

## **STS Research Paper: Transportation Justice**

### **Introduction**

Gentrification and America's racial history greatly affect public transportation. According to the American Public Transportation Association (Who Rides Public Transportation, 2017), while white people make up 63% of all Americans, they only represent 40% of transit riders. Caucasians are the only group in the four largest racial groups in America, the others being African Americans, Hispanic Americans and Asian Americans, who see their percent of transit riders significantly decrease from their percent of the overall population. The public transportation system serves a very diverse population, and in order to evaluate a public transportation system, one must view it through the lens of how well it serves this diverse community. This will be defined as providing transportation equity.

This purpose of this paper is to lay out a set of criteria that a public transportation system ought to meet in order to be considered equitable, and then conduct a preliminary evaluation of the city of Charlottesville based on how well it meets this criteria. First, the background section will explore the deep connection public transportation has with civil rights, and why activists have fought for over half a century to provide transportation equity for citizens of all races. Then the literature review will draw from the Mobility Equity Framework and other sources in order to further explain and develop the criteria used to evaluate a public transportation system. After that the case study section will provide evidence from the city of Charlottesville itself to address how Charlottesville compares to the ideal conditions depicted in the Mobility Equity Framework. In the discussion section the city of Charlottesville will receive a score for each of the categories taken from the Mobility Equity Framework. Then areas of further study will be suggested and courses of action will be recommended.

## Background

America has been grappling with the issue of providing fair and equitable mobility to all of its citizens for almost one hundred years. In “Where Do We Go From Here” by Joshua F. Inwood (2015) the history of transportation justice is examined in order to provide context for the next steps in the ongoing battle for transportation equity and equality. The public transportation system is deeply tied to United States civil rights. Civil rights leaders like Martin Luther King Jr. fought very hard to increase minority mobility and create a space of equality rather than segregation. In an essay published almost 20 years after his death King stated that the layout of public transportation essentially determines which jobs are going to be available to poor and minority workers. He argued that an effective and just public transportation system was crucial for allowing minorities to enter mainstream society (Inwood 2015).

In addition, King organized and led the Montgomery Bus Boycott, one of the most famous undertakings in the American Civil Rights movement. The purpose of this boycott was to stop segregation on Montgomery public busses. There were many other transportation centered civil rights protests centered around public transit. Other examples include the Freedom Riders, the Baton Rouge Bus Boycott, the Tallahassee Bus Boycott and many others (Hipkins III). Transportation equity was seen as a necessity by civil rights leaders, and was one of the main areas that the civil rights movement focused on.

This need for minorities to access a fair public transportation system has not waned since King’s death. In 2018 Americans took 9.9 billion trips on public transportation (Who Rides Public Transportation, 2017). In addition to that massive number, public transportation has grown at a rate of 21% since 1997, a rate higher than the 19% increase per year in the United States population. According to Urban Habitat (2018) one of the indicators of a healthy region is a just public transportation system. In the next section we will look at the five different categories

that determine a city's success at achieving transportation justice.

### **Literature Review**

In order to set the criteria for evaluating a city's public transportation through the lens of transportation justice a framework must be chosen to establish the qualities that are needed for a transportation system to be equitable. One framework that is very extensive is the Mobility Equity Framework from the Greenlining Institute. It was written by Hannah Cregar, Joel Espino, and Alvaro Sanchez (2018). The objective of this framework is stated as, "to establish a transportation system that benefits all people." This aligns well with the historical goals of civil rights leaders regarding public transportation. There are many different points in their framework that can be used to examine a transportation network.. A core idea of this framework is that transportation equity is critical because current public transportation may serve the needs of low income minority citizens, but most likely fails to address the historical neglect they have experienced (Cregar 2018).

According to the Mobility Equity Framework there are five key areas that should be analyzed in a public transit system. They are monetary equity, access to jobs and necessities, distribution of community power, the emphasis on equitable modes of transportation, and the acknowledgment and addressing of the historic neglect of minority communities. In this review these five principals will be defined thoroughly in order to create a tool that can be used to evaluate a city's transportation system.

