



# Revitalizing Transportation in Martinsville and Henry County

---

**Prepared for: Allyson Rothrock**  
President, The Harvest Foundation

**Prepared by: Lester Coleman**  
Master of Public Policy Candidate at  
the University of Virginia

## Acknowledgements

I would first like to thank the Harvest Foundation for providing me with the opportunity to conduct my analysis. I would like to especially thank Allyson Rothrock for taking me on this past year. Ally, you have a burning desire to help our community, which has been evident since our first meeting. Thank you for mentoring me and teaching me how to be professional and prompt. I would also like to thank India Brown who has constantly supported me and been my sounding board this spring. The Martinsville and Henry County community is fortunate to have such incredible leaders at the helm of the Harvest Foundation.

I would also like to thank Professor Kirsten Gelsdorf for her support. You were too kind to spend so much time with me on this project. You provided invaluable feedback as I narrowed the scope of my project during the fall.

Finally, I would like to thank Professor Andy Pennock. Thank you for your endless support me in this project through all of the written feedback and last-minute meetings. I especially appreciate how you constantly challenged me to make this report the best that it could be!

## Disclaimer

The author conducted this study as part of the program of professional education at the Frank Batten School of Leadership and Public Policy, University of Virginia. This paper is submitted in partial fulfillment of the course requirements for the Master of Public Policy degree. The judgements and conclusions are solely those of the author, and are not necessarily endorsed by the Batten School, by the University of Virginia, or by any on entity.

## Honor Statement

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



## About The Harvest Foundation

The Harvest Foundation was founded in 2002 after the sale of the Martinsville Memorial Hospital for \$150 million. The Harvest Foundation is a 501(c)3 organization that awards grants to organizations in the community that promote wellness, education, and economic vitality. The total net assets of the organization were \$226 million in 2019.

The Harvest Foundation typically administers about \$10 million in grants into the Martinsville and Henry County community every year. The Foundation focuses on three core areas of funding:

1. **Workforce** - The Harvest Foundation supports programs that promote business and increase the skills of the M-HC workforce.
2. **Investment** - The Harvest Foundation supports programs that result in increased investment in the area that increase the overall M-HC tax base.
3. **Advocacy** - The Harvest Foundation supports advocacy efforts for collaborative partnerships and innovative solutions. The organization also supports advocacy efforts that focus on increased investment and economic development in Martinsville and Henry County.

## Staff



**Allyson Rothrock**  
President



**Georgia Compton**  
Controller



**F. DeWitt House, Jr.**  
Senior Program Officer



**Kim Harris**  
Executive Assistant



**Sheryl Agee**  
Impact Officer



**Latala Hodges**  
Director of Communications



**India Brown**  
Program Officer



**Stacy Peters**  
Grants Administrator

## Key Definitions

Patriot Centre Industrial Park

The Patriot Centre Industrial Park is a 1,000-acre park located in Henry County. It serves about 20 different businesses and is located along a 3.3-mile road.

YesMartinsville

YesMartinsville is known more formally as the Martinsville-Henry County Economic Development Corporation. The organization was founded in 2004 by the City of Martinsville, Henry County, Martinsville-Henry County Chamber of Commerce, and The Harvest Foundation. The Harvest Foundation has provided about \$26 million in funding to YesMartinsville since 2004.

## List of Abbreviations

M-HC

Martinsville and Henry County, Virginia

NAFTA

North American Free Trade Agreement

PART

Piedmont Area Regional Transit

SAAA

Southern Area Agency on Aging

SNAP

Supplemental Nutrition Assistance Program

TANF

Temporary Assistance for Needy Families



## Table of Contents

<b>Acknowledgements</b>	2
<b>Disclaimer</b>	2
<b>Honor Statement</b>	2
<b>About The Harvest Foundation</b>	3
Staff	3
<b>Key Definitions</b>	4
<b>List of Abbreviations</b>	4
<b>Table of Contents</b>	5
<b>Executive Summary</b>	7
<b>Introduction</b>	8
<b>Problem Definition</b>	10
<b>Background</b>	11
M-HC's Educational Attainment and Reliance on Unskilled Labor	11
Patriot Centre Industrial Park	11
Commuting Patterns to the Patriot Centre Within M-HC	13
Private Transportation Providers in M-HC	14
Public Transportation in M-HC	15
<b>Literature Review</b>	16
Importance of Public Transportation in Rural Towns	16
Better Buses, Better Cities	17
Social Welfare Subsidies	19
<b>Policy Options</b>	21
Option I: Redesign the PART	21
Option II: Car Repair Subsidy Pilot Program	25
Option III: Advertising and Education Campaign on Ride Solutions	26
<b>Evaluative Criteria</b>	27
Analysis of Policy Options	29
Option I Analysis: Redesign the PART	29
Option II Analysis: Car Repair Subsidy Pilot Program	32
Option III Analysis: Advertising and Education Campaign	34

