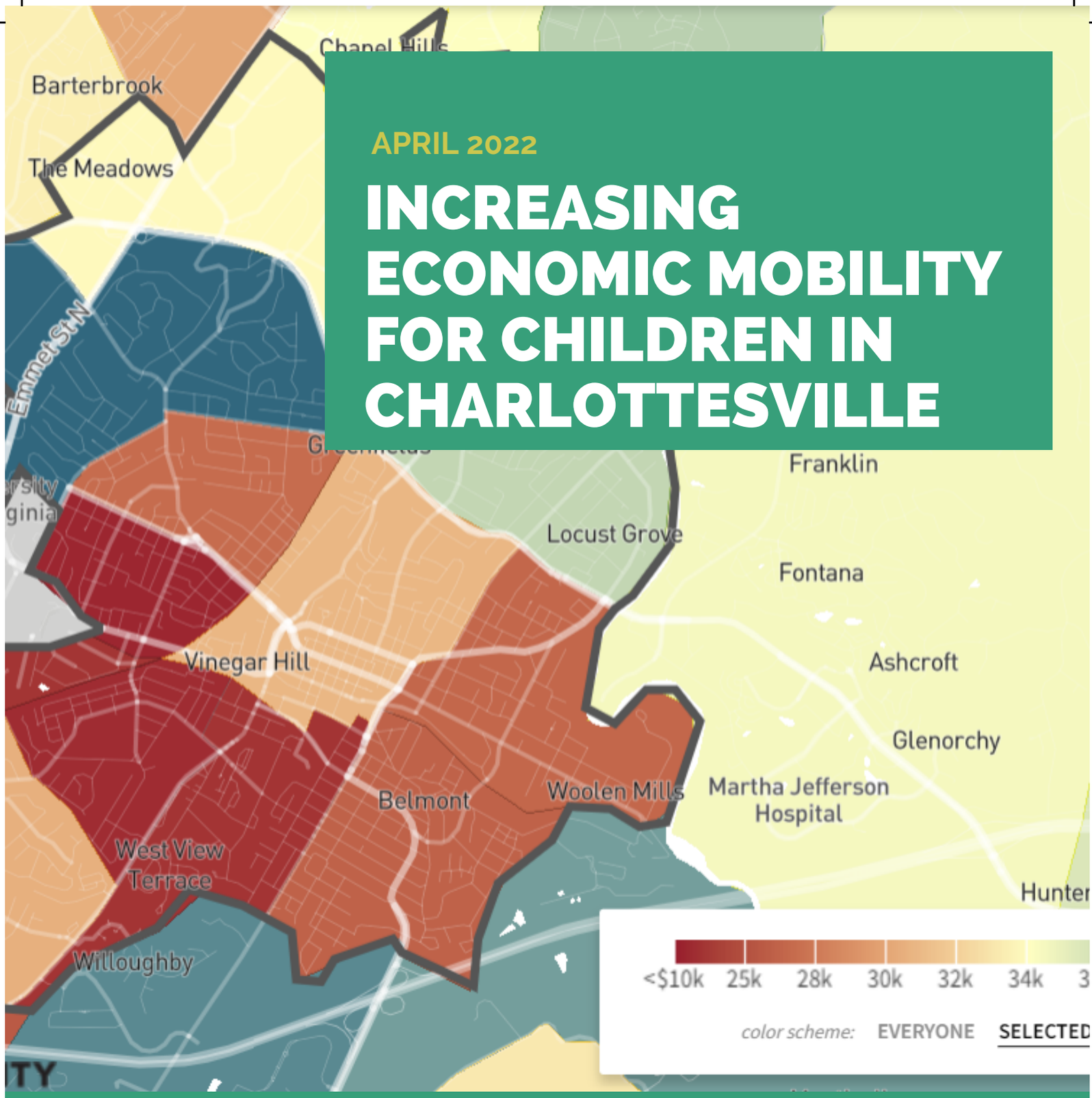

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INCREASING ECONOMIC MOBILITY FOR CHILDREN IN CHARLOTTESVILLE

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Prepared for:
Charlottesville City Council

UVA | FRANK BATTEN SCHOOL of LEADERSHIP and PUBLIC POLICY

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Disclaimer

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Honor Statement

On my honor as a student, I have neither given nor received unauthorized aid on this assignment.

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Definitions

- Poverty Line/Threshold – a measure for calculating official poverty population statistics
- Multidimensional Poverty – understanding poverty as how a person who is poor can suffer from many disadvantages at the same time, whether they are related to income, food, health, or poor schooling
- Income Inequality – a measure of the how large the gap is between individuals' incomes
- Economic Mobility - a measure of how much a person's or group's income changes over time
- Intergenerational Economic Mobility - how children's incomes as adults compare to their parents' income at a similar age
- Intragenerational Economic Mobility - how much a person's income changes over their lifetime
- Absolute Economic Mobility - changes in the level of income of a person or group compared to an earlier point in time
- Relative Economic Mobility - changes in the ranking of a person or group's income relative to the income of another person or group
- Wealth - the value of the accumulation of your assets minus your debts

Executive Summary

Economic mobility is the cornerstone of the “American Dream”, but a child’s future is often determined by their socioeconomic status and opportunities rather than their own abilities. Increasing economic mobility supports children to achieve a life better than the one they are born into.

In Charlottesville, your parents’ income, and the neighborhood you grow up in have a large effect on your potential outcomes in life. Children who grow up in poverty or in high-poverty neighborhoods are more likely to have lower incomes later in life. In 2014, Charlottesville children whose parents’ income were in the 25th percentile had an average income of $26,000 when they were in their 30s, which is lower than the $33,000 average income for all Charlottesville residents in their 30s (*The Opportunity Atlas*, n.d.).

Children who grow up in poverty are more likely to live in poverty as adults, and living in poverty has detrimental effects on education, health, and general outcomes. Individuals who grow up and remain in poverty are less likely to graduate from high school, more likely to experience developmental challenges that negatively change their brain chemistry, and are more likely to have children that also remain in poverty. To address this, I looked at different studies that showed the effectiveness of moving low-income families to high-opportunity neighborhoods and studies that supported different types of early childhood development programs. I evaluated the potential effectiveness of implementing these programs in Charlottesville using four criteria. My criteria included sustainability, cost-effectiveness, political feasibility, and equity.

Based on my evaluations, I recommend that the Charlottesville City Council should implement the Creating Moves to Opportunity program to Charlottesville. This program would expand the effectiveness of the current Housing Choice Voucher program by increasing the likelihood that families move to higher-opportunity neighborhoods. Moves to these higher-opportunity neighborhoods will increase the likelihood of economic mobility for children in these families.

The Charlottesville City Council can address this lack of economic mobility by instituting the Creating Moves to Opportunity program as an expansion to the existing Housing Choice Voucher program. Partnering with the Charlottesville Redevelopment and Housing Authority and the Piedmont Housing Alliance would give the City Council strong partners who are already involved in this work and able to make a direct impact. This program would help move about 200 children from low-opportunity neighborhoods to high-opportunity neighborhoods, which can increase their future yearly earnings by about $3,000. This program has the potential to be impactful for the children and families that are assisted and could increase economic mobility in Charlottesville.

Introduction

This report is an in-depth recording of my work to understand and address a lack of economic mobility in Charlottesville. Children who grow up in poverty are more likely to live in poverty as adults, which creates an inter-generational cycle of poverty. The neighborhood a child grows up in can play a crucial role in determining their economic mobility. Providing specialized resources to children in low-income families can increase their likelihood of economic mobility.

This report will examine out why economic mobility is a problem in Charlottesville. Then, this report provides background information about economic mobility and the cyclical nature of poverty. I will then present a variety of potential solutions and evaluate their likelihood of success in addressing economic immobility in Charlottesville. Finally, I make a recommendation for actions the Charlottesville City Council should take to increase economic mobility, and I walk-through some important implementation concerns for these policies.