#### **Monetary Equity**

According to the Mobility Equity Framework affordability is one of the primary indicators for transportation equity. It is listed as the first requirement in building a fair and just transportation system. According to the Mobility Equity Framework, it is recommended as a

standard baseline that no household should spend over twenty percent of its gross income on transportation costs (Cregar 2018). Providing monetary equity should be the first point established in evaluating transportation because it is the first step toward including everyone. All of the other aspects are a null point if a citizen cannot afford to use the city's services. The framework also states, "the poorest 20 percent of Americans spend 40.2 percent of their take home pay on transportation (mostly for private vehicle expenses), while those who make \$71,898 and greater only spend 13.1 percent." (Cregar 2018) This establishes a clear goal of reducing transportation costs on low income people. For this category a city's transportation costs imposed on riders should be examined, particularly bus fares. Comparing income from transportation fares compared to overall funding can illuminate how and why these fares are in place. In addition, comparing the different costs of using transportation in different parts of the city should also be done to examine monetary equity. According to the Mobility Equity Framework, fares should be consistent across all areas of the city in order to provide access to low income individuals. Also these fares should be as low as possible in order to reduce the burden on lower income people who are spending a far greater percentage of their resources on transportation.

### **Access to Jobs and Necessities**

The next area to be defined is the requirement that a transportation system gives citizens access to jobs and necessities. This is defined as providing economic opportunity via public transportation projects and infrastructure. According to the Mobility Equity Framework a lack of reliable and efficient public transportation severely reduces access to jobs, schools, healthcare and other services (Cregar 2018). Efficiency is defined by the framework as "Frequency of transit, travel times, time spent in traffic, optimal availability of parking, etc." In order to evaluate efficiency a cities frequency of bus routes across different areas should be

analyzed, as well as frequency of transfers and the design of a city relating to traffic. Reliability is defined as “consistency and variability of travel times, predictability of travel times” (Cregar 2018). Reliability will be analyzed by looking at complaints and issue reports levied against the city bus system as well as the schedule to see if the bus is running at enough times to be relied upon. In addition to consistency and reliability it is important that the public transportation system is actively working towards providing economic opportunity. This would include providing projects that look to promote access to job opportunities. In order to provide access to jobs and necessities in an equitable way a city must provide reliable and efficient transportation while looking to boost the opportunities of its residents.

### **Community Power**

According to the Mobility Equity Framework, “low-income communities and communities of color suffer the most from transportation-related pollution, high transportation costs, and a lack of access to safe, reliable transportation options. These disproportionate burdens and benefits stem in part from these communities’ lack of representation at the decision-making table.” This is why the next area that a city should be scored upon is the power that it grants its community members. Regardless of how equitable a city’s transportation system is, there will always be areas that will need improvement, and allowing equal representation in transportation related decision making is the key to fixing these issues as they arise. This can be examined in two areas. The first area to examine is the access community members have to the public meetings that will have a direct impact on transportation decisions. According to the Mobility Equity Framework, “working people lack the time or means to attend public meetings, and as a result their feedback and mobility priorities are not accurately represented.” (Cregar 2018). Based on this community power stipulation, it would make sense to examine when a city holds its meetings regarding transportation policy, as well as any other resources it provides to its

citizens to allow them to offer their feedback. This includes taking a look at when meetings are being held and considering whether or not the average working constituent would have time to access these meetings. Having an open floor discussion about how and when resources will be allocated is necessary to provide a fair and equitable transportation system, but if these meetings are purposefully or non purposefully put at times when working people cannot reasonably be expected to attend, the benefits of these public meetings diminishes greatly. Also a city should be evaluated on alternative ways to provide feedback beyond traveling to in person meetings. This could include phone lines, online feedback submissions or public surveys.

Another way of providing community power recommended by the Mobility Equity Framework is through Participatory Budgeting. This is a process through which citizens are directly able to vote on how public funds are spent. The Mobility Equity Framework claims that it is the most equitable way possible to allocate transportation funds. (Cregar 2018) If a city is launching or already has implemented participatory budgeting this would be a large signal that they are seeking to hand some power over transportation back to their citizens, which is a big step towards being equitable. This indicator, combined with a city's overall efforts to include citizens in decision making meetings is a major part of what makes a city's transportation system just.

