents in a particular neighborhood in order to plan programs, outreach, and other community engagement opportunities. Additionally, results from using this scale can help decision-makers understand the degree to which residents in particular neighborhoods are aware of gentrification indicators in their community and can be compared to analysis of census data or qualitative data.

Model testing demonstrated that neighborhood gentrification is composed of four factors: Neighborhood Preservation, Development Resistance, Neighborhood Renovation, and Socio-demographic Change. Under the Neighborhood Preservation factor, past research in gentrifying areas has revealed new residents disrupting neighborhood culture through avoidance and citizen-based policing (Harris, Rigolon, & Fernandez, 2020). When the promotion and protection of affordable housing initiatives (Rigolon & Németh, 2020) and local businesses (Glaeser, Kim, & Luca, 2018; Meltzer, 2016) falls to the wayside, gentrification is more likely. Long-time residents' resistance to new business and residential development is also common in gentrifying areas (Durmaz-Drinkwater, Platt, & Can-Traunmüller, 2020) and are included under the Development Resistance factor of neighborhood gentrification. Included in the Neighborhood Preservation factor are items relating to common occurrences in gentrifying areas: the

introduction of new, higher-value development and residential renovation (Hyra, 2015). Finally, Socio-demographic Change (i.e., the mixing of different races and income levels in a particular neighborhood) is an indicator of a gentrifying neighborhood (Lees, 2008). The diversity of factors that compose gentrification and are included in this scale provide confidence that the scale will be useful for multiple stakeholders.

Limitations and Future Research

This paper is not without its limitations. First, the COVID-19 pandemic caused the data collection strategy to change from on-site distribution of self-administered questionnaires to residents in their homes to a completely online questionnaire distribution. The results may be less representative than if data were collected completely in person, as we may have collected data from residents who 1) had internet access and 2) were invested in their community enough to join a neighborhood Facebook group or email listserv. Switching between the two methods may have skewed the data since multiple neighborhoods were sampled in person as opposed to entirely online, particularly since minorities and low-income residents were more likely to complete the in-person questionnaire than the online version. In the future, researchers should employ an entire door-to-door method of collecting data from residents to help ensure a representative sample.

This study focused solely on Atlanta, Georgia, USA. This scale should be used in other studies around the world to help determine its usefulness in other contexts such as nearby other urban green spaces and redevelopment projects in cities. In so doing, particular attention should be paid to the state of the neighborhood one wishes to sample. The areas in which the questionnaires were distributed were composed of neighborhoods that were gentrifying and others that had already gentrified. Future research should focus primarily on gentrifiable and

gentrifying neighborhoods, since residents in gentrified neighborhoods may not have lived in the current neighborhood when gentrification was occurring. With this in mind, residents' perspectives change over time. Future work should employ the Neighborhood Gentrification Scale across multiple time horizons to potentially capture this change and its magnitude.

The items "property values are increasing in my neighborhood" and "people are being displaced, or priced out, of my neighborhood" were not included in the final scale due to poor factor loadings. Rising property values, which can increase rents, often serves as an antecedent to the displacement of residents from a particular area because they can no longer afford to live there (Lees et al., 2013; Newman & Wyly, 2006). These are two important components of gentrification that are often considered in this line of research (Jackson & Buckman, 2020; Rigolon & Németh, 2019), and should be included in future studies to see if the factor loadings are higher in different contexts.

It is recommended that future researchers refine, and potentially add to, the Neighborhood Gentrification Scale. Neighborhood gentrification data should also be compared to objective data collected through other sources to compare residents' perceptions of gentrification indicators in their community to actual facts about these indicators. Finally, future research should compare neighborhood gentrification responses to individuals' gentrification worldview to see if there is any correlation between one's gentrification worldview and how they perceive their experience with gentrification indicators in their community.