<b>Full Outcome Matrix.....</b>	<b>36</b>
<b>Recommendation .....</b>	<b>37</b>
<b>Implementation .....</b>	<b>39</b>
<b>Conclusion .....</b>	<b>40</b>
<b>Bibliography .....</b>	<b>41</b>
<b>Appendix A: M-HC Demographics and Key Statistics.....</b>	<b>46</b>
<b>Appendix B: On the Map Data .....</b>	<b>48</b>
<b>Appendix C: 2019 PART Schedules and Data .....</b>	<b>49</b>
Martinsville Route .....	49
Northern Route .....	50
Southern Route .....	51
<b>Appendix D: Pre-Approved Auto Repair Shop List.....</b>	<b>52</b>
<b>Appendix E: In-Person Ride Solutions Tutorial .....</b>	<b>53</b>

## Executive Summary

In 1994, President Bill Clinton signed the North American Free Trade Agreement (NAFTA). This treaty sent many unskilled American jobs overseas to a cheaper workforce. This left communities like Martinsville and Henry County economically depressed where the unemployment rate peaked at 18.3% in July 1994 (U.S. Bureau of Labor Statistics, 2020).

Over the past twenty-five years, the Martinsville and Henry County Community has worked hard to put residents back to work. In the past six years, about twenty new businesses have come to the area investing about \$300 million and creating 3,261 new jobs (*YesMartinsville Success Stories*, 2020). Seventeen of these new businesses have sourced their operations out of the Patriot Centre Industrial Park. There is a developing problem in the community that **too many employees of businesses in the Patriot Centre Industrial Park are missing work due to transportation issues**. Furthermore, there are growing concerns within the community that these businesses may leave the area if the transportation infrastructure within Martinsville and Henry County is not enhanced.

This analysis considers three potential options to help ease the transportation woes of the Patriot Centre workers. These interventions would be executed by the Harvest Foundation. This analysis evaluates three different options:

1. Redesign the Piedmont Area Regional Transit,
2. Car Repair Subsidy Pilot Program,
3. Advertising and Education Campaign on Ride Solutions.

These three options will be evaluated against the following criteria: effectiveness, cost, political acceptability, and feasibility of implementation.

This analysis recommends that the Harvest Foundation selects the Car Repair Subsidy Pilot Program. It is believed that this option will be the most efficient way to decrease the number of employee absences at the Patriot Centre. Implementation strategies for this recommendation are presented and highlight that this alternative could be implemented quickest.

## Introduction

In the twentieth century, Martinsville was one of the most prosperous towns in the United States of America. The small town was known as the *Sweatshirt Capital of the World* given that the community manufactured 60% of sweatshirts found in the world in the 1960's (Adams, 1976). It was also noted for having more millionaires per capita than any other city in the United States in the 1980's (Derks, 2000).

Martinsville and the surrounding county (Henry County) were a great place to live. Residents often argued that you didn't have to go to college. They could work for one of the large textile and manufacturing companies to make an honest living with health benefits and a generous retirement (Bonior, 2014). Unfortunately, this prosperity came to a halt in the late twentieth century.

The North American Free Trade Agreement (NAFTA) sent all of the textile and manufacturing jobs in Martinsville and Henry County overseas. Companies like Pannill Knitting Company went from employing some 5,000 residents in 1989 to zero by 1994 (*Textile Highlights*, 2013). NAFTA left the M-HC community economically depressed. The community has lost about 13% of their population since 1990 and the unemployment rate has been as high as 20% (*Henry County Population Growth*, 2018; *Martinsville City Population Growth*, 2018).

Martinsville and Henry County have struggled to chart a new path in the twenty-first century. It has not been easy, but the area is heading in the right direction thanks to community organizations like the Harvest Foundation. Since 2003, the Harvest Foundation has awarded and invested \$277 million into the Martinsville and Henry County community. The Harvest Foundation supports programs and initiatives that are centered around community and economic vitality.