Client Overview

My client is the Charlottesville City Council. As the local governing body for the city of Charlottesville, the Charlottesville City Council has a vested interest in addressing pressing problems in the city. The Council is interested in addressing the lack of economic mobility for people in the City of Charlottesville. Specifically, I am working with Ashley Marshall, the Deputy City Manager for Racial Equity, Diversity, and Inclusion. Ashley Marshall is focused on addressing inequities in economic mobility across the city, particularly those related to race, ethnicity, or other elements of socioeconomic status. The City Council has also been quite focused on affordable housing, and housing availability and costs can have an important impact on individual or neighborhood economic mobility.

Problem Statement

In Charlottesville, your parents' income, and the neighborhood you grow up in have a large effect on your potential economic outcomes in life. Children who grow up in poverty or in high-poverty neighborhoods are more likely to have lower incomes later in life. In 2014, Charlottesville children whose parents' income were in the 25th percentile had an average income of $26,000 when they were in their 30s, which is lower than the $33,000 average income for all Charlottesville residents in their 30s (*The Opportunity Atlas*, n.d.). 24.1 percent of Charlottesville residents live below the federal poverty line, which is similar to the 23.2 percent rate in Richmond, Virginia (*U.S. Census Bureau QuickFacts*, n.d.).

Background

Economic Mobility

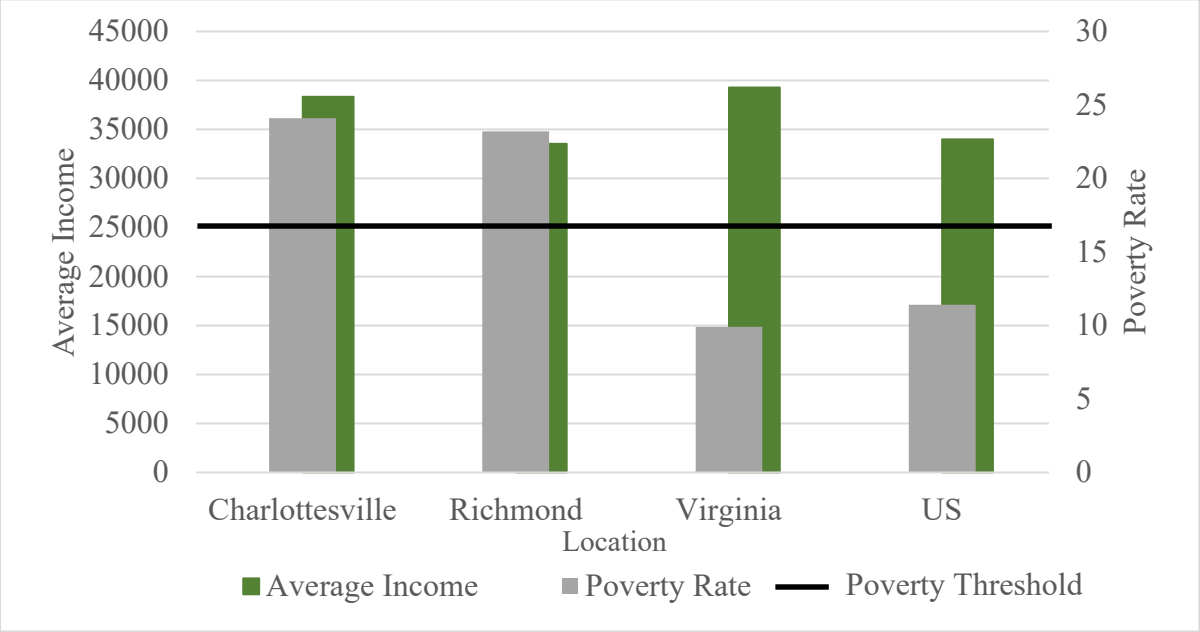
Economic mobility is a measurement of a person's ability to increase their economic status over the course of their life. Research from Chetty et al. (2018) shows that there is very little intergenerational mobility in the United States. Intergenerational mobility is defined as a child's chance of moving up in the income distribution relative to their parents. Chetty et al. finds that poor children only have a 9 percent chance of reaching the top 20 percent of the income distribution. This intergenerational mobility is measured in terms of relative mobility, or changes in the ranking of a person or group's income relative to the income of another person or group. Relative mobility can be measured over time because the absolute levels of income do not matter as much as a person's relative ranking in the income distribution. For children growing up in 1971, their relative intergenerational mobility is slightly worse than the children growing up in 1986 (Chetty et al., 2018). A lack of economic mobility makes it difficult for children to determine their own life outcomes, and children can be stuck in a multi-generational cycle of poverty.

Economic Immobility in Charlottesville

Many families in Charlottesville have a difficult time paying for necessities, and this can negatively impact their economic mobility. In 2018, basic needs in Charlottesville, things like food, shelter, clothing, and utilities, cost around $35,000 per year (Schuyler, 2018). However, 25 percent of Charlottesville families (2,504 families) did not make enough to cover this basic spending level.

Figure 1 demonstrates that while average incomes in Richmond and Charlottesville may be higher than the national average, the poverty rates are also much higher. Specifically, the average income in Charlottesville is $38,328, which is about the same as the state of Virginia ($39,278), and is higher than the US national average at $34,000 (*U.S. Census Bureau QuickFacts*, n.d.). In comparison, the city of Richmond has an average income of $33,549. Meanwhile, the federal poverty threshold (a national statistical tool determined each year by the Census Bureau) was $25,465 in 2018 for a family with two parents and two children (*2020 Poverty Guidelines*, n.d.; Bureau, n.d.-b). According to the Census Bureau, 24.1% of Charlottesville residents live below this poverty threshold. Similarly, 23.2% of Richmond City residents live below the poverty threshold.

Figure 1: Charlottesville and Richmond have higher poverty rates than Virginia and the United States



Source: (U.S. Census Bureau QuickFacts, n.d.)

Beyond just income, economic mobility in Charlottesville is also impacted by the neighborhood in which you grow up. Figure 2 shows a map of the neighborhoods in Charlottesville. Specifically, areas such as 10th and Page, Fifeville, and Belmont have significantly lower average adult incomes for children that grow up in these areas. Additionally, there is less geographic mobility for children in these areas. Between 60 to 70 percent of children in these neighborhoods stay in the same neighborhoods as adults, while only 10 to 20 percent of children in more well-off neighborhoods in Charlottesville stay in the same neighborhoods as adults (*The Opportunity Atlas*, n.d.). A lack of economic opportunities can limit an individual's options for general mobility.

