

Alleviating Food Barriers in the Charlottesville Community

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Disclaimer

This assignment was conducted by the author as part of the education program for the Frank Batten School of Leadership and Public Policy. This assignment was completed to fulfill the course requirements for the Master of Public Policy degree. The conclusions reached in this document are solely those of the author and do not represent or necessarily endorse by the Batten School, the University of Virginia, or any other agent.

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Honor Pledge

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

A handwritten signature in black ink, reading "Ryan McDowell". The signature is written in a cursive, flowing style with a large initial 'R' and 'M'.

Ryan McDowell

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Executive Summary

Food insecurity is a pressing concern amongst communities all across the country as an estimated 9 million Americans do not have enough to eat annually (Kushel et al., 2006). The City of Charlottesville is no exception to this problem, with an estimated 16.7 percent of its population is food insecure (“U.S. Census Bureau QuickFacts,” n.d.). While food security is a large-scale problem, initial steps need to be taken to be the driver of change. One organization that hopes to be one of those drivers of change is the Loaves and Fishes Food Pantry. This organization currently serves food to almost 60,000 individuals and hopes to increase its role in a more food secure city in the future. One of the primary drivers of food insecurity in Charlottesville is its transportation system. The current system imposes and maintain barriers on citizens to food access in the city.

In order to increase food security in the Charlottesville, four potential policy alternatives were identified. These proposals include rerouting the Charlottesville Area Transit system to make it more accommodating to potential Loaves and Fishes clientele, the improvement of the city’s current sidewalk infrastructure to make Loaves and Fishes more accessible, the introduction of a ride-sharing subsidy for low-income individuals to food providers, and the expansion of home food delivery by Loaves and Fishes. These policy alternatives were then evaluated upon four criteria; cost-effectiveness, equity, administrative feasibility, and unstated benefits. Cost-effectiveness looks to ensure that no program over-utilizes resources without having an impact on decreasing food insecurity. The equity criterion hopes to ensure that all groups benefit evenly by the ultimate proposal and administrative feasibility looks at the likelihood of implementation for a given alternative. The last criterion, unstated benefits, accounts for any other benefits a policy proposal might create that are unaccounted for in the other criteria. Upon this analysis, it is recommended that Loaves and Fishes implement an expanded food delivery system.

This recommendation would have Loaves and Fishes expand its current, limited food delivery system to more at-risk individuals. It would see a monthly program in select communities, where individuals would be able to acquire food close to home instead of rely on transportation to access Loaves and Fishes. The primary motivator behind this program was its strong sense of equity. Equity was heavily weighted in the analysis due to the importance all groups equal benefit from the ultimate proposal. This was critical due to many of the inequities created in society originate from unequal benefits. This proposal does have some drawbacks, most notably the high cost associated with it. The introduction of a new program such as this could drive Loaves and Fishes’ resources thin and ultimately undermine its primary service offered at its site. While this proposal will not singlehandedly address food insecurity at-large in Charlottesville, it will help to enact change. It will help to open a dialogue of the problems facing the city and hopefully motivate others to act accordingly. More importantly it will help to provide food to many needy families.

Introduction

1 in 6 of its residents in the city of Charlottesville are found to be food insecure (“Food Insecurity in the United States,” 2018). While there are many policy problems currently facing the city, food security is one of the most impactful to everyday life. Food security is defined by the United States Department of Agriculture (USDA) as “access by all people at all times to enough food for an active, healthy life” (“Food Security in the United States,” 2018). From this definition those that lack adequate access are defined as food insecure.

One group working to improve food security for residents of Charlottesville is the Loaves and Fishes Food Pantry. With a stated mission “to give food with kindness and compassion to those seeking assistance while providing an opportunity for volunteers to serve their neighbors in Charlottesville and surrounding communities,” this organization helps to serve over 59,000 in need residents on an annual basis (Loaves and Fishes, n.d.). One issue that has arisen for Loaves and Fishes access to their facilities from some at-risk populations. They believe that the current transportation system in Charlottesville serves as a barrier for residents to access their service, leading to their desire to seek ways to improve overall food access in the city (Mills, personal communication, Oct 24, 2018).

Problem Definition

Food insecurity is a major issue facing residents within the city of Charlottesville, with 1 in 6 of residents being defined as food insecure (“Food Insecurity in the United States,” 2008). One of the driving factors behind this is simple access to food. One of the catalysts for this problem is the current public transportation infrastructure. This is especially true for residents attempting to travel to the Loaves and Fishes Food Pantry. To see food security properly addressed in the city, advocates must develop new and innovative policies to ensure all citizens gain access to the services they need.

Background

A rising issue within American communities across the country is access to food. It is estimated that annually, 9 million individuals experience hunger (Kushel et al., 2006). Beyond this, over 41 million citizens or 12.9 percent of the population are defined as being food insecure (“Food Insecurity in the United States,” 2018). A variety of factors play into this insecurity, which include geographical barriers and financial constraints.

Food Insecurity

Food insecurity is defined by the USDA as “the limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways” (“Measurement,” 2018). There are three main causes associated with food insecurity; availability, access, and utilization (Barrett, 2010).

In the United States, there are over 41 million individuals or 12.9 percent of the population defined as food insecure (“Food Insecurity in the United States,” 2018). In the Commonwealth of Virginia, roughly ten percent of the state’s population or some 900,000 people are defined as food insecure. In the city of Charlottesville, 16.7 percent or 7,600 citizens experience food insecurity. Two prominent barriers to food access are physical locations and income. These numbers are viewable in *Figure 1*.

Additionally, food security has an equity component. In *Figure 2*, below, a study was conducted on various racial and ethnic groups from 2001 to 2017 (“USDA Economic Research Service: Measurement,” 2018). This graphic showcases the inequity of food insecurity amongst the various populations. Most notably the higher rates amongst African American and Hispanic groups than for whites.

Figure 1.