Future research should investigate the Neighborhood Gentrification Scale's relationship with other variables. It would perhaps be an outcome of gentrifiable neighborhood indicators such as political disempowerment, lack of affordable housing initiatives in a neighborhood, a neighborhood's proximity to downtowns, and availability of older and appealing building stock

(Chapple & Zuk, 2016; Eckerd, 2011; Rigolon & Németh, 2019; Timberlake & Johns-Wolfe, 2017). Additionally, it could serve as an antecedent to residential mobility and neighborhood-level socioeconomic changes (Greenlee, 2019). Undertaking such avenues of research would showcase the utility of the Neighborhood Gentrification Scale and potentially provide opportunities to demonstrate predictive validity, which Churchill (1979) advances is crucial to show for new scales over time.

Acknowledgements

The authors would like to thank the residents of Atlanta, Georgia for their participation in this study. Also, we would like to acknowledge the hard work of Mr. Charles Davis, Mr. Kevin Ronczkowski, Ms. Embrylee Sago, and Mr. Quinn Webb—each of whom helped during the data collection process.

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CHAPTER 5

SUMMARY AND RECOMMENDATIONS

The goal of this project was to examine the perceptions of gentrification, greenways, and their associated impacts among Atlanta BeltLine-proximate residents. Between winter and summer 2020, questionnaires were collected from Atlanta, Georgia residents who lived in neighborhoods within one-half mile of the Southside and Eastside Trails of the Atlanta BeltLine, an urban greenway. Between January and March of 2020, Atlanta neighborhood homes were visited and residents were asked to complete an on-site self-administered questionnaire. Once the COVID-19 pandemic forced people indoors, collecting data door-to-door was suspended. Between June and July of 2020, online questionnaires were distributed to residents of neighborhoods that were not visited during the door-to-door data collection process. A total of 1,031 questionnaires were collected, but only 593 of those were usable.

Chapter 1 provided a general overview of the topics covered in this dissertation, while Chapters 2 through 4 focused on a few specific research objectives in the form of stand-alone journal articles. Chapter 2 focused on the utilization of neighborhood attachment, gentrification worldview, and political empowerment to predict urban greenway support. Chapter 3 centered on examining differences between resident groups' perceptions of gentrification worldview, political empowerment, and urban greenway support. Chapter 4 highlighted the construction and testing of a new measure, the Neighborhood Gentrification Scale. Key findings from these chapters can be found below:

Summary

Neighborhood Attachment

- Residents who were more attached to their neighborhood were less supportive of new development (not including greenways) coming to the neighborhood.
- Residents who were more attached to their neighborhood were more inclined to view socioeconomic diversity as a positive for their neighborhood.
- Though residents who were more attached to their neighborhood did not support new general development, they did support greenway development.

Gentrification Worldview

- Residents generally had a positive gentrification worldview.
- Residents who were more supportive of general development were more supportive of greenway development.
- Residents living near the greenway that was open to the public, residents that were White or of another race, and those in the highest income range (over $80,000) were in more agreement with the value of having a mix of residents with different income levels than residents living near the greenway that was under construction, Black residents, and those in the lowest income range (less than $40,000), respectively.
- There were no significant differences between residential groups on their support for general development in their neighborhood.

Political Empowerment

- Residents generally did not feel politically empowered during the greenway development process.

- Residents who were more politically empowered were more supportive of greenway development.
- There were no significant differences between residential groups on their experience of political empowerment.

Greenway Support

- Residents were all generally supportive of the greenway.
- The two strongest predictors of greenway support were development support and political empowerment.
- The more attached residents were to their neighborhood, the more supportive of greenways they were.
- As residential support for general development increased, so did support for greenways.
- The more residents were politically empowered, the more supportive of greenways they were.
- Residents living near the greenway that was open to the public, the highest income group, and residents who were either White or some other race supported the greenway significantly more than residents living near the greenway that was under construction, the middle-income group, and Black residents.

Neighborhood Gentrification Scale

- Overall, perceptions of gentrification indicators were relatively high, that is, residents perceive that their neighborhoods have gentrified or are in the process of gentrifying.
- Neighborhood Gentrification is composed of four dimensions: Neighborhood Preservation, Development Resistance, Neighborhood Renovation, and Socio-demographic Change.

- The Neighborhood Gentrification Scale is a tool that can be used to measure residents' experiences with gentrification indicators within their community at a large scale.