Figure 2- Neighborhoods of Charlottesville are associated with future earnings

*Source: (*List of Charlottesville Neighborhoods - Cvillepedia*, n.d.)*

How Neighborhoods Affect Economic Mobility

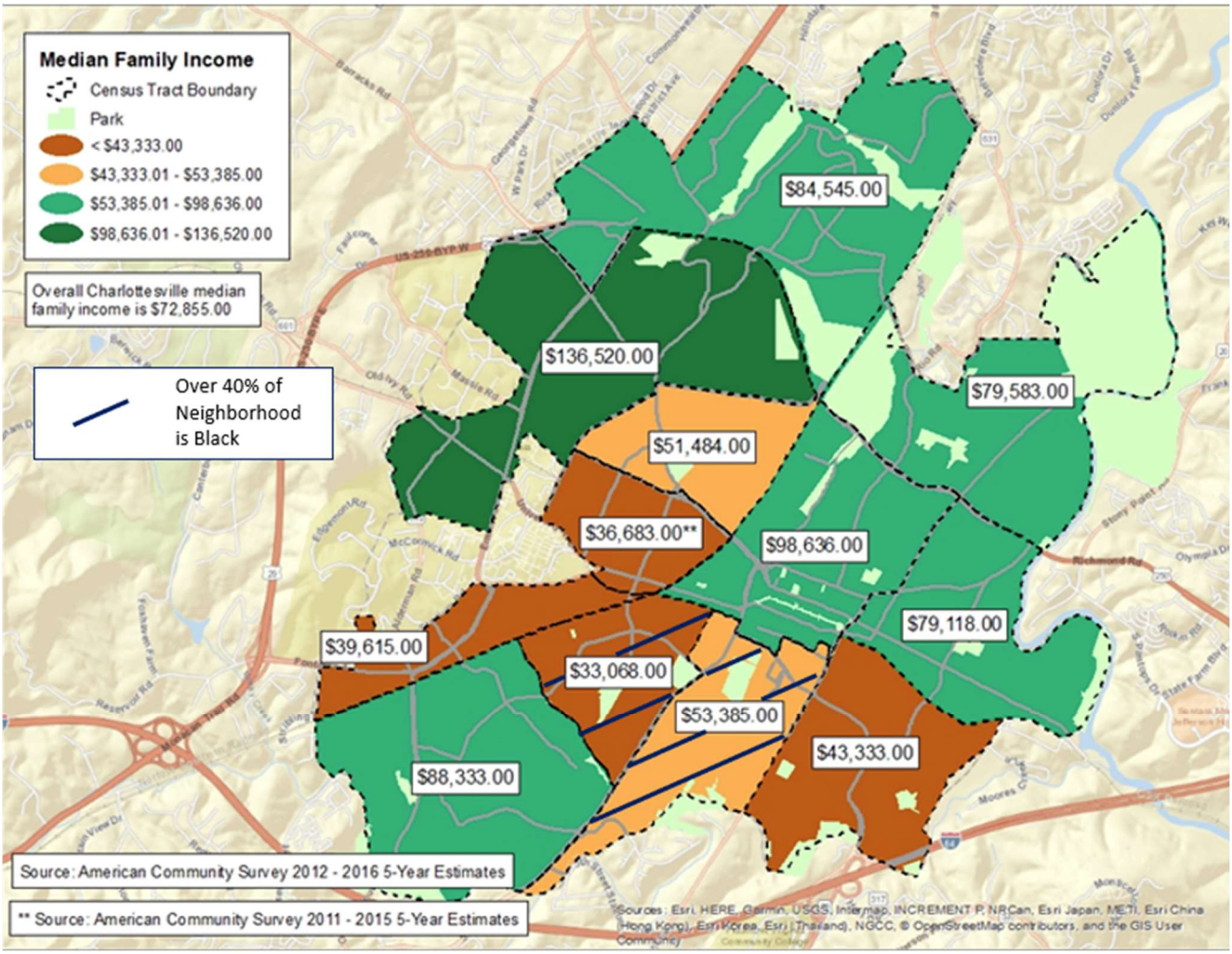
Studies have found that the socioeconomic characteristics of a neighborhood can be an important factor in the intragenerational economic mobility of children growing up in poverty. Specifically, children who grew up in high-poverty neighborhoods were twice as likely to drop out of high school, compared to otherwise similar children from low-poverty neighborhoods (Sharkey, 2016a). Sharkey (2016) also finds that long-term exposure to disadvantaged environments (low-quality schools, high poverty rates, high

crime rates) can have cumulative effects that are negative and can be exacerbated over multiple generations. Specifically, these negative spatial exposures have a larger effect on black children than on white children. For instance, these concentrated disadvantages reduced the probability of high school graduation for black youths by 20 percentage points, while it only reduced the probability of graduation by 10 percentage points for white youth (Sharkey, 2016a).

Given this understanding of the general effects of growing up in neighborhoods with high poverty rates, we can look specifically at Charlottesville to understand how neighborhood alignments are affecting economic mobility. At a baseline, families with lower incomes are grouped geographically in higher-poverty neighborhoods such as 10th and Page, Fifeville, the area surrounding Jefferson Park Avenue, and Belmont. These areas have median family incomes between $33,000 to $43,000 per year, while other areas in the northern part of Charlottesville have median incomes ranging from $51,000 to $136,000 (Schuyler, 2018). This mapping of median incomes is shown below in Figure 3. This clear disparity is also somewhat mirrored in a map of the racial makeup of Charlottesville. Areas such as Fifeville and 10th and Page have a high percentage of black residents, while areas in the northeastern part of Charlottesville have a high percentage of white residents (*The Demographic Statistical Atlas of the United States - Statistical Atlas*, n.d.).

Looking at the economic outcomes for children who were raised in these Charlottesville neighborhoods with lower incomes, we see that these children had lower incomes as adults than the median incomes across the country. For instance, children raised in 10th and Page had an average income of $19,000 when they were 35 years old, while children raised just to the east of them North Downtown neighborhoods had average incomes of $50,000 (*The Opportunity Atlas*, n.d.).

Figure 3 – Lower Median Income of Familes in Charlottesville Overlaps with Neighborhoods with more Black Residents



Sources: Census profile: Census Tract 1-10, Charlottesville, VA. (n.d.).; Schuyler, R. (2018). Lifting Ourselves Up.

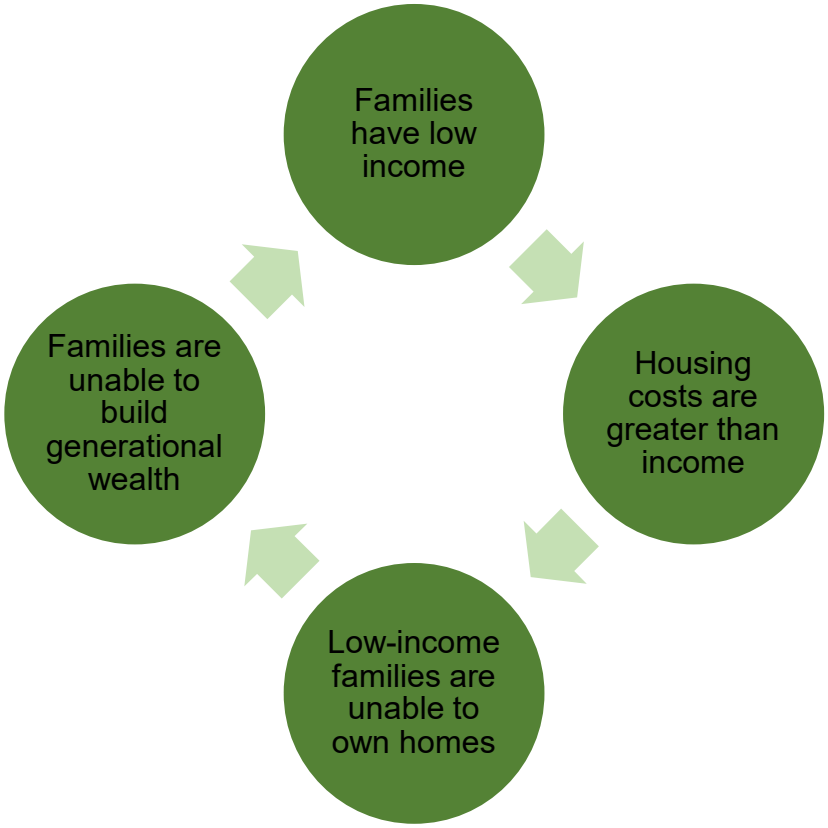
Housing Accessibility as a Barrier to Economic Mobility

Economic mobility in Charlottesville is deeply tied to historical housing trends which have made it more difficult for black families to own homes and accumulate generational wealth. In 1912, the Charlottesville City Council voted to segregate the city based on race (*The Impact of Racism on Affordable Housing in Charlottesville*, n.d.). This prohibited the sale of property to someone whose race was different than the race of the seller. After this type of segregation was made illegal, developers and banks wrote clauses into housing deeds that prevented the lot from being sold to "non-Caucasian" individuals (*The Impact of Racism on Affordable Housing in Charlottesville*, n.d.). Additionally, these lots sold only to white individuals were generally larger than the

lots sold to black individuals, so white homeowners were able to generate more wealth from their homes. On top of this, city officials improved infrastructure in white neighborhoods through water lines, paved streets, and other amenities, while simultaneously rejecting proposals from black neighborhoods to do the same things. This history of segregation and racism in Charlottesville's housing development has contributed to disparate outcomes in levels of wealth and economic mobility between black and white residents today.