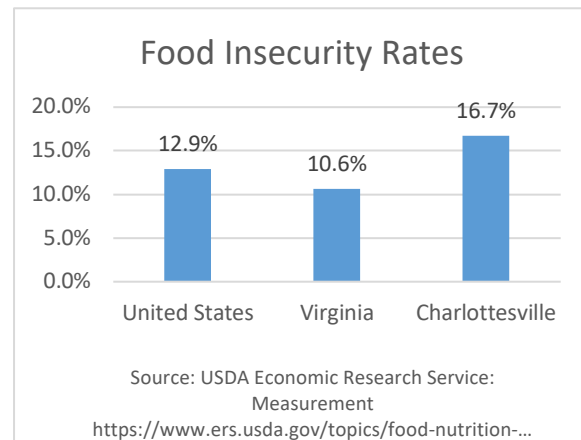
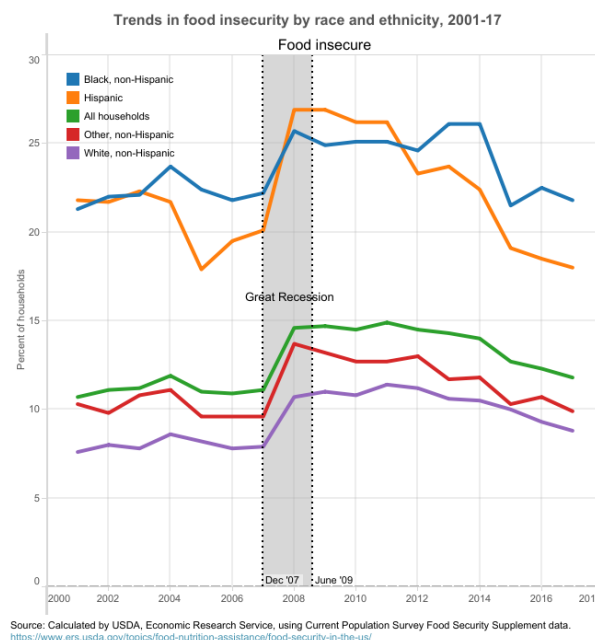


Figure 2.



Food Deserts

A food desert is a neighborhood, census tract, or community, that “lacks access to healthy nutrition, or affordable food” (Wright et al., 2016). Living in such an area places additional burdens on families, including impacts on personal health (Kushel et al., 2006). In the United States there are 6,000 census tracts that are designated as food deserts. This results in some 13 million individuals residing in areas where that do not have adequate access to affordable and nutritious foods (Wright et al., 2016). Of these, roughly 150 census tracts defined as food deserts are located within the Commonwealth of Virginia (Go to the Atlas, 2017). Of the 14 census tracts located in the city of Charlottesville, there are two areas defined as food insecure.

Residing in food deserts place a large burden on families, as they must worry about how they will acquire food and if they can afford to do so. There is a large equity issue surrounding the location of many food deserts, as they are often encompass minority community and their residents are more prone to suffer from chronic diseases (Gordon et al., 2011). One of the most prominent factors that play into the existence of food deserts is a community’s geographical location. This is largely given by the fact that the fundamental definition of a food desert revolves around distance from food distributors like grocery stores or supermarkets (Howerton & Trauger, 2017). On average, those living in food deserts spent an additional 19.5 minutes in travel, using any form of transportation, to reach a grocery store than the national average (Hamrick & Hopkins, 2012). Such distance places an additional burden on low-income individuals, as 12 percent of such households have no drivers and 17 percent have no private vehicles (Giuliano, 2005). This requires individuals to rely on alternative forms of transportation, such as public transit.

An additional underlying component of food deserts relates to the issue of equality of access. Beyond the geographical issue of food deserts, studies suggest that racial biases also play a role in the location of grocery stores in various communities (Howerton & Trauger, 2017). On average, neighborhoods that are majority African-American have fewer grocery stores when compared to white neighborhoods (Walker et al., 2010). This places additional burdens on these communities given their lower availability of food within their neighborhoods and requires them to find means of transportation to food providers. Specifically, there were 48 percent less grocers found in African-American communities than white (Powell et al., 2007). Additionally, in these food desert areas, when solutions are presented to help alleviate food insecurities, they tend to further alienate marginalized populations (Howerton & Trauger, 2017). This is due to socially exclusionary cultures at many alternative food sources, like farmers markets. This is largely due to the perception that they tend to serve a more affluent, white consumer base. The issue of transportation also arises for racially disparaged groups, as 24 percent of African-Americans in the most underprivileged communities did not own a vehicle, in contrast to seven percent of white households and 17 percent of Latino households (Bullard, 2004).

Charlottesville

The city of Charlottesville is currently facing many questions in regards to equity. These questions run parallel to many of the underlying issues outlined above in regards to food access. In 2016, the median household income for a resident of Charlottesville was \$50,727 ("U.S. Census Bureau QuickFacts," n.d.). Of the Charlottesville population, 22.8 percent were defined as living in poverty.

In regards to an individual's ability to resident's ability to access food, 2.65 percent were defined as having low access to food ("Food Deserts in Virginia," 2014).

Figure 3.

City of Charlottesville Quick Facts

Median Household Income: \$50,727

Living in Poverty: 22.8%

Low Access to Food: 2.65%

Food Insecure: 16.7%

In the city of Charlottesville, less than one percent, 0.14, of the population is defined as lacking access to transportation. However, the role that the current transportation system plays into the food insecurity and access is a major issue that needs to be considered by local government and the community. Many organizations within Charlottesville are attempting to tackle this issue, one specifically being the Loaves and Fishes Food Pantry. This organization provides free groceries to low-income individuals on a monthly basis ("Our Story," 2019). Annually, Loaves and Fishes, serves almost 60,000 people in the Charlottesville community ("Charlottesville Loaves and Fishes Food Pantry - Get Involved," 2016). While this is a great asset for many in the community, there are still prominent barriers in access present especially for those who rely on public transportation as expressed by the Executive Director of Loaves and Fishes. The only current means to access the food bank by public transit is half a mile walk along an

inclined road without a sidewalk. This is extremely problematic for disabled and elderly individuals even before heavy groceries are provided to them. This is an issue that need to be addressed in order to improve the equity found in the overall Charlottesville community.