Over the past decade, the Harvest Foundation has focused on getting M-HC residents back to work. The Martinsville unemployment rate was as high as 20.5% after the Great Recession. The Harvest Foundation and its partners have worked hard to bring the unemployment rate down to a decade low of 3.8%. Now that the people in Martinsville and Henry County are back to work, the Harvest Foundation is turning its attention to ancillary services that go hand in hand with full employment. One of these initiatives is transportation.

Transportation is an issue in Martinsville and Henry County because too many residents lack mobility. Automobiles are the only viable transportation method in M-HC because the community is so expansive and rural. There are too many residents who do not have reliable automobiles. This is especially problematic for residents



who work in the Patriot Centre Industrial Park.<sup>1</sup> Many residents struggle to make it to work at the Patriot Centre due to transportation issues.

The transportation issues of Martinsville and Henry County have intensified since the outbreak of the coronavirus pandemic. Most businesses in the Patriot Centre have temporarily shut down, which has caused lots of workers to be without pay. This pandemic has shed more light on the transportation woes of Martinsville and Henry County.

---

<sup>1</sup> The Patriot Centre is the industrial hub of Martinsville and Henry County. It is a two square mile area that is home to seventeen different businesses. These seventeen different businesses employ about 4,000 people. Please see Figure 1 on Page 12 for more details.

## Problem Definition

Transportation has been an ongoing issue for employers at the patriot Centre Industrial Park. **Too many employees in businesses at the Patriot Centre are missing work due to transportation issues.** There are concerns among community members that the major employers might take their operations elsewhere unless this transportation issue is resolved.

## Background

### M-HC's Educational Attainment and Reliance on Unskilled Labor

Martinsville and Henry County have one of the lowest educational attainment percentages in the state of Virginia. 45.2% of Martinsville and Henry County residents have a high school diploma or less (YesMartinsville, 2019). This is significant given that this is about 7 percentage points higher than the national average (U.S. Census Bureau, 2019). This highlights that M-HC's workforce is more uneducated than the average American city.

It is this uneducated demographic that keeps Martinsville reliant on unskilled labor. The community has not been able to bring in higher paying jobs given that 49.5% of households in M-HC have a total household income less than \$35,000 (YesMartinsville, 2019). It is estimated that nearly 18.7% of M-HC residents work in a manufacturing capacity, which is more than double the national average (U.S. Bureau of Labor, 2020).

### Patriot Centre Industrial Park

The Patriot Centre is the industrial hub of Martinsville and Henry County. The Patriot Centre is a 1,000-acre space that encompasses 32 different tracts of land that are available for businesses. There are currently 17 different businesses that are occupying 19 tracts of land. This means that there are more than thirteen different tracts of land that are available to be leased by new businesses.

The Patriot Centre is located just outside of Martinsville City in the Collinsville District of Henry County. The Patriot Center tracts are all located along two different roads. The roads are the Beaver Creek Hill Road and Hollie Drive. When combined, these two roads are about 3.3 miles in length.

**Figure 1: Patriot Centre Industrial Park**



## Commuting Patterns to the Patriot Centre Within M-HC

The Patriot Centre Industrial Park has about 2,500 workers who commute to the Patriot Centre on a daily basis during the week. Of those 2,500 workers, it is estimated that about 1,800 come from either Martinsville or Henry County.<sup>2</sup>

Henry County is estimated to be 384 square miles. The geography within the county is quite rural and most workers take country roads to the Patriot Center. There are two major highways that come near the Patriot Center. Highway 58 and Highway 220 come within eight and six miles of the Patriot Centre, respectively.

Figure 2 on the following page depicts the commuting patterns of M-HC residents to the Patriot Centre broken up by school districts. This is important to note given that workers at the Patriot Centre come from all over the city and county.