Recommendations

Overall, the results from this study led to several key recommendations that greenway planners, managers, non-profits, city leaders, and researchers can use to improve the impacts greenways have on their adjacent communities and better understand residents' experiences within their neighborhoods. These recommendations can be found below:

Involve residents in the greenway development process.

Results indicate that residents living within one-half mile of the greenway were not particularly involved in the greenway planning process for either the trail segment that was open to the public for eight years or the segment that was under construction throughout this study. The idea of political empowerment, or procedural justice, is a critical component of environmental justice (Low, 2013). Additionally, those who were more politically empowered were more likely to support the development of the greenway. Including the voices of nearby residents can help direct the design and neighborhood-level impacts of the greenway, while empowering them in a process that may affect their day-to-day lives. As Littke, et al. (2016, p. 353) highlight in their analysis of The High Line's (a greenway in New York City) impact on nearby neighborhoods, "great landscaping does not create great places without careful consideration of the surrounding communities."

Conduct research on residents who live adjacent to greenways that are not yet complete and open to the public.

Understanding the perspectives of residents who live adjacent to greenways that are in the planning and development phase can help stakeholders anticipate future problems and better

care for the long-term residents of the community (Ivy & Moore, 2007). This is particularly important when conducting gentrification-based research because if greenways can play a role in gentrification and gentrification can play a role in displacement of long-term residents, applying the perspectives of those residents to the greenway development may help reduce physical and cultural displacement (Gould & Lewis, 2017; Harris, Schmalz, Larson, Fernandez, & Griffin, 2019). Results from this study indicated that residents living adjacent to a greenway segment under construction had significantly different perspectives than residents living adjacent to a greenway segment that has been open to the public for years. These comparisons could prove invaluable when considering new greenways' impacts on communities.

Scales like the Neighborhood Gentrification Scale can provide insight into residents' experiences of gentrification indicators

Most gentrification studies determine whether or not gentrification is occurring in a community based on large-scale secondary data (Immergluck & Balan, 2018; Martin, 2017; Rigolon & Németh, 2020) or interviews with residents (Harris, Rigolon, & Fernandez, 2020; Harris, Schmalz, Larson, & Fernandez, 2020; Harris et al., 2019). Each of these methods are valuable in themselves, but they do not provide large-scale data from residents (Mullenbach, Baker, & Mowen, 2020). The Neighborhood Gentrification Scale fills this gap by providing a tool to collect large-scale data about residents' experiences with gentrification indicators. This on-the-ground method is currently missing from the literature and could provide further insight into neighborhood-level gentrification for stakeholders.

Implement new development that is sensitive to communities' needs and desires.

Results of this research suggest that residents who were particularly attached to their neighborhood tended to be unsupportive of new general development (e.g., businesses and

restaurants) in their neighborhood. Though these neighborhood-attached residents did not support new general development, they did support greenways. When cities develop greenways and supporting superstructure, they should consider the needs and desires of the current residents (Harris et al., 2019). This could help them experience less cultural displacement and reduce concerns of gentrification. These concerns raise the long-standing question of how to make a community "just green enough" to provide valuable green space to residents while avoiding the negative impacts of urban greening (Curran & Hamilton, 2012; Rigolon et al., 2019; Rigolon & Németh, 2020; Wolch, Byrne, & Newell, 2014).

Consider ways to increase greenway support from low-income and minority residents.

Though all three racial groups and income levels were generally supportive of the greenway, low-income and Black residents were less likely than higher income and White residents to support the development of the greenway. These differences may be from discrimination felt on the trail (Harris, Rigolon, et al., 2020), potential cultural or physical displacement as a result from the trail (Harris et al., 2019), or other recreational constraints (Stodolska, Shinew, & Camarillo, 2019). These are all complicated issues to manage, but future research could investigate solutions to empower all residents and garner their support for urban greenways.