Literature Review

While the issues facing Charlottesville's, low-income citizens are regionally based, outside examples can be viewed as inspiration for solving food barriers. One program in Pennsylvania to combat food deserts, saw a partnership between a regional nonprofit and the state government to start an initiative to fund fresh food outlets throughout the state (Karpyn et al., 2010). While this program, once fully implemented helped to serve half a million residents, the study surrounding it does a poor job describing what success looks like for this program. This is largely due to the fact that no critical analysis of the program is conducted and instead this report serves as an outline of the stages associated with the program. Even without an analysis of the program, there are several key takeaways the researchers identified that can be used when thinking about potential policy alternatives in Charlottesville. These takeaways are as follows; adapting to local circumstances, maintain initial focus, engaging different sectors, include local industries, and nurture local efforts.

The first key takeaway, adapting to local circumstances, proposes that no one initiative will work to solve food insecurity in every locality. Instead, it is vital for policy makers to comprehend the complexity of issues facing a community and develop a regional specific set of steps. The maintaining focus takeaway emphasizes the need to look to achieve a relatively concise goal. By setting out to achieve one initial goal, likelihood of achievement is greater, leaving room for further growth. Engaging in diverse sectors recommends that variety of different groups are involved in the process for change. In this program, public health and economic development official were brought together. This allows for greater perspectives and allows a wider away of by in by officials. The inclusion local industry takeaways suggest that these efforts help to bring greater public awareness to the issue and influence policy maker to attempt to address the issue. The last takeaway, nurture local efforts, outlines the importance of coordination within communities is. That working alongside community champions is a vital component of change.

An additional study in Iowa saw the use of local food exchanges within communities to help combat food insecurity amongst neighbors, along with the use of social safety net institutions (Morton et al., 2005). Through this neighborhood collective action, it was found that individuals who would normally be identified as food insecure due to residing in rural communities with few grocery options were not. They identified that a strong civic structure was present within these communities, leading to citizens aiding one another and sharing food. A survey was conducted of two rural Iowa counties that

possessed two grocery stores to analyze the food environment in these counties. A regression was run with personal connection and civic structure as the independent variables. Age, income, and education were held constant. While this study had a very small sample size, only using two counties in the same state, and it lacks external validity due to its case study in a single Iowa community, there are still a few major takeaways relevant to the issues facing Charlottesville. Most importantly is that food security is a community issue. That the community that had a close civic structure saw its citizens face fewer concerns. For any policy to work in Charlottesville, it must see citizens engagement towards progress.

Locally, Charlottesville can use some of these programs and key takeaways to look creatively at solving its current barriers to food access. Beyond the further expansion of current infrastructure, a better utilization of current resources could be enacted. One new product on the market is ridesharing services offered by Uber and Lyft. This product allows consumers to utilize technology to request a ride to where they desire to go. These services offer an alternative to public transportation, allowing consumers more flexibility in their travel within a city's limits (Hall, Palsson, & Price, 2018). Increasingly, in cities with little to no public transit, attention has arisen over possibility of utilizing alternatives methods in supplement to a public transit system (Skov, 2017). In this report, the authors examined the various modes of transportation available to a citizen in Portland, Oregon. While the infrastructure and needs are vastly different than that of Charlottesville, there are still some key components that can be extrapolated. Due to increasing concerns facing the transportation of its citizens, localities all across the United States can no longer rely on traditional means to meet the needs of its citizens. By utilizing private-sector industries, like new ridesharing technology, there is potential to provide goods to consumers in a more cost-efficient way.

An additional area in which better utilization of current resources can be improved upon is the system in which area food banks operate. In Chicago a system is in place of food pantry delivery to ensure communication and partnership amongst the various partners, local emergency providers, local government, volunteer organizations, and religious groups (Warshawsky, 2010). This study provides context into how the Chicago food bank system operates and with an open means of communication amongst partners. It implies that this leads to more efficient outcomes, but fails to prove it without an analysis of the system and outlining how resources are actually saved. While the overall report could be stronger with a stronger implication and recommendation section, it does provide context of how a communication system could be implemented amongst food bank partners.

This literature provides a bit of context in which some localities are attempting to develop creative ways to address food security issues within their communities. While the overall literature is fairly limited, with most programming being initiated by local governments, the literature that is available is of great service. They not only provide a few possible models but also enable creative thinking of how to build upon past success in a local

context. This helps to move the initiative forward in attempts to better serve the citizens of Charlottesville and their food needs.

Policy Alternatives

A variety of alternatives have been considered in order to address the barriers to food access for low-income citizens within Charlottesville. The role Loaves and Fishes will play in these proposed alternatives will vary greatly, but the most sustainable role they will likely take is either that of an advocacy role or direct implementor. This is due to their limited ability to implement a large-scale policy such as reworking public transportation, as that is a role of a different entity.

An important note that needs to be considered by Loaves and Fishes is how many community members they are able to serve. If their service capacity is currently at its max or if there is room for growth in the services they offer. With any policy alternative that is implemented to see an increase in access to Loaves and Fishes, the overall number of clients serviced is likely to increase. Loaves and Fishes must be prepared for such changes to see that their current infrastructure can handle increased traffic.

Alternative 1: Revise the Charlottesville Bus Route

The first potential alternative to increase food access for lower income residents in Charlottesville at the Loaves and Fishes Foodbank is providing a better public transit infrastructure. The Loaves and Fishes Food Pantry is located along Lambs Road and the closest public transit bus stop is located six-tenths of a mile away on Georgetown Road. In order to reach Loaves and Fishes, individuals must walk alongside the busy Hydraulic Road before heading down a steep decline of Lambs Road. This is extremely problematic for disabled and elderly individuals who have no private forms of public transportation and rely on public transit for their travel. In order to overcome this obstacle, many customers must rely on forms of private transportation, either their own or that of close friends and family (Mills, personal communication, Oct 24, 2018). In order to better serve the residents of Charlottesville, this alternative proposes altering the bus route so that it stops at the intersection of Hydraulic and Whitewood Road, closer to the Loaves and Fishes location.