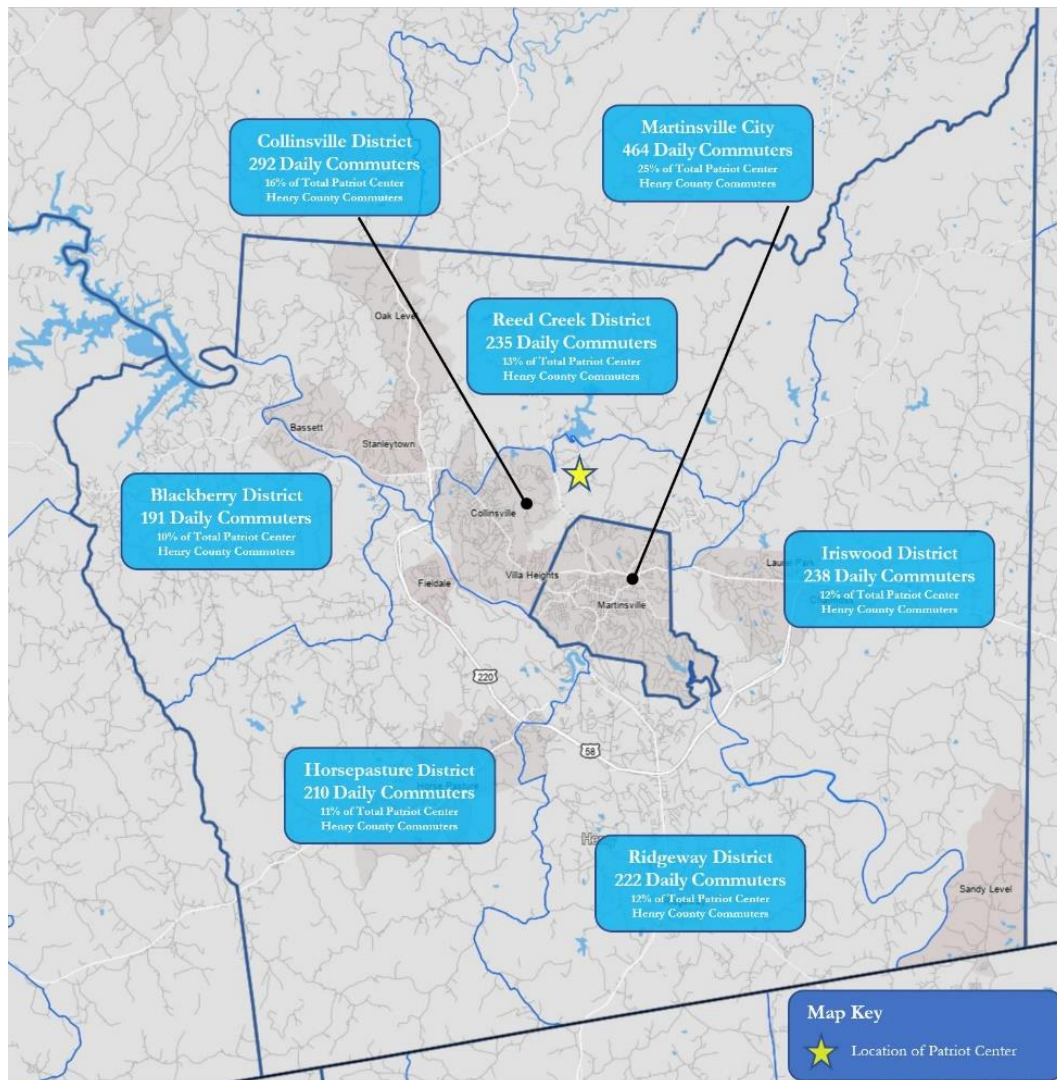
Please see Appendix B on page 48 for more details and data regarding the On the Map Data and commuting patterns to the Patriot Centre.

---

<sup>2</sup> Note: This Data was compiled using On The Map Census software. This data reports where individuals live and where they are employed. For the purposes of this report, it is assumed that the employees commute from their residences (even though that might not necessarily be the case).



**Figure 2: Commuting Patters to the Patriot Centre Within M-HC**



### Private Transportation Providers in M-HC

Martinsville and Henry County have limited private transportation options. Popular ride-sharing applications like Uber and Lyft do not operate within the community. It is also true that no taxi companies have registered any taxis for the 2020 calendar year. In fact, there is only one transportation company in the entire county, Charis Transportation.

Charis Transportation is a private company that was founded in 2013 and provides all types of transportation services. Charis provides on-demand services for residents who need immediate assistance, while also providing executive chauffeur and charter bus shuttles. An intra-county trip can range in price between \$10-\$50 depending upon the distance (*Charis Transportation, 2020*).



## Public Transportation in M-HC

Martinsville and Henry County currently have three different modes of Public Transportation:

1. **Voucher Program** – The Voucher Program is a transportation service provided by SAAA. The program provides local, non-emergency door-to-door transportation services to medical appointments on weekdays between 8a.m.-5p.m. These services must be scheduled in advance given that the sole local transportation provider is contracted out to provide these transportation services (*Voucher Program*, 2020). To qualify for this service, individuals must meet at least one of the following criteria:
  - a. Live in a household that does not qualify for medical transportation through Medicaid
  - b. Live in a household that does not have an automobile
  - c. The individual seeking the service does not have a driver's license
2. **Miles 4 Vets** – Miles 4 Vets is a transportation service provided by the Southern Area Agency on Aging of Southern Virginia (SAAA). This program provides free wheel-chair accessible transportation service to Veterans. The service goes to two different locations only once a week. On Monday's, the transportation service goes to the Danville Community Based Outpatient service. Riders must be scheduled one week in advance before the appointment (*Miles 4 Vets*, 2020).
3. **Piedmont Area Regional Transit (PART)** – The PART is a fixed-route transit system that was established in Martinsville and Henry County in 2009. The bus system operates three 14-passanger vans that are handicapped accessible. The buses operate on three different routes: Martinsville Route, Northern Route, and Southern Route. Each route takes one hour to complete. The system operates weekdays from 7:30a.m. until 5:30p.m. It costs fifty cents to ride and children under the age of six years old get to ride for free. The bus routes target high traffic areas within the community. Riders may request the bus operator to deviate  $\frac{3}{4}$  of a mile off of the fixed route to a destination of their choosing. All three buses met at the transfer locations (Lowe's Parking Lot) at the half-hour of every hour. This system is overseen and operated by a non-profit called RADAR from Roanoke, Virginia (*Bus System (P.A.R.T.)*, 2020).

Please see Appendix C on pages 49-51 for more information regarding the bus schedule, route, and ridership data.

## Literature Review

### Importance of Public Transportation in Rural Towns

Public transportation is an important attribute of every city in the United States of America. There is a common misconception that public transportation only works in cities where there are a large number of people occupying a small space.

There are thirteen towns in the United States that have less than 50,000 residents yet provide over one million bus trips to residents. In fact, there are three towns that provide more than two million. Macomb, Illinois is a town with less than 20,000 residents and the city provided 1.5 million bus rides to residents within the town in 2018 (American Public Transportation Association, 2019).

There are a number of reasons as to why public transportation should be a part of rural cities across the United States. In general, public transportation systems in rural towns aid three different groups of people.

The first group of people that public transportation aids are elderly persons. Elderly persons are classified as individuals at or above the age of 65 years old. M-HC and other rural towns across the United States have an inordinate number of elderly persons. Nearly 23.1% of the M-HC residents are classified as elderly while the national average is about 15% (United States Census Bureau, 2017; YesMartinsville, 2019).

Public transportation allows elderly people to stay mobile. It is estimated that elderly people who do not drive make "15 percent fewer trips to the doctor, 59 percent fewer trips to shop or eat out, and 65 percent fewer trips to visit friends and family, than drivers of the same age" (Bailey, 2004). Therefore, public transit is important in giving these elderly persons mobility.

The second group of people that public transportation aids are the low-income. Low-income persons who live in rural areas spend a disproportionate amount of their income towards their private transportation resources. It is estimated that rural households spend, on average, seven percentage points more on transportation than their urban counterpart (Litman, 2018). This is especially important for an area like Martinsville and Henry County where 49.5% of households have a combined household income of less than \$35,000 (YesMartinsville, 2019).

Public Transportation allows low-income individuals to spend money on things other than their private transportation. The average American spend 16 cents of every dollar earned toward transportation and nearly 93% of that is towards "buying, maintaining, and operating cars" (American Public Transportation Association, 2020). All else equal, eliminating the private vehicle for low-income individuals allows their

dollars to go further. It is important to note that this isn't just true for low-income households, but for all households in America.

The third group of people that public transportation aids are disabled persons. It is also estimated that there are a disproportionate number of disabled persons in rural communities. Disabled persons take about "50 percent more trips on public transit than unimpaired people do" (Litman, 2018).

Public transportation in rural towns can help the elderly, low-income, and disabled, but it is also true that it can aid the average American. Furthermore, there are other reasons as to why public transportation is important in rural towns.

One of the most important reasons why public transportation is important in rural towns is because of its safety. It is estimated that it is 10x safer to travel via public transit than by a private automobile (American Public Transportation Association, 2020). This is especially important in rural towns because of the high percentage of traffic fatalities. It is estimated that 19 percent of the U.S. population is made up of rural residents, but that these rural residents account for 49% of all traffic fatalities (American Public Transportation Association, 2020).

The last reason as to why public transportation is important in rural towns is because of economic reasons. It is estimated that rural towns that have public transportation have an average net earnings growth that is 11 percent higher than rural towns without transportation systems (Burkhardt et al., 1998).

### Better Buses, Better Cities

Buses are the most popular public transportation method in the world. It is estimated that there are nearly three million buses that are currently in operation for public transportation (Chediak, 2018). They account for about half of public transportation trips that travelers make on public transportation in the United States every year. This is despite the fact that bus ridership in the United States has decreased in the last fifteen years (Mallett, 2018).