Figure 4 shows how housing accessibility can be a major barrier to economic mobility. Charlottesville has a significant problem with affordable housing, and this problem has become more pervasive in the last decade. In Charlottesville in 2018, the actual median household income was $58,933, while the income required to afford a median home was $77,949 (*Charlottesville Affordable Housing Plan - Final - Web.Pdf*, n.d.). This gap between median income and median housing prices has been growing since 2015. For this reason, families with lower incomes are unable to purchase and own homes. Instead, they must rent, which can be extremely cost-burdening. Cost burdened means that a renter is spending more than half of their income on housing. Over 2,700 of the 10,570 renters in Charlottesville experience this phenomenon (*Charlottesville Affordable Housing Plan - Final - Web.Pdf*, n.d.). Spending such a high percentage of your income on housing leaves little money left to spend on other goods and savings. Building wealth, which is the value of the accumulation of your assets minus your debts, is an important way break the cycle of generational poverty (Perez, 2021). Spending a larger portion of your income on housing makes it difficult to build intragenerational or intergenerational wealth, so families remain poor, and their children remain poor.

Figure 4 – A lack of wealth makes it difficult to accumlate wealth



Poverty Negatively Affects Education and Brain Development

Children growing up in poverty are more likely to have lower academic achievement compared to their well-off peers, and they are more likely to have their brain development negatively impacted by living in poverty. Overall, children from low-income households scored between 4 to 7 percentage points lower on standardized tests than children from median income families (Hair et al., 2015). Up to 20 percent of this gap in test scores can be explained by the developmental lag in the brains of children from lower-income families.

Growing up in poverty can be thought of as a repeated, chronic trauma that children living in poverty experience and must deal with (*For Kids, Living In Poverty Is Living With Chronic Trauma, Experts Say*, 2015). Children growing up in poverty are more likely to be facing chronic stressors that cause them to release the stress hormone cortisol. Releasing too much cortisol over an extended period can lead to a lack of regular behavioral responses to stimuli, which can lead to shortened attention spans, short tempers, or disengagement. This repeated stress can impact brain development, and lead to changes in the amygdala and pre-frontal cortex, which can impact

reasoning and self-control (*How Growing Up in Poverty May Affect a Child's Developing Brain | Science| Smithsonian Magazine*, n.d.).

Children living in poverty experience structural differences in their brains, compared to children from more affluent families (Hair et al., 2015). Specifically, regional grey matter volumes below 1.5 times the federal poverty level were 3 to 4 percentage points below the developmental norm. They also found that children below the federal poverty level experienced an even larger gap of 8 to 10 percentage points.

Consequences of the Problem

A lack of economic mobility hurts the future outcomes of children who grow up in poverty, and this has negative effects both on those individuals and on the broader society. Individuals who grow up and remain in poverty are less likely to graduate from high school, more likely to experience developmental challenges that negatively change their brain chemistry and are more likely to have children that also remain in poverty. If children grow up in poverty and remain in poverty, the government is spending more money on these individuals than they would if these individuals were able to move out of poverty. When individuals are living in poverty, the government spends more money on them through welfare programs, and the government receives less money in tax revenue. If an individual's economic situation improves, the government will spend less money on them, and the government will receive more dollars in tax revenue. The consequences of a lack of economic mobility hurt the individuals currently in poverty, future generations who are more likely to live in poverty, and society because more money is spent on these individuals.

Evidence on Potential Solutions to the Problem

Key Takeaways from Evidence

The evidence generally finds that increasing geographic mobility or providing early childhood interventions are effective ways to increase economic mobility for children growing up in poverty. A common intervention is to increase geographic mobility through programs like housing vouchers. Research shows that these programs can have small positive effects, but the movement of individuals and family's needs to be done intentionally to create a lasting change in the composition of their neighborhoods. Additionally, childhood development interventions should be specifically targeted at low-income children who may be experiencing a lack of resources or support.

Increasing Geographic Mobility

As was noted earlier, living in high-poverty neighborhoods can have negative effects on the economic mobility of individuals in those neighborhoods. Instead of targeting interventions to an entire neighborhood, we can target our interventions to help people move into better neighborhoods where they may be more likely to succeed. To be done well, these programs need to be intentional about generating transformative change in families' neighborhood context, rather than just encourage families to move out of their current neighborhood with limited guidance (Sharkey, 2016b). One famous mobility study, the Moving to Opportunity experiment in Baltimore, Boston, Chicago, Los Angeles, and New York, sought to relocate low-income families out of their high-poverty neighborhoods. Families were randomly assigned to get vouchers that helped pay their rent, and they also received housing counseling to help find housing in low-income areas (*Moving | HUD.Gov / U.S. Department of Housing and Urban Development (HUD)*, n.d.). While there were some modest effects on health and education outcomes for these individuals, the effects faded over time. More notably, the change in neighborhood poverty was reduced and the neighborhoods where these families had moved began to resemble their old neighborhoods (Ludwig et al., 2012). If geographic mobility is going to be an effective intervention to increase economic mobility, then the structure of the program needs to be intentional so that the program takes a more active role in expanding where the families are looking to move to. When intentionality is put into the relocation program, neighborhood environmental changes can persist overtime and we know that living in better neighborhoods has a positive effect on economic mobility (Keels et al., 2005).

The Creating Moves to Opportunity (CMTO) Program, piloted in Seattle, Washington, was effective at reducing rates of poverty among families involved in the program, and it increased economic mobility for children in those families. The CMTO model provided services to Housing Choice Voucher families such as high-opportunity-area education, rental application coaching, housing search planning and assistance, flexible financial

assistance, and landlord engagement (Bigelow, n.d.). The researchers also implemented two other plans that were scaled back and were less costly. These programs provided some levels of financial assistance or counseling support, but they included less opportunities for "coaching", search assistance, or just a lighter "tool kit" was given to the families to support them. For this study, the researchers randomly assigned families who had applied for a housing voucher to receive either the standard services, or to receive the mobility service counseling and support. Overall, families who received the full support provided by CMTO were 40 percentage points more likely to move to a high-opportunity neighborhood, compared with families who received standard services from the public housing authority (Kruglaya, 2019). Based on previous research, Hendren finds that for low-income children, moving from a low- to high-opportunity neighborhood can increase lifetime earnings by about $210,000 (Matthews, 2019). This is an 8.1% increase in lifetime earnings.

Hendren estimates that moving from a low- to high-opportunity neighborhood can increase lifetime earnings by about $210,000 (Matthews, 2019).

Evidence about Early Childhood Interventions

Preschool programs, such as Head Start, have been found to be successful at increasing high-school graduation rates and health outcomes, which can positively impact outcomes later in life (Bauer, 2016). A 2016 study by Bauer finds that Head Start increases high-school graduation rates on average by 6 percentage points, with additional increases seen for children whose mothers did not graduate high school and for Hispanic children. Additionally, Head Start increases the likelihood of attending and graduating college, with Head Start children having almost a 12-percentage point increase in college attendance and a 10-percentage point increase in college graduation rates. They also found that Head Start has particularly pronounced impacts on Black children, who see more benefits in social, emotional, and behavioral development that is positively reflected later in life. State preschool programs showed students having learning gains above and beyond what was expected of their age group, with Head Start programs showing similar but slightly smaller levels of impact (Meloy et al., n.d.)

Early childhood education is associated with higher levels of school readiness and future achievement (Magnuson & Waldfogel, 2016). However, children from low-income families have historically been less likely to be enrolled in these types of programs when

compared to their more affluent peers. A study by Magnuson and Waldfogel (2016) used the Current Population Survey to document the trends in enrollment in early childhood education centers. They found that gaps in enrollment in center-based early childhood education increased in the 1970s and 80s, but that these gaps seemed to have decreased slightly between 1980 and 2013.

Home visiting programs have shown mixed levels of success in preparing children for school and increasing their academic outcomes. A study of the Home Instructional Program for Preschool Youngsters in Arkansas found that this program showed modest positive impact on school suspensions, grades, classroom behavior, and test scores when children reached 3rd and 6th grade (Bradley & Gilkey, 2002).