The likely reasoning why such a policy has not already been implemented by the Charlottesville City Council is simple unawareness. By informing local leaders of the concerns and needs of city residents progress towards this policy could be made. To see that these concerns are raised, Loaves and Fishes can organize an awareness campaign. This campaign would outline the quantity of citizens that utilize services offered by Loaves and Fishes and rely on public transportation. Such an initiative would raise perception of the issue and increase the likelihood of change. In order to see such an alternative implemented, Loaves and Fishes would serve solely in an advocacy role, as

they possess no authority to directly alter the current Charlottesville Area Transit (CAT) routes. Serving as an advocacy, key members would attend local city council meetings along with frequenting CAT Advisory Board and Charlottesville-Albemarle Regional Transportation Committee meetings (“Boards and Commissions,” 2019).

A primary concern that could arise is from this alternative is the desire of more organizations to relocate bus stops closer by. There could be a fear amongst CAT officials that by accommodating this one organization, Loaves and Fishes, numerous more request would be entered. That is why it will be best to address this potential concern upfront. State the merits of this change and that they align with goals in the Transportation Development Plan (Transit Development Plan, 2018). That this proposal helps to achieve the growth goal as it helps to expands ridership markets by providing a better service for those who frequent or would desire to utilize Loaves and Fishes’ services. This proposal could also be framed to meet the community integration goal by better offering services for those who require it the most.

Alternative 2: Install Sidewalk

The next potential policy alternative that could increase food access for lower income residents of Charlottesville is better street infrastructure. Individuals who walk or rely on public transit to reach the Loaves and Fishes Food Pantry have to deal with areas of the city without adequate sidewalks, most notably Lambs Road where Loaves and Fishes is located. This stretch of road is two-tenths of a mile long and does not provide a sidewalk for pedestrians. This means that those who wish to reach the foodbank by foot must walk along the side of the road. This can place citizens in potential danger and deter them from utilizing the foodbank services.

Too see this change implemented, Loaves and Fishes role would be less of an advocate and more of an implementor. The primary reasoning behind this is that Loaves and Fishes owns the land alongside Lambs Road. If so desired, and city support cannot be garnered, then Loaves and Fishes can go about prepping the area to make it more accessible. Loaves and Fishes can also donate the stretch of land directly adjacent to the road to the city government to lower the cost for the improvements and make it easier for change.

There are some issues that arise from this policy alternative, most notably is if it actually plays a role in increasing food access in Charlottesville. It could be said that this alternative’s primary concern is that of convince, improving the existing conditions for Loaves and Fishes’ existing clientele. However, one must consider if the current infrastructure deters individuals from utilizing food services. Moving forward, Loaves and Fishes must determine if their primary concern is about providing the best possible service for their current clientele or expanding their reach.

Alternative 3: Subsidized Ride Share

A potential policy alternative to increase food access for lower income Charlottesville residents is for the city to directly subsidize ride sharing for citizens who are traveling to predetermined locations. These locations would need to be areas that provide food services to low income individuals and are not well served by the current public transportation system, like the Loaves and Fishes Food Pantry. This service would see that elderly and disabled individuals be dropped off at the foodbank and then taken back home. This would make their overall experience much easier, as they would not have to stress about either finding a ride there or utilizing public transit and then walking the final six-tenths of a mile.

Current companies operating within Charlottesville could be utilized for this policy. One alternative service to traditional public transportation that can be looked to expand upon within the city is Juant. Juant is a public transportation system that operates within Charlottesville and the surrounding communities ("Juant - FAQ," n.d.). This service offers a series of routes along with direct pickup and drop off for citizens with disabilities in Charlottesville. With support from the local government a direct route could be established in various high need communities throughout Charlottesville on a monthly basis to Loaves and Fishes.

As with the first, alternative, Loaves and Fishes would need to serve in the role of an advocate. They directly would not be able to institute such a policy, as they would need to rely on the Charlottesville City Government to support this measure. Once again, the Charlottesville Transit Development Plan can provide the language to support the need for this policy. This proposal would help the city achieve two of its transit goals moving forward, growth and community integration (Transit Development Plan, 2018). As this proposal would directly expand transportation access to underserved communities and its clients.

Alternative 4: Home Food Delivery

In order to ensure that all Charlottesville residents have equal access to food, local food banks could deliver food to individual's homes. Currently, the Loaves and Fishes Food Pantry delivers to needy seniors who live in five Charlottesville communities. In order to ensure that all residents receive equal access, this service could be increased to include more food insecure populations, the disabled and those that rely on public transportation. To best see this service instituted, a coalition between area foodbanks would need to be established so that all communities are served and no single foodbank bears the burden of all deliveries.

This proposal could become costly to Loaves and Fishes due to transporting food from their facilities directly into communities. To see that resources are best utilized in a cost-effective manner, a monthly service of direct service to a predetermined location within

a community could be established. This would see that all citizens in a given community, without adequate transportation, have food delivered to them on a monthly basis. By lumping delivery, cost would be kept lowered by only traveling into a community once.

An additional concern arising from this alternative is the administrative cost associated with implementing this proposal. In order to see success in this program, coordination amongst area foodbanks is needed to see that costs for one foodbank is not too high. To achieve this coordination, entities will have to share data and efficiently communicate with one another. This coordination will require some additional resources.

Alternative 5: Let Present Trends Continue

A final potential alternative is to let present trends continue. Many individuals who utilize the foodbank often rely on neighbors who have vehicles to help transport them to the foodbank. While finding a ride maybe stressful at times for individuals there could be some benefits from this transportation method. One potential benefit is a sense of community inspired by neighbors aiding one another. By helping one another to the foodbank, neighbors are afforded the opportunity to get to know one another better. This could prove to be beneficial, as neighborhood coalitions are built. This would not be allowed to happen if individuals rely on alternative forms of transportation to reach the foodbank.

Additionally, this alternative would need to be implemented if Loaves and Fishes is not currently prepared for an increased demand on services over from increased access. Before Loaves and Fishes began to advocate for other policy alternatives, it would need to build up its current client support infrastructure. After this was accomplished it could see to advocating for other policy alternatives if so desired.

Evaluative Criteria

To determine the viability of the four proposed alternatives, a series of criteria will be used to evaluate them. These criteria are as follows:

Evaluative Criteria 1: Cost-Effectiveness

The first criterion that will be used to evaluate potential policy alternatives is the cost-effectiveness of each proposal. The first component of this criterion will measure the costs associated with implementing each alternative attempting to address food insecurity in the Charlottesville community. Cost will measure the direct amount that Loaves and Fishes will need to see the enactment of a proposal. Monetary cost will be those directly burdened onto Loaves and Fishes through implementing the policy. These would include potential salaries or costs for fuel needed to deliver food.