Bus ridership has decreased over the past fifteen years because many bus systems have not been designed effectively. Steven Higashide, Director of Research for Transit Center, argues that there are two key principles to an efficient bus system. First, bus systems must provide service to desirable areas that people would like to go to. Second, the buses must run frequent enough so that people don't have to plan their schedules around them (Higashide, 2019).

## **Desirable Destination**

The first attribute of an effective bus system is that the bus goes to a place where the riders want to go. The first desirable destination that riders want to go to is their place of residence. There is substantial research that shows that people who live near a public transit stop are much more likely to take public transit. This holds true even when residents have their own cars (TransitCenter, 2016).

The next desirable destination that bus routes must include are places of work. It is estimated that one in three individuals who board public transportation are riding it to work (TransitCenter, 2016). Therefore, it is important when designing a bus system to have these key places. However, this information also tells us another story. Two in three trips on public transit are non-commuting so it is important to include stops that aren't residential neighborhoods and places of work.

Most notably, the research suggests that there are three non-commuting destinations that should be included in transit networks. The first destination are grocery stores. Grocery stores are important because it is a destination that the average American travels to weekly. Places of recreation are another desirable destination because they help encourage residents to stay active and healthy. Finally, places of education are a desirable destination (Higashide, 2019). In fact, one study in San Diego showed that low-income families were more likely to participate in after-school activities if there was a bus connecting them to and from the location (Boarnet et al., 2017).

## **Frequency**

While a desirable destination is the first attribute of an effective bus system, the most important attribute is the frequency. All else equal, bus riders want a bus that comes by a particular stop more frequently. In 2016, TransitCenter asked 3,000 bus riders what the bus system could do to improve their service. The most common response was to increase the frequency of the service (Higashide, 2019). Frequency gives riders the ability to plan their life around the bus system whereas infrequent service does not.

There are two common sense approaches to increase the frequency of a bus system. The first way is to add more buses to the route. If there is only one bus on a bus route then adding an additional bus would decrease the average wait time by 50%. Many transit planners look to add an additional route when they secure additional funding. Researchers from the University of Utah found that adding another bus to a current route is 20% more effective than adding an additional route (Lyons et al., 2017).

The second way to increase frequency is to reduce the number of stops. In transit study, there is the Ridership-Coverage Tradeoff. The basic idea is that routes that are designed for ridership are usually direct. This is different than routes that are

designed for coverage which are indirect and long (Higashide, 2019). The takeaway is that the more direct buses will come more frequently.

There is little doubt that adding buses to current routes and removing unnecessary stops will increase the frequency of the bus, but there are actually two other ways to change the perceived frequency of the bus according to riders. This is to say that riders sometimes perceive the wait for the bus to be longer than it actually is. Adding a countdown clock or a smartphone application that estimates the wait time can reduce the time penalty perceived by riders (Higashide, 2019).

The second thing that transit planners can do to make the bus to appear more frequent is to have bus stop signs, benches, and shelter. In M-HC, the PART bus system has no bus stop signs, benches, or shelters. Researchers from the University of Minnesota found that riders reported that a two-minute wait felt like eight minutes when there was no bus stop sign, bench, or shelter. When bus riders had all three items, the time penalty “nearly disappeared” meaning that riders perceived time spent waiting was more in line with reality (Fan et al., 2016). While it is nice to have all three items, it is important to note that “a bench alone was enough to significantly cut perceived waiting time” (Higashide, 2019).

## Social Welfare Subsidies

Social welfare subsidies are a type of government assistance that gives essential items to low-income persons. They are an attempt to help humans with their basic needs. The United States has many different social welfare programs in place. One of the most widely known programs is the Supplemental Nutrition Assistance Program (SNAP). SNAP is a government program that provides qualified low-income household with coupons for groceries that are redeemable at grocery stores (*What Is SNAP? | Feeding America*, 2020). It is argued that this program was effective given that SNAP lifted 4.7 million Americans out of poverty in 2014 (Furman & Munoz, 2015).

Another popular social welfare subsidy in the United States is the Temporary Assistance for Needy Families (TANF). TANF is known as a work-to-pay social welfare subsidy where low-income individuals must work at least 30 hours and make less than a certain threshold in order to be eligible to qualify for the TANF cash transfer (National Center for Children in Poverty, 2020). The cash transfer has no restrictions, which means that recipients can spend the money in any way that they see fit. TANF and other cash transfer policies are unpopular in the United States. This is evidence by the fact that successful cash transfer programs in the 1980s and 1990s were never scaled up in the United States (Kenny, 2015).