Conclusion

Despite various limitations to this study (see the final sections of Chapters 2-4 for further explanation of limitations), this project provided a multidimensional understanding of greenway-adjacent residents' perspectives on environmental justice issues. Though previous research has investigated greenways' (and other green spaces') influence on gentrification (Harris et al., 2019; Immergluck & Balan, 2018; Rigolon & Németh, 2020), residents' gentrification worldview

(Mullenbach et al., 2020), and gentrification indicators (Immergluck & Balan, 2018; Martin, 2017; Rigolon & Németh, 2020), this study provides representative, context-specific (near an urban greenway) findings to better inform greenway and nearby community development. Collecting data from residents living adjacent to future trail segments proved to be a valuable component of trail research, particularly when considering environmental justice issues.

This study highlighted the importance of providing voice to nearby residents when developing greenways, how one's attachment to their neighborhood can influence their gentrification worldview, how residents of different socio-economic groups may have different perspectives of trail and their related issues, and the need to gather information from residents when making decisions for their neighborhood. With the diversification of the United States, tight budgets, and concerns regarding physical inactivity, greenways can provide opportunities for physical activity, active transportation, connection to nature, and connect people from all walks of life. Decision-makers must consider needs and desires that represent an entire community to better aid the greenway movement's ability to help individuals benefit from these resources.

Future research should employ a door-to-door proportionate census-guided systematic random sampling technique for the entirety of the study to help ensure the sample is representative of the entire population (see Keith & Boley, 2019; Palardy, Boley, & Johnson Gaither, 2018b, 2018a; Weber, Boley, Palardy, & Johnson Gaither, 2017). Sampling residents in neighborhoods adjacent to a greenway at various stages of the greenway's development (e.g., funding acquired, ground breaking, and opening to the public) could also prove useful as a longitudinal study. Researchers could also include issues of political empowerment (or procedural justice) and gentrification worldview among a diverse set of stakeholders (e.g.,

residents, users, decision-makers) in their projects. This study was conducted with residents living near the Atlanta BeltLine, but more research should be conducted around the world among residents living near other greenways with their unique challenges.

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APPENDIX A: Survey Instrument

Resident Attitudes Towards the BeltLine's Southside Trail

UNIVERSITY OF GEORGIA
Warnell School of Forestry & Natural Resources

This study is being conducted in order to better understand residents' attitudes toward the future Atlanta BeltLine (Southside Trail) in your neighborhood. Your responses are very important and are confidential. Your participation is voluntary, so you may stop participating at any time. Thank you for your time!

Perceptions of the Atlanta BeltLine's Southside Trail:

1. Please indicate whether you agree or disagree with the following statements about the BeltLine's Southside Trail in your neighborhood, using a scale where 1 = "Strongly Disagree" to 7 = "Strongly Agree." (*Please circle one number per statement*)

	Strongly Disagree	Disagree	Somewhat Disagree	Neither	Somewhat Agree	Agree	Strongly Agree
In general, the positive benefits of the BeltLine's Southside Trail will outweigh its negative impacts in my neighborhood.	1	2	3	4	5	6	7
I believe that the construction of the BeltLine's Southside Trail should be actively encouraged within my neighborhood.	1	2	3	4	5	6	7
I support the construction of the BeltLine's Southside Trail.	1	2	3	4	5	6	7
Building the BeltLine's Southside Trail will be a mistake.	1	2	3	4	5	6	7
My neighborhood should continue to support building the BeltLine's Southside Trail.	1	2	3	4	5	6	7
I want to see the BeltLine Trail completed all the way around Atlanta.	1	2	3	4	5	6	7

2. Please indicate whether you agree or disagree with the following statements about the BeltLine's Southside Trail in your neighborhood, using a scale where 1 = "Strongly Disagree" to 7 = "Strongly Agree." (*Please circle one number per statement*)

I feel like...	Strongly Disagree	Disagree	Somewhat Disagree	Neither	Somewhat Agree	Agree	Strongly Agree
I have a voice in development decisions pertaining to the BeltLine's Southside Trail.	1	2	3	4	5	6	7
I have access to the decision-making process when it comes to the BeltLine's Southside Trail.	1	2	3	4	5	6	7
My vote makes a difference in how the BeltLine's Southside Trail is developed.	1	2	3	4	5	6	7
I have an outlet to share my concerns about the BeltLine's Southside Trail.	1	2	3	4	5	6	7
My vote makes a difference in how affordable housing policies around the BeltLine's Southside Trail are developed.	1	2	3	4	5	6	7
The development of the BeltLine's Southside Trail...							
Makes me feel more connected to my neighborhood.	1	2	3	4	5	6	7
Has disrupted my sense of community because people from other places are starting to move here.	1	2	3	4	5	6	7
Provides ways for me to get involved in my neighborhood.	1	2	3	4	5	6	7