Most of the monetary costs of implementing the various policy alternatives will not fall onto Loaves and Fishes directly. These instead would fall onto the Charlottesville City government. Because of this, nonmonetary costs will be measured. These costs, such as volunteer time will be very high for alternatives that require large amounts of time for advocacy purposes.

The second component of this criterion that will evaluate each policy alternative's effectiveness at alleviating food insecurity within Charlottesville. This criterion will look at the impact each policy alternative has on impacting food insecurity in Charlottesville in a positive manner. That those in the community who currently do not have adequate access to food are better served by services offered. Each policy alternative will be graded on its net positive impact on food security in the Charlottesville community on a scale of 1 to 5.

Table 1.

1	2	3	4	5
No Impact on Food Security	Slight Impact on Food Security	Medium Impact on Food Security	Large Impact on Food Security	Extreme Impact on Food Security

The two components of this criterion will then be used in a cost-effectiveness analysis. This analysis will serve as common ground across the various policy alternatives. The reason the two components are combined in this criterion is that without this analysis it would be hard for one to interpret each component alone. A proposal could be very cost-efficient but do little to improve the problem or pose a high cost while providing a large impact. This will attempt to alleviate some of those issues. Access to the full breakdown of the cost can be accessed below in *Appendix 1*.

Evaluative Criteria 2: Administrative Feasibility

This criterion, will look to determine how easy it would be for Loaves and Fishes to either advocate for or directly implement a policy alternative. This measure will look at how the amount of time and resources it would require Loaves and Fishes to see an alternative implemented. This criterion might be difficult to measure given that it would need to be an empirical analysis instead of quantitative data. Largely the measure will look at how far the proposed policy asks policymakers to deviate away from current practices. To understand each proposal's political feasibility and ease comparison, each proposal will be graded on a scale of low-to-high for political feasibility. This breakdown is viewable below.

Table 2.

Low	Medium	High
1	2	3
Very unlikely to be implemented	Moderate likelihood to be implemented	Extreme likelihood to be implemented

Evaluative Criteria 3: Equity

Another criterion that will be used for analyzing potential policy alternatives is equity. This criterion will look at how each policy proposal impacts various populations and if benefits are equitably available for all groups. Specifically, in this context, this will look to ensure that various communities, age, and racial groups across Charlottesville are receiving similar benefits from the policy alternatives. This criterion is especially important because those populations most often times impacted by food insecurity are minority groups (“USDA Economic Research Service: Measurement,” 2018). Additionally, the programs that are often implemented as a solution to food insecurity increase these barriers as they are not inclusive of minority groups (Howerton & Trauger, 2017). Access will be used to measure this criterion. Each potential policy will be examined for areas in the city in which residents will receive benefits. This will look to make sure that one group does not receive preferential treatment due to a potential policy’s enactment. As with other criteria, this too will be evaluated on a scale of low-medium-high, this breakdown can be viewed below. This will aid in evaluation with a common metric being used across the entities.

Table 3.

Low	Medium	High
1	2	3
Excludes one or more groups	Beneficial to most groups	All groups equally beneficial

Evaluative Criteria 4: Unstated Benefits

Finally, each policy alternative will be evaluated for any unstated benefits. Specifically, if they provided a large benefit that is overlooked from the previous four criteria. There is potential that a potential policy solution could provide a great impact to a localized issue concerning Loaves and Fishes but not move the needle in addressing city-wide food insecurity. While this criterion will hold little weight, it is important to look beyond the larger criterion because there could be a proposal that has a minimal impact on large scale food insecurity in Charlottesville but is strong in serving a localized need. An example of this is the sidewalk proposal. While it is not a viable solution to solving the food insecurity citywide, it will help to better serve Loaves and Fishes current clientele. This

criterion will also be measure on a scale of low-medium-high in terms of the unstated benefit with a breakdown of the measure highlighted below.

Table 4.

Low	Medium	High
1	2	3
No unstated benefits	Few unstated benefits	Many unstated benefits

Evaluation of Policy Alternatives

In order to compare the various merits of each proposed policy alternative, they will each be evaluated upon the four criteria listed above; cost-effectiveness, administrative feasibility, equity, and unstated benefits. Below each policy alternative is evaluated upon the four criteria and an outcome matrix is produced to determine the best course of action for Loaves and Fishes moving forward. This analysis will attempt to provide an unbiased comparison of the various policy options, seeing to that the best possible option is suggested.

Cost-Effectiveness Analysis

Alternative 1: Revise the Charlottesville Bus Route

Alternative 1 would see the revision of the current Charlottesville bus route to better serve individuals who rely on public transportation to utilize the Loaves and Fishes Food Pantry. The primary costs associated with this alternative would be the need to install a new bus stop and the potential increase in costs to the Charlottesville Area Transit system out of a need for more fuel and employee wages to accommodate the new stop. However, this monetary burden will not be borne by Loaves and Fishes, as they have no direct authority in rerouting any current transportation systems in the city. Instead, they must consider the costs associated with advocating for a given program. The costs associated with advocacy would be the opportunity costs of individual's times to attend city council meetings along with boards and commission meetings related to public transit in the city. Even if the primary individuals who attended these meetings were unwaged and volunteers for Loaves and Fishes, there is still a value of their time associated with this proposal. It is estimated that a volunteer's time is valued at \$4,942 annually or an hourly rate of \$14.28 (Handy & Mook, 2011).

To see a strong advocacy campaign, Loaves and Fishes would likely need to see one primary leader in charge of overseeing the operation along with at least one additional worker. City council meetings occur once a month and tend to last for 3 or more hours. However, it would not be required for an individual to stay the entire meeting as roughly an hour of the meeting may include relevant discussion. Additionally, advocates would likely need to attend relevant boards and commission meetings, these include the CAT advisor board and the Charlottesville-Albemarle Regional Transportation Committee

(Boards and Commission, 2019). These groups meet once a month as well and their meetings tend to run for two hours. Beyond the meetings, outside work would need to be done from reaching out to city officials to preparation work for meetings. An estimate would be at least five hours a week dedicated to these efforts. The length of this advocacy campaign will largely depend upon the reception city officials give to this proposal. Given that it is not a large-scale alteration of policy, a conservative estimate of 6 months is assigned to this proposal. Upon calculating these opportunity costs of an individual's time, this gives an estimated total cost of \$4,141.20.