In addition to home-based programs, center-based early childhood education has been shown to be effective at increasing achievement trajectories for low-income children. Specifically, a study done by randomly assigning children from low- and high-income families saw that the program almost eliminated the income-based gap in performance at age three (Duncan & Sojourner, 2013). Additionally, this intervention eliminated between one third and three-quarters of the gap at ages five and eight. It is important to note that this program was specifically done on children with low-birth weights, but that the study was looking at the differential impacts of interventions on low- and high-income children. Overall, a review of existing studies finds that the average effects size for early childhood education on cognitive and achievement scores was 0.35 standard deviations, which accounts for about half of the race differences in the kindergarten achievement gap (Duncan & Magnuson, 2013). There is a large amount of variation in the effectiveness of early childhood education programs. The most effective programs tend to have a smaller number of children enrolled. Early childhood education interventions can be effective at increasing economic mobility through narrowing the achievement gap between low- and high-income children.

Evaluative Criteria

I am evaluating my alternatives based on their sustainability, cost-effectiveness analysis, political feasibility, and equity. All four of these criteria are being valued equally. The total scoring of each alternative will be an average of the four scores given for each criterion. Each criterion will be judged on a scale of one to five, with five being the highest and one being the lowest.

Evaluative Criteria

1. **Sustainability**
2. **Cost-Effectiveness**
3. **Political Feasibility**
4. **Equity**

I. Sustainability

Sustainability will be judged on how likely it is that the alternative chosen will be able to remain in effect for a long period of time. Addressing economic mobility requires a long-term solution, so the recommended alternative needs to be able to persist for at least ten years. I am choosing to look over a 10-year period because this is the standard period for a cost-benefit analysis and a program projection which still maintains some accuracy. In scoring sustainability, a "1" will mean that the alternative is not sustainable and will likely dissolve within the first year. A "2" means that the alternative may last at least one to two years, but it is not likely to last beyond that. A "3" means that the program is likely to last four to six years but may not last longer. A "4" means the program will likely last at least six to nine years, and a "5" means the program is almost guaranteed to last at least 10 years. A major consideration for this sustainability measure will be the costs-over-time. Programs with increasing costs will score low, programs with sustained costs will score in the middle, and programs with decreasing costs will score highly.

II. Cost-effectiveness

Cost-effectiveness will be measured by finding the cost of each alternative per child, and then dividing that by the average annual future salary increase for the children being affected by the program. I will use a discount rate of 2% to adjust all future values into present value, and I will use an average inflation rate of 3% to control for changes in prices over time. I will interpret this effectiveness measure as saying that "spending X amount on a child in this program will increase their future average earnings by $1." After evaluating the cost-effectiveness of each alternative, I will assign a value of 1 through 5 to correspond with the scale for the other criteria. Cost-Effectiveness of anything above $2 is a 1, between $1.51 and $2 is a 2, between $1.01 and $1.50 is a 3, between $0.51 to $1 is a 4, and between $0 to $0.50 is a 5.

III. Political Feasibility

Political Feasibility will be assessed on a scale of "1" to "5", with "5" being the most politically feasible. The City Council is made up of five elected members who serve four-

year terms. I will assess the political feasibility of each alternative by analyzing the past voting records of current council members, and by speaking with my client to gain their perspective on the potential passage of each alternative. A score of “1” indicates that the alternative is almost impossible to pass, with at least four of the five city counselors likely to strongly oppose it. A score of “2” indicates that the alternative is not likely to pass, with at least three to four of the counselors likely to oppose it. A score of “3” indicates that the alternative is equally likely to pass or not pass, with at least one or two counselors potentially undecided on the alternative and able to be swayed. A score of “4” indicates that the alternative is somewhat likely to pass, with at least three to four of the counselors likely to support it. Finally, a score of “5” indicates that the alternative is almost certain to pass, with at least four of the counselors strongly supporting the alternative.

IV. Equity

Equity will be judged based on which populations the alternative is most effective at targeting. I will evaluate the alternatives on how well they meet people where they are, remove obstacles from their path, and respect the autonomy of individuals to choose their own way forward. Equity will be evaluated on a scale of “1” to “5”. A score of “1” indicates that the alternative does not target individuals with low economic mobility, and that high-opportunity groups receive more of the benefits. A score of “2” indicates that the alternative only somewhat targets individuals with low economic mobility, with high-opportunity groups receiving slightly more of the benefits than low-opportunity groups. A score of “3” indicates that the alternative equally targets low-opportunity groups and high-opportunity groups. A score of “4” indicates that an alternative targets low-opportunity groups slightly more than it targets the general population. A score of “5” indicates that the alternative mainly targets low-opportunity groups and gives almost nothing to high-opportunity groups.

Alternatives

Alternatives

1. **Implement CMTO**
2. **Evaluate Head Start and Early Head Start**
3. **ParentChild+ Site**

I. Implement the Creating Moves to Opportunity project to Charlottesville

Geographic mobility can be an important way to deconcentrate poverty and provide a better environment for children to grow up. This program was piloted in Seattle, WA as a joint venture between the city of Seattle, the King County Housing Authorities, and a local non-profit. This program provides three main types of assistance to families seeking to move to higher-opportunity areas: search assistance, landlord engagement, and short-term financial assistance (Cmto_programoverview.Pdf, n.d.). Specifically, search assistance would be offered to all families eligible for the program, while landlord engagement and financial assistance would only be offered to those families who chose to move to higher-opportunity areas. Search assistance and landlord engagement would be run through a local non-profit that the Charlottesville City Council would partner with.

II. Evaluate Head Start and Early Head Start in Charlottesville

This alternative would include City Council partnering with the University of Virgina to study the impact of the MACAA Head Start and Early Head Start programs in Charlottesville. Additionally, they would also research the take-up rates of these programs among low-income families with children eligible for the programs. Nationally in 2016-2017, only 35 percent of 3 to 5 year old children in poverty attended Head Start, and only 10 percent of children under age three attended early Head Start ("Addressing the Need for Affordable, High-Quality Early Childhood Care and Education for All in the United States," 2020). There has not been research done on the take-up rates of these programs in Charlottesville, so it would be important to understand the local situation before deciding if there is a problem and how to address it. Based on the national rates, it is likely that take-up rates in Charlottesville are low, but this would need to be confirmed.

The City Council could partner with Michele Claiborne and the UVA Public Interest Data Lab at UVA to analyze past data on Head Start in Charlottesville. The Early Head Start program in Charlottesville has not started, so researchers would have less data to work with in analyzing the effectiveness of this program. However, they could look at similar programs in other areas to advise on best practices for increasing take-up rates if that proves to be a problem.

III. Partner with MACAA to start a ParentChild+ Site in Virginia

ParentChild+ is an organization that provides education support to young children in home-based child care before they enter Pre-K or Kindergarten. Research shows that

educational attainment gaps can begin even before children enter school, based on the type of environment they are exposed to. Children from low-income families hear 30 million fewer words by age 3 than their more affluent peers (*ParentChild+ - Impact*, n.d.). ParentChild+ works to close this gap by partnering with local organizations to provide in-home education through early learning specialists. ParentChild+ specifically targets family childcare providers because they do not have the same benefits as center-based providers (sick leave, breaks, health insurance, resources), so they have more challenges to providing high quality care to children.

The city council could provide funding to MACAA to partner with ParentChild+ to expand the work of MACAA. The Monticello Area Community Action Agency (MACAA) already operates a Head Start program and is beginning to offer an Early Head Start program. They have an existing team of teachers and specialists trained in early childhood education and development. Expanding the operations of these specialists and finding additional early learning specialists to go on in-home visits can provide new opportunities for children attending family childcare providers.

Outcomes Matrix

Table 1: Outcomes Matrix Showing CMTO as the Most Promising Alternative

	Sustainability	Cost-Effectiveness	Political Feasibility	Equity	Total
CMTO	4	$0.78 per child	4	4	**4**
Evaluate the Early Head Start & Head Start Programs	2	$0.04 per child	2	4	**3.25**
ParentChild+	2	$9.53 per child	3	2	**2**

Cost-Effectiveness of anything above $2 is a 1, between $1.51 and $2 is a 2, between $1.01 and $1.50 is a 3, between $0.51 to $0.1 is a 4, and between $0 to $0.50 is a 5. To find the total, I added all four columns together for each alternative, and then divided by four.