## **Modes of Transportation**

According to The Mobility Equity Framework one of the most expensive parts of transportation is personal vehicles. This is why the framework goes to great depths on what other modes of transportation a city should emphasize in order to increase transportation equity. Cregar draws a lot of his information on the equity rankings of modes of transportation from a paper by Jacob Mason titled "The Future of Transport is Sustainable Shared Mobility." In this

piece of literature it is argued that a huge amount of space in America is being taken up by cars and parking spaces. It is estimated that there are over 500 million parking spaces in the United states, almost two spaces for every passenger vehicle. This huge amount of space is being dedicated to transportation vessels that are not being used 95% of the time. Improving transportation equity and the quality of public transportation is a great way to reduce the need for this wasted space. According to the Mobility Equity Framework, for an urban area the three types of transportation that should be the highest priority are active transportation (biking and walking), electric public transit, conventional public transit and ride sharing. And the modes of transportation that should be least prioritized should be ride hailing (Uber and Lyft), personal electric vehicles and personal gas vehicles. (Cregar 2018) The Mobility Equity Framework agrees with Mason in the sense that the more equitable methods of transportation are not the personal vehicles that seem to be highly prioritized by planners and people. One way to look into how well a city scores in emphasizing these equitable forms of transportation would be to examine trends in ridership of public busses which are considered to be a more efficient mode of transportation compared to personal cars. Also trends in usage of ridesharing can be examined to determine how this growing industry is affecting the balance of transportation options. In addition to those statistics, city initiatives can be examined to see if local leadership is trying to promote the preferred modes of transportation. These three factors come together to indicate a level to which a city is committed to transportation equity in terms of transportation options.

### **Acknowledging and Addressing History**

The final area that will be used to evaluate a city's public transportation system is the

city's efforts to acknowledge and address the historical injustices levied against minority citizens. As explained in the background section, transportation has been used by the people who hold decision making power to keep minority communities from improving their conditions. This point is emphasized in the Mobility Equity Framework. The framework states that "too often, transportation decisions do not meaningfully address these racial inequities, and may reinforce racially segregated geographies and spatial inequality, which stem from a long history of discriminatory policies like redlining, racial covenants, and housing policies that specifically excluded communities of color from economic opportunities" (Cregar 2018). To evaluate a city in terms of how well they handle this continuing harm done to minority communities, trends in where minority communities have existed must be studied. One particular way of doing this is to look at any notable minority communities in a city that have appeared or disappeared, and analyze the causes of these events. Also current shifts in a city's demographic ought to be brought up and acknowledged to see if gentrification or any other notable events are shifting demographics in a way that affects transportation equity.

After breaking down the Mobility Equity Framework there are five key areas that a transit system needs to demonstrate in order to be rated as highly equitable. These are providing monetary equity, access to jobs and necessities, enabling community power, emphasizing equitable modes of transportation, and acknowledging as well as addressing historical wrongs. In the next section we will break down the city of Charlottesville Virginia according to these five portions of our framework in order to provide a model for executing a preliminary evaluation of transportation equity.

### **Case Study**

This case study is a preliminary review of Charlottesville, Virginia. In this study evidence will be gathered on the five different points of criteria that have been defined in our literature



review in order to establish how well Charlottesville meets each criteria.

## **Monetary Equity**

The main point of analysis in this study of the monetary aspect of transportation equity is the price people are forced to pay to use public transit. According to Charlottesville.org the total operating cost of the entire department of transportation was just under eight million dollars in fiscal year 2019. By far the largest allocation of funds went to the city's fleet of busses. This section will focus on the cost of bus fare, and how these costs are distributed throughout different bus routes. According to the city website, a one time bus ride costs 75 cents, a 24 hour pass costs \$1.50 and a 30 day unlimited pass costs \$30 a month. This system would equate to \$360 for an entire year of riding the bus. This is an affordable cost for transportation, as a person making only \$20,000 a year would only be spending 1.8% of their gross income on transportation. This comes in way under the recommended 11% that an equitable transportation system should require users to spend for a year of living in a city. Obviously there are other costs, mostly personal vehicles, that will increase the total amount spent by a given person. However the bus fares in particular would not be the limiting factor in keeping citizens under this threshold.