The effectiveness of this alternative would look to measure how well it alleviates barriers for food access in the Charlottesville area. This alternative's effectiveness will be determined on a scale from 1 to 5. A score of 1 would see no impact on food access, while a score of five would have a strong positive impact on food access. Due to this making Loaves and Fishes more accessible to the general public, this alternative would receive a score of 4. This is largely due to helping individuals better access Loaves and Fishes but does not receive a 5 given that it does not address the broader Charlottesville community.

To determine the cost-effectiveness of this program, the effectiveness score will be divided by the total costs associated with Loaves and Fishes advocacy for this program. In order to get a more comparable number, this score will be multiplied by 1,000 for easier comparison. This results in a cost-effectiveness score of 0.966.

Alternative 2: Install a Sidewalk

Alternative 2 would see the installation of a sidewalk along Lambs Road. This would be in an attempt to make Loaves and Fishes more accessible to those that rely on public transportation. The sidewalk would stretch for two-tenths of a mile. The cost per mile of a sidewalk is approximately \$485,760 per mile (Sidewalk Cost, n.d.). This would amount to roughly \$97,152. An important distinction to be made is if Loaves and Fishes will directly bear this cost or if it desires to advocate the city to take up this endeavor. In order to see immediate action on this proposal, it is recommended that Loaves and Fishes install the sidewalk themselves, as the city may not view its installation as a priority. If Loaves and Fishes personally install this sidewalk, they will need to deal with acquiring a building permit from the city. This will require an individual's time and the same estimate of \$14.28 per hour will be used to measure the opportunity cost of this individual's time (Handy & Mook, 2011). An estimated five hours of an individual's time will be needed to apply for a building permit and follow the proper protocol for its approval. Additionally, the cost of maintenance must be considered if Loaves and Fishes were to install the sidewalk themselves. It is estimated that the cost to repair a sidewalk is \$47,500 per mile (Repair Sidewalk Cost, n.d.). This would amount to \$9,500 and would likely need to occur at least once every 10 years, for a time span of 20 years this would amount to two times. The total estimated costs for this proposal to Loaves and Fishes would amount to \$116,171.

The measure of this alternative's effectiveness will follow the same format, on a scale from 1 to 5 how well it alleviates barriers to food access in Charlottesville. This alternative would receive an effectiveness score of 2. While it makes Loaves and Fishes more accessible to those who rely on public transportation, it does little else to improve the overall food insecurity in the Charlottesville area.

To find the cost-effectiveness of this proposal, the effectiveness score will be divided by the total cost for the installation of a sidewalk along Lambs Road then multiplied by 1,000. This gives a score of 0.017.

Alternative 3: Subsidized Ride Share

Alternative 3 would see the implementation of a subsidy program by the Charlottesville City Council for ride-sharing options to various food security locations throughout the city, including Loaves and Fishes. As with the first alternative, the primary cost that would be borne by Loaves and Fishes would be those associated with advocacy for this proposal. The same opportunity of \$14.28 per hour will be used to measure the value of an individual's time to see this proposal implemented (Handy & Mook, 2011). Once again, Loaves and Fishes would likely need to have one individual take the lead in seeing this policy's implementation while having at least one individual serving in a supporting capacity. These individuals would need to dedicate at least five hours a week working on this proposal, reaching out to community leaders for support and city officials. They would need to attend city council meetings once a month for at least one hour along with the monthly Charlottesville-Albemarle Regional Transportation Committee that last two hours (Boards and Commission, 2019). Given the complexity of this proposal and the need for substantial policy, a conservative estimate for the length of time needed to see this policy implemented to be a year. This provides a total cost of \$8,196.72.

The effectiveness of this alternative would also be measured on the same scale, with a 1 indicating little impact on food security in Charlottesville and a 5 indicating a high impact. This alternative would receive a score of 4. While it does open up food access within Charlottesville, it could pose new barriers, especially for those who are unaware of the new program or lack the technology needed to access it.

To determine this policy's cost-effective, the effectiveness score will be divided by the total cost associated with Loaves and Fishes. Once this rate was multiplied by 1,000 the final cost-effectiveness score was 0.488.

Alternative 4: Home Delivery

Alternative 4 would see the implementation of a home food delivery system by Loaves and Fishes on a monthly basis. The primary costs associated with this alternative are the transportation costs needed to deliver the food to the individuals. It is estimated that the per person cost to deliver food from a food pantry to be \$15 (Handy & Mook, 2011). This rate includes both the cost for the food at the transportation expenses associated with delivery the food. This per person cost would then be multiplied by the estimated number

of individuals that would receive a delivery. A conservative estimate is that this program would help to serve 1,000 people in the city of Charlottesville. An additional cost that would also be considered is the opportunity cost of the individuals that deliver the food. This is due to the fact that at least two more volunteers will be needed to see the success of this program if the operations at the main facilities will continue as normal. The rate of \$14.28 per hour will be used to determine their opportunity cost. Additionally, it is likely some individuals who currently rely on the physical space to receive food from Loaves and Fishes will begin utilizing this service. The estimated cost per meal for a traditional food pantry, including volunteer's time is \$11.63 (Handy & Mook, 2011). If an estimated quarter of the individuals served by this program were already utilizing Loaves and Fishes' services this cost would need to be subtracted from the total. The total estimated costs for this program are annual costs of \$145,139.

The effectiveness of this alternative at alleviating food insecurity in Charlottesville will be evaluated on the same 1 to 5 scale. This alternative would receive a score of 5 given that it would target key individuals that lack proper food access and directly provides them with food.

To determine the cost-effectiveness of this program, the total costs of the program will be divided by its effectiveness score. For this monthly program, it is estimated that the total costs to be \$145,139. The effectiveness score of 5 divided by this cost and multiplied by 1,000 gives the program a score of 0.034.