Evaluation of Alternatives

I. Implement the Creating Moves to Opportunity project to Charlottesville

a. *Sustainability*

Implementing the CMTO project to Charlottesville is a relatively stable program with regards to costs. This alternative does not expand past the number of households being offered Housing Choice Vouchers in Charlottesville, so the costs of the program are not likely to expand much on a year-to-year basis. I give this alternative a "4" in sustainability because it is likely to be a popular program among the families that are benefiting from CMTO, and the constant costs are predictable and maintainable. However, if there were budget cuts in the future, this program may be threatened because it would be more recently implemented.

b. *Cost-Effectiveness*

There are currently 448 Housing Choice Vouchers (HCVs) available in Charlottesville through the Charlottesville Redevelopment and Housing Authority (CRHA) (*Housing Voucher Programs Are Integral to Housing Affordability. Here's How They Work Locally.*, n.d.). Based on the results from the Seattle experiment, the CMTO program would increase the percentage of families moving to high-opportunity areas using the HCVs by forty percentage points (Bergman et al., 2019). This is an increase of 179 households in Charlottesville. The cost per family of this CMTO program in Seattle was $2,660, which I assume will be similar to the cost per family in Charlottesville (Bergman et al., 2019). I estimate the total cost of CMTO in Charlottesville in year one to be $476,672. Moving forwards, the average number of families served by HCVs in Charlottesville is estimated to be similar to the current number, so I continue to use 448 families being involved in the program. Additionally, I expect the per year costs to remain mostly constant per family because it involves financial assistance, labor costs, and administrative costs. Administrative costs may fall as the program life expands, but this is not likely to change much. After estimating out until 2031, I then discounted the future costs with a rate of 2%, a standard discounting rate (*How to Calculate Present Value (PV), and Why Investors Need to Know It*, n.d.). The total present value costs of this program over 10 years would be $4,993,776.

In measuring effectiveness, I use the average increase in income for children involved in the program as a measure for effectiveness. In this case, children who move to higher-opportunity neighborhoods see an increase of $3,000 in their annual salary by the time they are in their mid-thirties compared to what they would have earned if they had stayed in a low-opportunity neighborhood (Bergman et al., 2019). In Charlottesville, the average family size is 3.14 people, so I assume that the average family with two parents will have about 1.14 children (Bureau, n.d.-a). This is a low estimate, because there are single-parent households who may have multiple children, but the lack of

available data did not allow me to include them in these calculations. I multiply the average number of children by the number of families who move to higher-opportunity neighborhoods because of CMTO, and I find that about 204 children will be exposed to better chances for economic mobility. I calculate the cost-effectiveness per child by dividing the cost per child by the average increase in earnings. The cost-effectiveness per child is $0.78, which is interpreted as saying that spending $0.78 on each child in this program will increase their future yearly earnings by $1.

c. *Political Feasibility*

The housing choice voucher program was approved by the Charlottesville City Council in 2017 (McGowan et al., 2019). However, none of the current City Council members were on the Council at that time. Four of the five council members list "affordable housing" as a top priority, so it is likely they may be interested in approving the CMTO expansion to Charlottesville. Specifically, Mayor Snook advocated for affordable housing reform in his campaign for City Council, so he may be a strong ally for this alternative (*Lloyd Snook • Charlottesville City Council Candidate - Democrat*, n.d.). I score the expansion of CMTO as a "4" on political feasibility, because at least 4 of the City Council members seem predisposed to support this alternative.

d. *Equity*

At least 75 percent of the families admitted to the HCV program for CRHA must be extremely low-income families (*Charlottesville Redevelopment and Housing Authority, VA | Public Housing and Section 8*, n.d.). An extremely low-income family is defined by the CRHA as family whose annual income is below the federal poverty level or is below 30 percent of the median income for the area. Because the HCV program primarily targets those with the lowest incomes, this alternative receives a score of "4".

II. Evaluate Head Start and Early Head Start in Charlottesville

a. *Sustainability*

There are two main concerns about sustainability for this alternative. Initially, this alternative may take some time to be put into place and would be dependent on good communication between the city council, MACAA and the Public Interest Data Lab. There is also concern about implementing a new program after the research has concluded. Depending on what the research finds, the city council may want to implement new elements of the Head Start or Early Head Start programs. I rate this alternative a "2" for sustainability.

b. *Cost-Effectiveness*

The average cost of a preliminary data analysis project is around $45,000 at a minimum. I assumed that this evaluation study would take about 4 years, after which time the city council may implement a program to increase take-up rates of Head Start. I

assume that the city council may be able to increase the take-up rates by about 10 percentage points, which would be about 134 additional children being enrolled in Head Start. Children who attend Head Start are 6 percentage points more likely to graduate high school, which would increase their average yearly earnings by about $9,000 (Bauer, 2016) (*High School Graduation Facts*, n.d.). The average high school graduation rate for low-income children in Charlottesville is 75%, so this would increase their average graduation rate to 81% (*The Opportunity Atlas*, n.d.). I found that increasing the enrollment of Head Start by 10 percentage points would make about 8 children more likely to graduate high school. I calculated out over a 10-year period and found the total cost of this evaluation and the effectiveness of increasing children's future incomes. The total costs were about $185,481, and the total effectiveness was about $4.3 million, so the cost-effectiveness per child was about $0.04. It is important to note that the study itself provides no effectiveness in increasing children's future incomes, so that is contingent on a future program being implemented.

c. *Political Feasibility*

The City Council has already worked with the University of Virginia to do a study of child welfare in Charlottesville. This research was done through the University of Virginia Library and the UVA Data Science Institute in 2018(*Child Welfare Studies | Charlottesville, VA*, n.d.). This partnership between the UVA Public Interest Data Lab and the Department of Social Services proved successful, as another study was done in 2019. However, the City Council may be more willing to implement an actionable policy rather than commission another study. This study would delay action by at least 3 to 4 years, so for these reasons, I rate political feasibility as a "2".

d. *Equity*

Evaluating the effectiveness of Head Start and Early Head Start will be equitable because any results from that analysis will go to supporting families with low incomes who use or are eligible for these programs. While the effectiveness of this program is less clear, any progress made from this study would like support low-income families more than any other group. For these reasons, I give this alternative a "4" on equity.

III. Partner with MACAA to start a ParentChild+ Site in Virginia

a. *Sustainability*

This alternative relies on multiple external organizations, so the potential for a divergence in missions or implementation is relatively high. Additionally, this alternative depends on being able to retrain existing staff and potential hire additional employees focused on early childhood development. This may be difficult to do and there may be turnover in this field. For these reasons, and because of the higher cost-effectiveness, I rate this alternative as a "2" for sustainability.

b. *Cost-Effectiveness*

The average cost-per family of a ParentChild+ program is $3,750 (*Home Visiting Evidence of Effectiveness*, n.d.). I adjusted this by the average number of children per family, 1.14. There are about 160 children involved in home based child care services in Charlottesville (*Child Care Aware of Virginia Child Care Supply Data by Locality*, n.d.). I find that there are about 140 families impacted by this program, so the total cost is about $526,000 per year. For effectiveness, I looked at the average increase in rates of High School graduation for children in a ParentChild+ program, and then used that the estimate the future earnings increase from being involved in ParentChild+. A study found home-based service delivery improved middle school GPAs by about 0.23 points (out of a 4 point scale) (Bradley & Gilkey, 2002). After assuming a 15-percentage point increase in graduation rates for children with increase middle school GPAs, I found that slightly more than 5 additional children would graduate in Charlottesville every year after being enrolled in a ParentChild+ site. This gives a total effectiveness of about $639,000. The cost-effectiveness comes out to $9.53, which is much higher than the other alternatives.

c. *Political Feasibility*

The city of Charlottesville is planning to give MACAA $28,500 for FY 2022. Because the City Council is already planning to give MACAA more funding, they likely have a positive relationship with MACAA and may be willing to give them more support. However, this program would cost about 20 times more than the city is currently giving to MACAA, so I give it a 2 for political feasibility.

d. *Equity*

There is no publicly available data on the breakdown of family childcare providers based on how many low-income children attend these programs compared to higher-income children. Family Childcare programs in the state of Virginia are cheaper than center-based childcare, but they can still cost up to $10,000 per year (*Child Care VA - Parents - Paying for Child Care*, n.d.). Virginia does have a childcare subsidy program, but there is still a possibility that low-income families may not have financial access to family childcare providers, so this alternative may only have limited implications for equity. I give this alternative a “2” on equity for these reasons.