Unfortunately, while the cost of bus fares is low, it is not distributed evenly across all of Charlottesville. The trolley, a service that goes from UVA grounds to the downtown mall, serving predominantly UVA students and people affiliated with the University, is free of any fares. This is a clear advantage to the more affluent portion of Charlottesville that is almost exclusively using this free bus route, while the rest of the city is using busses that require them to pay. On the surface, it may be argued that this bus system is used much more and that the less used bus routes should not be subsidised as much, but according to the national transportation database, Charlottesville only receives about 8% of its transportation funding through fares. A minimal tax

increase on more affluent citizens could be used to offset the \$600,000 revenue of the non free bus lines. (National Transportation Database) Charging more to less advantaged people does not fit into the framework of providing transportation equity.

### **Access to Jobs and Necessities**

The two main qualities that were brought up in ensuring that a transportation network is able to provide access to employment and basic necessities is reliability and efficiency. In terms of reliability 11 of the 13 bus lines in Charlottesville cover 15 hours of transportation access a day, with most spanning 17 hours from 6 am to 11 pm (Charlottesville.org). In this evaluation we will consider this reliable as the majority of working people should be able to fit their hours into this time frame. In addition to the hours the buses cover, Charlottesville's incident history was examined to see if the bus system could be considered a safe and reliable environment to commute in. The national transportation database kept track of the number of incident reports Charlottesville had in 2015, and there were only two reported in the entire year.

While the bus system in Charlottesville can be considered safe and reliable, additional initiatives made by the city were also taken into account. One project that stood out was an initiative announced by Charlottesville City Councilor Michael Payne. The city has agreed to contribute to a bus line to Waynesboro and several other towns in the region. This was done because there are over 4,000 people that commute to Charlottesville from cheaper regions due to high cost of living. While this initiative is helping lower income people, it is also supporting the current trend of Charlottesville pushing out its low income citizens and forcing them into a longer and more stressful commute. Similar to monetary equity, the statistics on the surface look good, but a more in depth telling of the events and developments currently going on in the city paint a less equitable picture.

### **Community Power**

In terms of allowing community members to have power over the decision making process that affects public transportation. Charlottesville offers their citizens a chance to attend council meetings to provide feedback on their public transportation. The Charlottesville Area Transit Advisory Board, which meets to offer citizens the chance to provide feedback on the public transportation system, operates from 6 pm to 8 pm, not being scheduled during the workday. In addition to not being part of standard work hours, these meetings take place while the bus lines are still running, giving people a way to get to and from these meetings.

In addition, on the Charlottesville city website there are a wide variety of ways to fill out complaints to the city about the transportation system. These include a phone line operated 24 hours a day, seven days a week, an email address to send complaints to, and a physical mailing address. In addition, Charlottesville also actively seeks out the input of its citizens on some issues. For example, in the case of potentially altering Old Lynchburg Lane, also known as Fifth Street, Charlottesville is actively asking for citizens to fill out a survey stating what connections they have to this roadway, and how they think it can be improved. This is an important step in giving people power over their city's choices that will directly affect them.

A step beyond these basic principles of community power would be participatory budgeting, which was described as a highly equitable way to allocate funds and provide power to citizens. While Charlottesville did launch a participatory budgeting fund this past year, it was quickly canceled due to resignations of board members. According to one citizen quoted in the Daily Progress, "Charlottesville has a running history of promising plenty of new forward thinking things, and also a history of quickly walking them back once they make a headline" (Stout 2019)

Charlottesville is clearly making an effort to include citizens in the decision making process. Even though they are not quite at the peak level illustrated by the Mobility Equity Framework, their exploration of increased community feedback is a point that cannot be

ignored.

### **Modes of Transportation**

The next area in our evaluation is what modes of transportation are most emphasized by Charlottesville public transportation. According to the city website “Biking and walking to work make up nearly 18% of the commute trips in the city - among the highest biking and walking commute percentages in the state!” (Charlottesville.org). This is a great statistic for the city of Charlottesville, as walking and biking are considered the most equitable form of public transportation according to the Mobility Equity Framework. Also, Charlottesville provides a free Ride Share Matching service to connect commuters (rideshareinfo.org), which is the fourth highest rated mode of transportation by the framework.

Charlottesville is clearly promoting highly equitable modes of transportation, but their efforts are not universally successful. There has been a 25 percent decline in bus rides taken from 2015 to 2019. Charlottesville has some great things occurring in terms of pedestrian and bike commuters and ride sharing, but this issue of falling bus ridership must be sorted out in order for it to achieve a highly equitable rating.