Alternative 5: Let Present Trends Continue

The final policy alternative would see no change from the current course of action Loaves and Fishes is currently taking. Due to this, there would be no incurred costs from this policy option. In addition, since this is no change from current practices, no new individuals will be served by this policy. This gives this policy option an effectiveness score of 0. From this, the cost-effectiveness of allowing present trends continue would be 0.

Administrative Feasibility Analysis

An important consideration that needs to be made when considering the merit of each policy option is how likely it is to actually be implemented. If time and resources should be heavily invested in a project or not. The primary component behind this is a policy's administrative feasibility. This takes one of two forms, either Loaves and Fishes' direct implementation of a policy or their advocacy for it. In order to determine a policy's administrative feasibility, each is graded on a scale from high-to-low determined in part by the amount of political will and policy change required to see each policy's implementation.

Alternative 1: Revise the Charlottesville Bus Route

The first policy alternative, revising the current Charlottesville bus route system, requires Loaves and Fishes to invest time and resources in advocating for change. While initially, it seemed that this proposal would receive a fairly high mark in its political feasibility rating, as there was a positive reception to moving the bus stop down to the intersection of Whitewood and Hydraulic Road. However, during a recent dialogue with the Charlottesville Area Transit Authority, a new concern arose over the quantity of food individuals would be bringing onto public transportation (Mills, Personal Communication, April 3, 2019). Given the uncertainty of support for the proposal and the services provided by Loaves and Fishes at large, this alternative would receive a rating of medium for its administrative feasibility.

Alternative 2: Install a Sidewalk

The next policy alternative, the installation of a sidewalk alongside Lambs Road would primarily rely on the actions of Loaves and Fishes. This is largely due to them owning the land that runs along Lambs Road and could pay for the sidewalk out of pocket if they so choose. However, there would still be some city ordinances they would have to comply with such as acquiring a building permit. Even with this requirement, building permits are a fairly routine service provided by city governments thus giving this alternative an administrative feasibility score of high.

Alternative 3: Subsidized Ride Share

As with the first alternative, the option of introducing a subsidized ride-sharing option in Charlottesville would require an advocacy campaign supported by Loaves and Fishes. Given that this is a fairly large-scale shift in current policy and it would require a financial commitment by the city for the foreseeable future, it could be quite difficult to implement. These potential challenges in actually seeing this policy enacted gives it an administrative feasibility score of low.

Alternative 4: Home Delivery

The next alternative sees Loaves and Fishes directly implementing a new program, delivery of food directly to communities in need. Given that this is solely a decision by Loaves and Fishes within the organization, the concerns and debate over implementation would be confined internally and would not need to see implementation by an outside entity. There may be some internal concern about this new program, that resources were being stretched to thin. If Loaves and Fishes' executive committee decided to implement this proposal, they easily could do so. Given this, the administrative feasibility of this policy alternative is graded as high.

Alternative 5: Let Present Trends Continue

The last alternative sees that Loaves and Fishes do not alter its approach and continues to serve its mission under its current actions. Unless there is large internal dissatisfaction and sentiment for a need to increase its outreach, this approach could be easily

maintained. The ease gives this policy alternative an administrative feasibility score of high.

Equity Analysis

Alternative 1: Revise the Charlottesville Bus Route

In order to determine the merit of each alternative, they next be will be evaluated based on the merit of their equity. If each program sees out to provide equal and ample opportunity to fulfill their services. To determine their equity, each alternative will be graded on a scale from high to low. The first alternative, revising the Charlottesville bus route received a grade of a medium. While it helps to increase access to Loaves and Fishes for those who rely on public transportation, it does little else beyond that scope. It does not aid those who cannot access public transit from their residence or cannot afford the ridership fee. It also does not help serve the disabled as they will still be required to walk two-tenths of a mile to reach the Loaves and Fishes facility.

Alternative 2: Install a Sidewalk

The next alternative, the installation of a sidewalk received an equity score of low. It receives this score because while it may make Loaves and Fishes slightly more accessible, it only does so for those who currently utilize the service. It does not help to address larger food insecurity in Charlottesville, only helping to make the Loaves and Fishes Food Pantry more convenient for current customers.

Alternative 3: Subsidized Ride Share

The next alternative, a subsidized ride-sharing option to food providers could provide a great alternative to addressing larger food insecurity in Charlottesville, but it is not without its flaws. Ride-sharing options today heavily rely on technology to utilize their services. Due to this, such a policy option could pose a barrier for those who do not have access to such technology or are unsure how to use it. Given the factors, this policy option is given a grade of a medium for its equity as it still opens doors for food access in the city.

Alternative 4: Home Delivery

The policy option, delivery of food by Loaves and Fishes receives the highest marks in equity as long as all communities in need are served. It received a high mark due to its full inclusion. Instead of relying on other services, this option directly connects Loaves and Fishes with its potential recipients. It does not require outside knowledge or usage of public transportation. This proposal helps to support the financially constrained, the elderly, and the disabled.

Alternative 5: Let Present Trends Continue

The last policy option, let present trends continue, receives an equity score of low. This is largely due to it providing no new policy change in addressing food insecurity in the city of Charlottesville. Instead, it relies on in-place policies and practices to continue the

efforts. This does not see to better service for all residents, as the only those who currently utilize Loaves and Fishes' services will continue to.

Unstated Benefits Analysis

Alternative 1: Revise the Charlottesville Bus Route

The additional benefits posed by this alternative fall largely along the lines of convince. The creation of a new bus stop would see to a better service of customers who rely on the Charlottesville Area Transit to reach Loaves and Fishes. Given that some of these benefits can also be attributed to other evaluative criteria, most notably effectiveness in helping increased access, this policy option receives a medium grade in its unstated benefits.

Alternative 2: Install a Sidewalk

The alternative of installing a sidewalk provides many unstated benefits, largely in the form of convince for current customers. Walking alongside Lambs Road can prove to be quite dangerous. Seeing that this alternative helps to better serve Loaves and Fishes' clientele and promote their safety, this policy alternative receives a high remark for this criterion.

Alternative 3: Subsidized Ride Share

The alternative of seeing a subsidized ride-share option implemented in Charlottesville would also create many unstated benefits. This proposal would help benefit many areas and communities currently underserved by public transportation systems. Given that it would largely aid in access, this alternative receives a medium mark by this criterion.