The major concern that most Americans have with cash transfer program is that the recipients will waste the money. Many fear that low-income individuals will take their

cash transfer and then spend it on illicit products like tobacco and alcohol. Even lawmakers from Kansas have this fear which is why they stipulated on a cash transfer policy that recipients could not use it to purchase a tattoo or lingerie (Kenny, 2015). Research from cash transfer programs around the world contend that the recipients do not waste the money. One study in Mexico noted that cash transfer recipients didn't waste their money on "alcohol, tobacco, or junk food" but that they spent it on "nutritious food items such as fruits and vegetables" (Jesse M. Cunha, 2014).

The other major concern that most Americans have with cash transfer programs is that they disincentive low-income individuals to work. This fear is well documented given that the TANF program requires that low-income individuals must work 30 hours in order to qualify for the assistance. Research indicates that the fear of disincentivizing work with cash transfers is unfounded. Numerous studies highlighted that cash transfers had "no effect on the number of hours" the recipients worked (*Research on Cash Transfers*, 2020). Researchers from South Africa even noted that the cash transfers actually increased the number of working hours that individuals worked because they were often able to find better work elsewhere and start working more (Cally Ardington et al., 2009).

The most important attribute of cash transfer programs are the positive long-term impacts they have on the recipients. Cash transfer programs help improve the health of the recipients. Researchers in Ecuador found that the recipients of cash transfers had better hemoglobin levels than those who did not receive the cash transfers (Paxson & Schady, 2010). The recipients of cash transfer programs generate more income in the future. Researchers in Mexico found that cash transfer recipients invest 26% of their cash allocation into revenue-generating assets like crops. Furthermore, this helped them permanently increase their "long-term consumption by about 1.6 cents" on average (Paul J. Gertler et al., 2012).

Despite the fears that most Americans have, cash transfers are one of the most effective ways to help those in need. The research shows that cash transfer recipients spend the money on the items they need most. This leads not only more positive health outcomes, but greater future earnings. There is also no conclusive evidence that cash transfers decrease the number of hours that cash transfer recipients work.



## Policy Options

This section presents three different policy options that the Harvest Foundation could implement to aid the workers at the Patriot Centre. The following section, “Evaluative Criteria”, will explain the parameters to consider when deciding which policy options may be the most effective. The “Analysis of Policy Option” then applies the evaluative criteria to the three policy options.

### Option I: Redesign the PART

This policy option seeks to make the Piedmont Area Regional Transit (PART) a more viable transportation option for the workers who work in businesses at the Patriot Centre. The PART buses are currently not a viable option for these workers because of three different reasons. First, the PART bus system does not have a stop at the Patriot Centre Industrial Park. Second the PART bus routes are inefficient and too slow. Finally, the hours of the PART Bus system are not expansive enough to include shift workers who start early and end late.