### **Acknowledgment and Addressing of History**

The final point of emphasis that is explored in this framework for transportation evaluation is the acknowledging and addressing of historical wrongs done to minority communities. Charlottesville has a very public racial history, and the event in that history that must be acknowledged in terms of transportation equity is the destruction of Vinegar Hill.

Vinegar Hill was a neighborhood in Charlottesville that was established by Irish families in the 1800’s and became predominantly African American after the Civil War. (A Forgotten Neighborhood nd) This community was eventually voted by the citizens of Charlottesville

(polling tactics and other discriminatory practices prevented most African Americans in Charlottesville from voting) to be renovated. Over 140 African American families were displaced. However, this land remained abandoned for years with no redevelopment taking place. Eventually the Omni hotel and several other businesses sprouted up in that area. (Vinegar Hill 2020) It is also suggested that this minority community was destroyed in order to free up the flow of traffic from UVA to the downtown. (Smith 1965) This is a prime example of racial violence being exercised in the name of public transportation. And now this area is one of the hottest spots in Charlottesville, with almost every bus route meeting at this location.

Sadly, this cycle of pushing out minority communities, followed by the installment of new infrastructure that could have benefited them is continuing to this day. According to a UVA study on gentrification “between 2010-2016, 1,530 new housing units were built in Charlottesville, but only 73 of these—fewer than 5 percent—are priced as affordable.” (Clifton 2018) Also from 2000 to 2010 the African American population decreased from 22.2 percent to 19.4 percent, while Charlottesville grew in population. Also, the median price of a home in Charlottesville has doubled. (Clifton 2018) African Americans are being driven out of neighborhoods such as Starr Hill, Fifeville, and Ridge Street. This is troubling repetition of the city of Charlottesville clearing out its minority communities. Charlottesville needs to stop this trend in order to earn positive marks in this section of the equity evaluation.

## **Discussion**

Now that Charlottesville has been evaluated in all five categories, scores can be assigned to represent how equitable the transportation system is. The score for each category will be on a scale of one to five, with one being extremely unequitable, and five being a great example for other communities to replicate to become equitable. These five numbers will then be averaged to reach a holistic score for Charlottesville.

For the monetary equity score Charlottesville will receive an above average score of 4. This is primarily because the bus fare is affordable. However it does not receive a 5 rating because of the unfair distribution of fare prices.

In the category of access to jobs and necessities Charlottesville gets a score of 3. The positive features that went into this rating were that Charlottesville offers consistent and reliable times for bus routes, and there have been very few incidents reported regarding transportation safety. However, this category is being held back by the city trying to encourage working class people to move out of Charlottesville by constructing a bus line to Waynesborough. Charlottesville needs to stop pushing out its citizens in order to reach a 5 in this category.

In terms of community power Charlottesville receives a score of 4. This is because Charlottesville provides several ways of community feedback ranging from in person meetings to a constantly operated phone line. Actually implementing a participatory budgeting program would be a major step towards a 5 rating, and Charlottesville has already dabbled in this area.

For modes of transportation Charlottesville receives a 4.5 rating. Charlottesville does a great job investing most of its transportation budget in the highly rated mode of conventional bus transit, and also has great statistics on its percentage of walking and biking commuters. It's ride sharing program also really stands out. In order to achieve a 5 rating Charlottesville just needs to figure out how to stop its rapid fall in bus ridership from continuing.

In the category of acknowledging history Charlottesville receives a 1.5. This abysmal rating is the result of the repetition of extremely shameful historical events that have erased an entire thriving neighborhood from Charlottesville in the 20th century. In order to move up towards an average rating Charlottesville needs to do something about the gentrification that is eroding its minority communities.

When averaging these five scores together Charlottesville receives a 3.4 rating. This rating is drastically dragged down by the low score in acknowledging and addressing history, and solving those issues would cause their average to go up quite a bit. In addition, specific goals can be set in each of the other four categories to raise those scores to the 5 level. The four main recommendations are to make the distribution of bus fares equal, implement participatory budgeting, find a way to increase bus ridership, and promote poor and minority citizens to stay in Charlottesville. Overall, Charlottesville has demonstrated tons of examples of positive and negative aspects of a transportation system. Hopefully they can continue to emphasize these positive characteristics while considering to implement some of these much needed changes.

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