Alternative 4: Home Delivery

The policy alternative, food delivery by Loaves and Fishes, receives a high mark under this criterion. This is due to the large aid it provides to many less fortunate individuals. It helps to take some of the stress often times associated in their lives with having enough to eat. It also aids them by not requiring them to rely on other services to acquire access to Loaves and Fishes' services.

Alternative 5: Let Present Trends Continue

The alternative of letting present trends continue, pose no unstated benefits. This is due to its maintenance of the current practices of Loaves and Fishes. This gives the alternative a grade of low.

Outcome Matrix

In order to determine which policy would ultimately be recommended, the criterion scores each policy received were input into an output matrix. The scores were then multiplied by the weight for each criterion and added together to get a final score. Weights were assigned to each criterion based on their perceived importance. Due to this,

the unstated benefits criterion received a weight of only 10 percent, as there are few large-scale implications from this evaluation and it does little to see to actual improvement in food security in Charlottesville. The criterion administrative feasibility receives a weight of 20 percent. It was given this higher weight, due to the importance of seeing a policy actually implemented but it is not the most important criterion for seeing improvement in Charlottesville. Cost-effectiveness received a weight of 30 percent because it is important that a policy utilizes scarce resources in an effective manner. What was weighted as the most important criterion was equity. This is because to ensure that food security is improved in Charlottesville all communities need to equal access to a policy, ensuring systemic inequities are not continued.

Upon evaluating each policy alternative upon these weighted measures, it was found that the best policy option would be the home food delivery. To determine this, each criterion score was multiplied by the weight and the scores were then added together. A sensitivity analysis was then conducted to determine the impact of the various weights on the selected policy. If the weights for the first three criteria; cost-effectiveness, administrative feasibility, and equity, were for all equal at 30 percent and unstated benefits remained at 10 percent, the same policy would be recommended. Even when all measures are given equal weight, alternative 3 maintains the edge. Due to this, it is recommended that Loaves and Fishes should implement a home food delivery program. The full outcome matrix can be accessed below in *Appendix 2*.

	Cost- Effectiveness (30%)	Administrative Feasibility (20%)	Equity (40%)	Benefits (10%)	Score
Revise Bus Route	0.966	Medium	Medium	Medium	1.690
Install Sidewalk	0.017	High	Low	High	1.590
Subsidize Ride Share	0.488	Low	Medium	Medium	1.205
Home Food Delivery	0.034	High	High	High	2.246
Present Trends Continue	0	High	Low	Low	1.110

Conclusion & Policy Recommendation

Food insecurity is a major problem facing many facets of our society. It is our collective mission to see to that we leave this world better than we left it. Part of that mission is helping to serve one another. Loaves and Fishes serves the primary purpose of serving the hungry in the Charlottesville community. This organization seeks to see that in their

community, no man, woman, or child goes hungry. While their current operations serve this mission, they feel there is more than can be done. Alleviating food insecurity is a large, one that cannot be tackled alone. With initial steps, however, change can begin to take place within a community. These initial steps need drivers and that is the role Loaves and Fishes can play.

Through this policy analysis, it is recommended that the first step Loaves and Fishes takes in attempts to address food insecurity in Charlottesville is the implementation of a food delivery system. This proposal would see that on a monthly basis, Loaves and Fishes would deliver food to a select location and then proceed to distribute it to needy individuals. This proposal was decided upon after an evaluation of four criteria; cost-effectiveness, administrative feasibility, equity, and unstated benefits. While it may not be the most cost-efficient alternative, this is largely due to the nature of the program. Instead of taking an advocacy role, as with the first and third options, Loaves and Fishes is directly acting to see change in society. This action inherently drives up costs and makes it seem less appealing. Under analysis of the other three criteria is where this alternative stood out. For the highest weighted criterion, equity, this was the only policy option to score the highest mark. This is largely due to its direct action within the communities of need. It does not require individuals to seek out opportunities but instead brings solutions to their doorsteps. For administrative feasibility, this alternative also scored very highly due to its internal nature. It does not rely on another entities approval and can see immediate implementation. This proposal also scored highly under the last criterion due to its direct interaction with those in need, by being able to connect with them and empower them.

Furthermore, this proposal would help combat food insecurities for disadvantage individuals directly in their communities while preventing any new barriers from arising. While this initial step food insecurity at large can begin to be combated in the city of Charlottesville.

Implementation Strategy

To see this policy efficiently implemented, there are a few recommended steps that Loaves and Fishes take in approaching this policy alternative. The most paramount is determining where the need is. To do this Loaves and Fishes could rely on its current clientele to expand their knowledge. An initial step Loaves and Fishes would need to take is running a survey. This step would help them to understand where current recipients heavily reside within Charlottesville. This survey can also be utilized as a tool to identify heavily food insecure areas in the city. Given this, it will be very likely there are even more individuals in those neighborhoods that require Loaves and Fishes' services but lack access.

Once target neighborhoods are identified, it is recommended that Loaves and Fishes run a preliminary pilot program. They should set up delivery in one neighborhood at first to

better understand the merit of the program. Once a targeted neighborhood is selected, a dialogue with a community leader needs to be created. This community leader will help to spread the word in the community about the food program as well as help Loaves and Fishes determine an appropriate place to distribute the food. Loaves and Fishes must also determine the eligible population to receive this food, if it will just be the elderly and disabled or a larger food insecure population will be allowed to participate. To see greater change, it would be recommended that a large population be allowed to participate.

Loaves and Fishes can then utilize this pilot program to determine the positives of this program and if they feel like it merits expansion. If Loaves and Fishes finds this program truly helps them to achieve their underlying mission and is beneficial in increasing food security in Charlottesville, they can use their finding to open a dialogue with other food banks in the region. If they were able to partner with other regional food banks, they would be able to save resource and focus on support a few select neighborhoods. If other food banks were to join in this process, this would allow more individuals to be served while allowing Loaves and Fishes to not spread their resources too thin.

Appendices

Appendix 1: Cost-effectiveness spreadsheet

[Link to Cost-Effectiveness Spreadsheet](#)

Appendix 2: Outcome Matrix

[Link to Outcome Matrix Spreadsheet](#)

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