Recommendation

Based on my analysis, the Charlottesville City Council should implement the Creating Moves to Opportunity program to Charlottesville. This program would expand the effectiveness of the current Housing Choice Voucher program by increasing the likelihood that families move to higher-opportunity neighborhoods. Moves to these higher-opportunity neighborhoods will increase the likelihood of economic mobility for children in these families. While this program is more expensive than research on Head Start, this program will have a more actionable impact on both children and their parents.

Implementation Considerations

Implementing the Creating Moves to Opportunity program in Charlottesville has a good institutional baseline because the Charlottesville Redevelopment and Housing Authority already organizes Housing Choice Vouchers and works with federal agencies to secure funding and implementation support. The CRHA would also have to reach out to work with the Piedmont Housing Alliance: an organization who provides counselling and services to families and individuals looking for affordable housing solutions. The Piedmont Housing Alliance is a good partner for this program because they already offer housing counseling services in the Charlottesville area, so it would be feasible and in-line with their mission to expand to servicing HCV families (*Education + Resources*, n.d.). There may be challenges with supporting the Piedmont Housing Alliance in hiring additional staff for this program, and then communication between the Piedmont Housing Alliance and the CRHA will be extremely important. Additionally, this proposal for funding and policy change needs to be approved by the Charlottesville City Council. This will also require some conversations with the CRHA to make sure they are able and willing to provide information to the Piedmont Housing Alliance to connect with individuals eligible for the HCV program.

As seen in the chart below, there are a variety of stakeholders who may be concerned about this proposal. The CRHA and Piedmont Housing Alliance will be concerned about resources and their capacity to implement this program. The Charlottesville City Council will be concerned about the cost of the program and the effectiveness of the program. The City Council is important for allocating funds towards this program, and they are also important for creating organizational buy-in from other government-related organizations. Additionally, the families currently using or applying for Housing Choice Vouchers will be most directly impacted by this new policy.

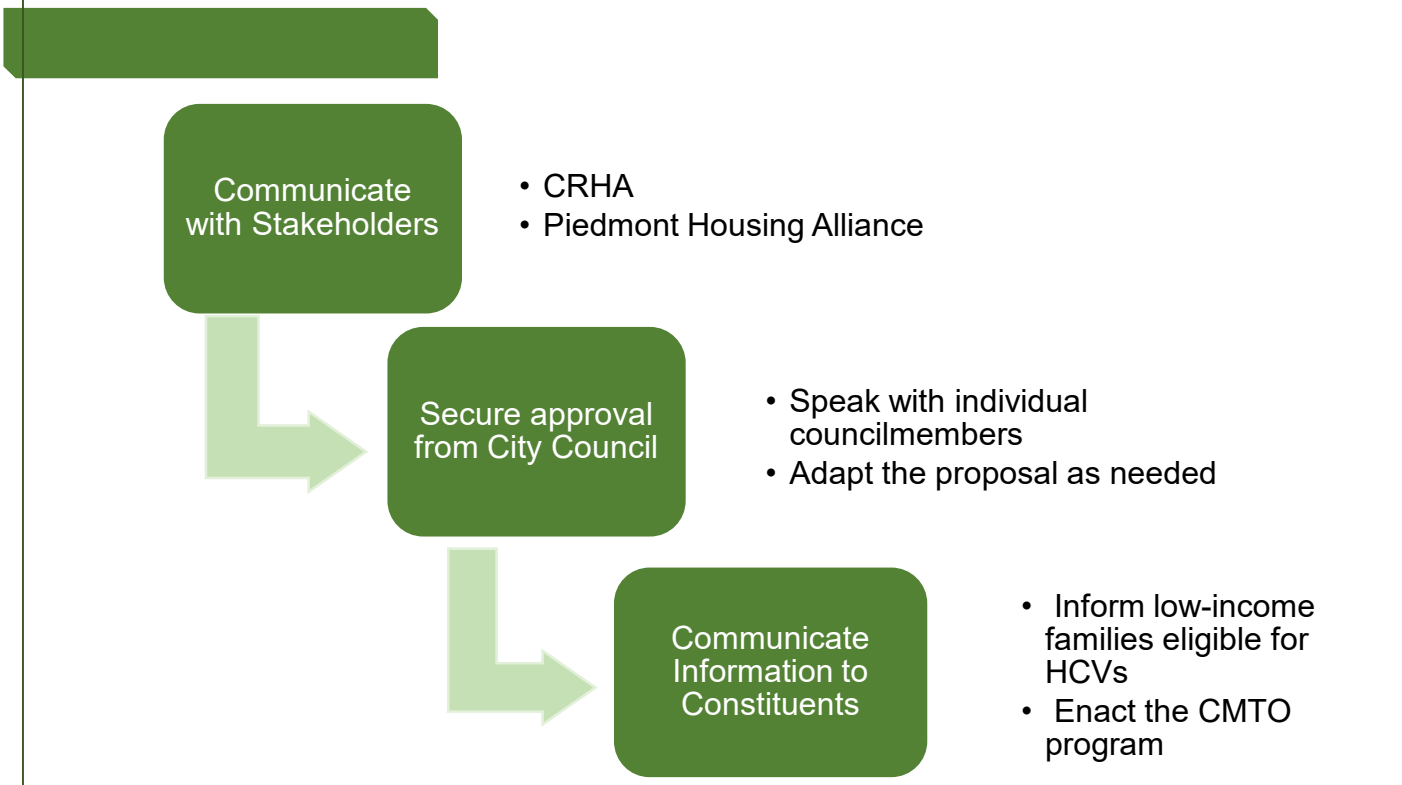


Figure 5 – Flowchart of the important steps for implementation of CMTO in Charlottesville

A worst-case scenario is that Piedmont Housing Alliance is unable or unwilling to implement the counseling services of the CMTO program. This is not very likely, but if this does occur, the City Council could look to find a new non-profit partner to implement the counseling and support aspects of this program. To address these concerns, the City Council would need to spend time engaging with both the CRHA and Piedmont Housing Alliance to make sure that they are aware of what they would be required to do and that they will have the resources to implement the program.

Overall, implementation comes down to engaging with the organizational stakeholders, ensuring that the program is approved with funding from the Charlottesville City Council, and then implementing the proposal to support families using the HCVs program. Specifically, the Piedmont Housing Alliance would need to train counselors to support these families in their search. These counselors can target the families currently using HCVs. These families would have an option to move to higher-opportunity neighborhoods with the support of the counselors if they choose. The counselors will work with these families to evaluate various housing options. Additionally, the new staff of Piedmont Housing Alliance will work with landlords to ensure accessibility for these families in higher-opportunity neighborhoods (“Creating Moves to Opportunity,” 2019).

Conclusion

Economic mobility encompasses a variety of areas of concern, including poverty, health, education, economic development, and housing. Children who grow up in poverty are more likely to live in poverty later in life, and this has negative effects on those children, their future families, and on the broader society. Individuals who grow up in poverty experience adverse effects on their education, health, and future potential. Limited economic mobility is a problem in Charlottesville, particularly in low-income neighborhoods which are predominantly black. The Charlottesville City Council can address this lack of economic mobility by instituting the Creating Moves to Opportunity program as an expansion to the existing Housing Choice Voucher program. Partnering with the Charlottesville Redevelopment and Housing Authority and the Piedmont Housing Alliance would give the City Council strong partners who are already involved in this work and able to make a direct impact. This program would help move about 200 children from low-opportunity neighborhoods to high-opportunity neighborhoods, which can increase their future yearly earnings by about $3,000. This program has the potential to be impactful for the children and families that are assisted and could increase economic mobility in Charlottesville.