General Attitudes About Neighborhood Change:

3. Please indicate whether you agree or disagree with the following statements, using a scale where 1 = "Strongly Disagree" and 7 = "Strongly Agree." ***(Please circle one number per statement)***

	Strongly Disagree	Disagree	Somewhat Disagree	Neither	Somewhat Agree	Agree	Strongly Agree
Property value increases are a good thing for a city neighborhood.	1	2	3	4	5	6	7
People being displaced, or "priced out," of their neighborhood is an unavoidable part of living in cities.	1	2	3	4	5	6	7
It is important to resist business development when it disrupts local culture.	1	2	3	4	5	6	7
There are instances when residents have to say no to certain business or residential developments.	1	2	3	4	5	6	7
It is important for the city government to protect locally owned businesses.	1	2	3	4	5	6	7
It is important for cities to prioritize affordable housing.	1	2	3	4	5	6	7
It is important to have a mix of residents of different races and ethnicities in city neighborhoods.	1	2	3	4	5	6	7
It is important to have a mix of residents of different income levels in city neighborhoods.	1	2	3	4	5	6	7
New residents should help maintain the current culture and character of their new neighborhood.	1	2	3	4	5	6	7
Neighborhoods benefit from low residential turnover.	1	2	3	4	5	6	7
It is good for neighborhoods when higher-value housing fills in empty lots.	1	2	3	4	5	6	7
New non-local businesses, such as Starbucks, are a sign that a neighborhood is moving in the right direction.	1	2	3	4	5	6	7
New development is a sign that a neighborhood is moving in the right direction.	1	2	3	4	5	6	7

Attitudes Concerning Your Neighborhood:

4. How supportive or opposed would you be of each situation happening in your neighborhood? Using the scale where 1 = "Extremely Opposed" and 7 = "Extremely Supportive." ***(Please circle one number per statement)***

How supportive or opposed are you to...	Extremely Opposed	Very Opposed	Somewhat Opposed	Neither	Somewhat Supportive	Very Supportive	Extremely Supportive
More people moving into my neighborhood	1	2	3	4	5	6	7
Large park projects happening in my neighborhood	1	2	3	4	5	6	7
Bike lanes being added to my neighborhood streets	1	2	3	4	5	6	7
Recreation programs that charge fees in public spaces in my neighborhood	1	2	3	4	5	6	7
Special events, such as music festivals, in the parks in my neighborhood	1	2	3	4	5	6	7
Revitalization of underdeveloped or underused spaces in my neighborhood	1	2	3	4	5	6	7

5. Please indicate whether you agree or disagree with the following statements about your neighborhood, using a scale where 1 = "Strongly Disagree" to 7 = "Strongly Agree." *(Please circle one number per statement)*

I feel like...	Strongly Disagree	Disagree	Somewhat Disagree	Neither	Somewhat Agree	Agree	Strongly Agree
This is the ideal neighborhood to live in.	1	2	3	4	5	6	7
This neighborhood is currently a part of me.	1	2	3	4	5	6	7
There are places in my neighborhood to which I am very emotionally attached.	1	2	3	4	5	6	7
It would be very hard for me to leave this neighborhood.	1	2	3	4	5	6	7
I would willingly leave this neighborhood.	1	2	3	4	5	6	7
I would not willingly leave this neighborhood for another.	1	2	3	4	5	6	7
I moved to this neighborhood because I wanted to live near the Atlanta BeltLine.	1	2	3	4	5	6	7
I moved to this neighborhood because I wanted to live near downtown Atlanta.	1	2	3	4	5	6	7
I moved to this neighborhood because I wanted to live near local shops, restaurants, and businesses.	1	2	3	4	5	6	7
I moved to this neighborhood because of the availability of housing that I could afford.	1	2	3	4	5	6	7

6. Please indicate whether you agree or disagree with the following statements regarding your neighborhood, using a scale where 1 = "Strongly Disagree" and 7 = "Strongly Agree." *(Please circle one number per statement)*

	Strongly Disagree	Disagree	Somewhat Disagree	Neither	Somewhat Agree	Agree	Strongly Agree
Property values are increasing in my neighborhood.	1	2	3	4	5	6	7
People are being displaced, or "priced out," of my neighborhood.	1	2	3	4	5	6	7
Business development in or around my neighborhood is disrupting local culture.	1	2	3	4	5	6	7
There are instances when residents in my neighborhood have been frustrated with certain business or residential developments.	1	2	3	4	5	6	7
Locally owned businesses in my neighborhood have been protected by the city government.	1	2	3	4	5	6	7
Atlanta city leaders prioritize building and preserving affordable housing in my neighborhood.	1	2	3	4	5	6	7
Residents of my neighborhood support building and preserving affordable housing.	1	2	3	4	5	6	7
My neighborhood has a mix of residents of different races and ethnicities.	1	2	3	4	5	6	7
My neighborhood has a mix of residents of different income levels.	1	2	3	4	5	6	7
New residents in my neighborhood have helped maintain the culture and character of our neighborhood.	1	2	3	4	5	6	7
My neighborhood is experiencing low residential turnover.	1	2	3	4	5	6	7
Higher-value housing is filling in empty lots in my neighborhood.	1	2	3	4	5	6	7
Many homes in my neighborhood are being renovated.	1	2	3	4	5	6	7
New non-local businesses are moving in to my neighborhood.	1	2	3	4	5	6	7
New development is occurring throughout my neighborhood.	1	2	3	4	5	6	7
Over the last five years, my neighborhood has gotten better.	1	2	3	4	5	6	7

Background Information: This information is completely confidential and will only be used to determine if we have surveyed a representative group of residents.

7. What is your gender? *(Please mark your answer)*

☐ Female ☐ Male ☐ Other ☐ Prefer not to respond

8. Which category best describes your race? *(Please select all that apply)*

☐ White ☐ Black or African American ☐ American Indian or Alaska Native
☐ Asian ☐ Native Hawaiian or Other Pacific Islander ☐ Other:_____

9. Do you identify as a Hispanic or Latino/a? *(Please mark your answer)*

☐ Yes ☐ No

10. When the BeltLine's Southside Trail is complete, do you plan on using it? *(Please mark your answer)*

☐ Yes ☐ No ☐ I don't know

11. Have you ever used any of the Atlanta BeltLine trails? *(Please mark your answer)*

☐ Yes ☐ No

12. Including yourself, how many people live in your household? *(Please write in number)*

_____ (# of adults) _____ (# of children)

13. Do you rent or own your residential dwelling? *(Please mark your answer)*

☐ Rent ☐ Own

14. How long have you lived in your current neighborhood? *(Please write in number)*

_____ (# of years)

15. In what year were you born? *(Please write specific year)*

_____ (year of birth)

16. What is the highest level of education you have completed so far? *(Please mark your answer)*

☐ Less than high school ☐ Some college (includes junior college) ☐ Master's degree
☐ High School or GED ☐ 4-year college (Bachelor's degree) ☐ Ph.D./Professional Degree
☐ Technical, vocational or trade school

17. What is your approximate annual household income before taxes? *(Please mark your answer)*

☐ Less than $20,000 ☐ $60,000-$79,999 ☐ $120,000-$139,999
☐ $20,000-$39,999 ☐ $80,000-$99,999 ☐ $140,000-$159,999
☐ $40,000-$59,999 ☐ $100,000-$119,999 ☐ More than $160,000

18. Please share any additional comments that you would like to add:

_____

_____

_____

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Thank you for taking the time to complete the survey!

If you have any additional questions, please contact Sam Keith at the University of Georgia.
**skeith@uga.edu *180 E. Green St. Athens, GA 30602*