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Appendix

Appendix 1: Cost-Effectiveness Analysis for Creating Moves to Opportunity Alternative

Creating Moves to Opportunity		2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total
Families Moving													
	Number of Families in Charlottesville using HCV	448	448	448	448	448	448	448	448	448	448	448	
	Percentage of Families who move to HON because	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	
	Number of Families in Charlottesville moving to HON because of CMTO	179.2	179.2	179.2	179.2	179.2	179.2	179.2	179.2	179.2	179.2	179.2	
Costs													
	CMTO short-term financial assistance per family	$ 1,403	$ 1,417	$ 1,431	$ 1,446	$ 1,460	$ 1,475	$ 1,489	$ 1,504	$ 1,519	$ 1,534	$ 1,550	
	CMTO Labor Costs per family	$ 1,500	$ 1,515	$ 1,530	$ 1,545	$ 1,561	$ 1,577	$ 1,592	$ 1,608	$ 1,624	$ 1,641	$ 1,657	
	PHA Administration Expenses	$ 118	$ 119	$ 120	$ 122	$ 123	$ 124	$ 125	$ 127	$ 128	$ 129	$ 130	
	Net Cost of CMTO per Family	$ 2,660	$ 2,687	$ 2,713	$ 2,741	$ 2,768	$ 2,796	$ 2,824	$ 2,852	$ 2,880	$ 2,909	$ 2,938	
	Total Cost of CMTO	$ 476,672	$ 481,439	$ 486,253	$ 491,116	$ 496,027	$ 500,987	$ 505,997	$ 511,057	$ 516,167	$ 521,329	$ 526,542	
	Present Value of Total Cost per year	$ 476,672	$ 471,999	$ 467,371	$ 462,789	$ 458,252	$ 453,759	$ 449,311	$ 444,906	$ 440,544	$ 436,225	$ 431,948	$ 4,993,776
Effectiveness													
	Average Number of Children per family in	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	
	Number of children exposed to HON (Avg Children per Family * Number of Families that move)	204	204	204	204	204	204	204	204	204	204	204	
	Cost-per child	$ 2,333.33	$ 2,356.67	$ 2,380.23	$ 2,404.04	$ 2,428.08	$ 2,452.36	$ 2,476.88	$ 2,501.65	$ 2,526.67	$ 2,551.93	$ 2,577.45	$ 26,989.28
	Effectiveness per child	$ 3,000	$ 3,030.00	$ 3,060.30	$ 3,090.90	$ 3,121.81	$ 3,153.03	$ 3,184.56	$ 3,216.41	$ 3,248.57	$ 3,281.06	$ 3,313.87	$ 34,701
	cost-effectiveness = per child cost each year / average increase in child's income at age 35	**$ 0.78**	**$ 0.78**	**$ 0.78**	**$ 0.78**	**$ 0.78**	**$ 0.78**	**$ 0.78**	**$ 0.78**	**$ 0.78**	**$ 0.78**	**$ 0.78**	**$ 0.78**

Appendix 2: Cost-Effectiveness Analysis of Evaluating the Head Start and Early Head Start Programs in Charlottesville

Partner with UVA to Study Head Start in Charlottesville		2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total
Costs													
	Average Cost for Data Analytics Project	45,000	45,450	46,814	48,218	0	0	0	0	0	0	0	185,481
Effectiveness													
	% increase in high school graduation rates for children that attend Head Start	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	
	impact of graduating high school on income at 35	$9,204	$9,296	$9,575	$9,862	$10,158	$10,463	$10,777	$11,100	$11,433	$11,776	$12,129	$77,836
	Average High School Grad rate for Low-income students in Charlottesville	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	
	Number of Low-income Children in Charlottesville	1345	1345	1345	1345	1345	1345	1345	1345	1345	1345	1345	
	Number of Low-income children who graduate	1008.75	1008.75	1008.75	1008.75	1008.75	1008.75	1008.75	1008.75	1008.75	1008.75	1008.75	
	Average take-up rate of Head Start	35%	35%	35%	35%	**45%**	**45%**	**45%**	**45%**	**45%**	**45%**	**45%**	
	Number of children enrolled in Head Start	470.75	470.75	470.75	470.75	605.25	605.25	605.25	605.25	605.25	605.25	605.25	
	Additional Children enrolled after study	0	0	0	0	134.5	134.5	134.5	134.5	134.5	134.5	134.5	
	Number of children going into Head Start who would graduate High School without Head Start	353.0625	353.0625	353.0625	353.0625	453.9375	453.9375	453.9375	453.9375	453.9375	453.9375	453.9375	
	Number of children likely to graduate High School because they enrolled in Head Start	381.3075	381.3075	381.3075	381.3075	490.2525	490.2525	490.2525	490.2525	490.2525	490.2525	490.2525	
	Additional High School Graduates Because of Head Start	28.245	28.245	28.245	28.245	36.315	36.315	36.315	36.315	36.315	36.315	36.315	254.205
	Change in Additional Graduates based on increased take-up rate	0	0	0	0	8.07	8.07	8.07	8.07	8.07	8.07	8.07	56.49
	Effectiveness (number of children graduating * increase in income because of graduation)	$ -	$ -	$ -	$ -	$ 81,975	$ 84,435	$ 86,968	$ 89,577	$ 92,264	$ 95,032	$ 97,883	$ 4,396,930
	Average Cost per child affected	1593.2023	1609.1344	1657.4084	1707.1306	0	0	0	0	0	0	0	729.6528589
	Cost-Effectiveness of Head Start per child	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.04**

Appendix 3: Evaluating the creation of a ParentChild+ Site in Charlottesville

ParentChild+		2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total
Costs													
	Average Cost Per Family	$ 3,750	$ 3,787.50	$ 3,825.38	$ 3,863.63	$ 3,902.27	$ 3,941.29	$ 3,980.70	$ 4,020.51	$ 4,060.71	$ 4,101.32	$ 4,142.33	$ 43,376
	Average number of children per family	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	
	Number of Families Impacted	140.35	140.35	140.35	140.35	140.35	140.35	140.35	140.35	140.35	140.35	140.35	
	Total Cost	$ 526,315.79	$ 531,578.95	$ 536,894.74	$ 542,263.68	$ 547,686.32	$ 553,163.18	$ 558,694.82	$ 564,281.76	$ 569,924.58	$ 575,623.83	$ 581,380.07	$ 6,087,807.72
	Number of Children in Licened Family Child Care	96	96	96	96	96	96	96	96	96	96	96	
	Number of Licensed Family Child Care Homes	9	9	9	9	9	9	9	9	9	9	9	
	Number of children per Home	10.67	10.67	10.67	10.67	10.67	10.67	10.67	10.67	10.67	10.67	10.67	
	Additional Non-licensed homes	6	6	6	6	6	6	6	6	6	6	6	
	Children in non-licensed homes	64	64	64	64	64	64	64	64	64	64	64	
	Total Children in Family Child Care	160	160	160	160	160	160	160	160	160	160	160	160
Effectiveness													
	Increase in Middle School Grade Point Average	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	
	Graduation effect of 1 point Increase in Middle School	15	15	15	15	15	15	15	15	15	15	15	
	Graduation rate increase adjusted by GPA boost	3.45	3.45	3.45	3.45	3.45	3.45	3.45	3.45	3.45	3.45	3.45	
	impact of graduating high school on income at 35	$9,204	$9,296	$9,575	$9,862	$10,158	$10,463	$10,777	$11,100	$11,433	$11,776	$12,129	$77,836
	Additional Number of Children who graduate	5.52	5.52	5.52	5.52	5.52	5.52	5.52	5.52	5.52	5.52	5.52	60.72
	Effectivess = number of children affected * increase in salary	$50,806.08	$51,314.14	$52,853.57	$54,439.17	$56,072.35	$57,754.52	$59,487.15	$61,271.77	$63,109.92	$65,003.22	$66,953.31	$639,065.20
	Cost-effectiveness												**$ 9.53**