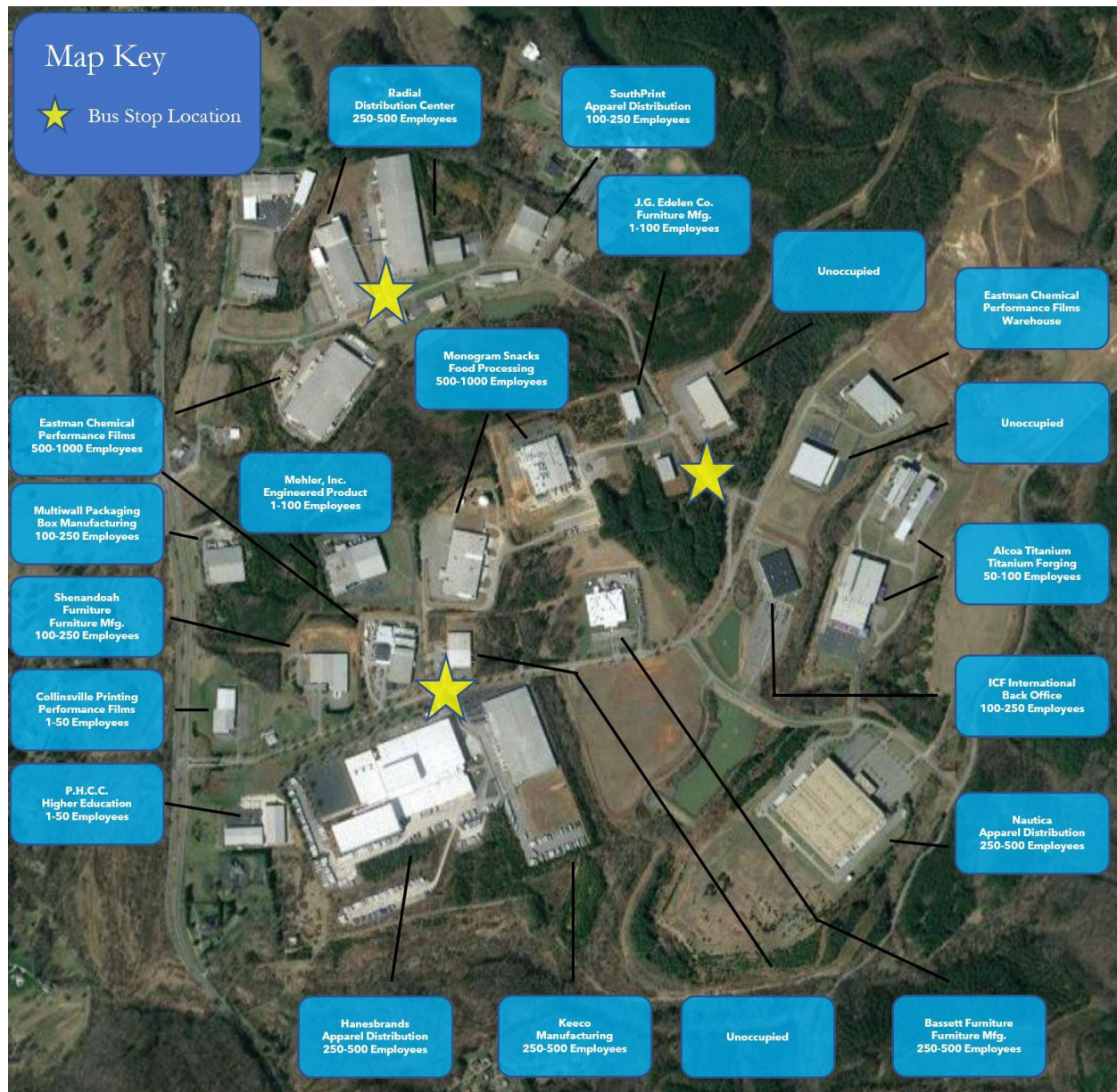
In summary, this policy option proposes three changes to make the PART Bus System a more viable transportation option for workers at the Patriot Centre. The changes are as follows:

1. Add three bus stops along the roads of the Patriot Centre Industrial Park,
2. Cut non-performing bus stops to make the PART buses more frequent,
3. Extend the hours of the PART.

The first change within this policy option is to add three bus stops at the Patriot Centre. These three bus stops will be strategically placed along the two roads (Beaver Hill Creek Drive and Hollie Drive) at the Patriot Centre. This policy option aims to put the stops in a position where the majority of workers will have less than a .325 mile walk to work. This is an important consideration given that the most loyal transit riders typically have less than .325 of a mile to walk after they get off public transit (El-Geneidy et al., 2013).

Please see the Figure 3 on the next page to understand exactly where the bus stops will be placed.

**Figure 3: Bus Stops at the Patriot Centre Industrial Park**



This policy option also calls for a sign, bench, and shelter at all three of these Patriot Centre Bus Stops. This is because of two different reasons. First, it is important to give bus riders a dignified place to wait. The research suggests that transit riders feel “exposed and uncomfortable” when waiting at a bus stop that is not properly marked (Higashide, 2019). Therefore, this policy option aims to make the riders feel comfortable. The second reason why this policy option calls to install a sign, bench, and shelter at all three bus stops is to increase the perceived frequency of the bus. Researchers from the University of Minnesota found that transit riders perceive a 2-minute wait to take 8-minutes when there is no bus stop, bench, or shelter. However,

once the bus stop infrastructure is put in place than the “time penalty” disappears (Fan et al., 2016).

The second change within this policy option is to reduce the number of bus stops. This may seem counterintuitive after adding three additional stops, but current research argues that transit planners should cut bus stops that are non-performing and not at desirable locations (Higashide, 2019). It is estimated that all three bus routes could cut the number of bus stops in half and still maintain about 80% of their riders. For example, the Northern Route could cut seven of fourteen stops and still have 78% of their ridership. Even after adding in the three stops at the Patriot Centre, this policy option estimates that the bus would be able to make one loop in about 45 minutes rather than 53 minutes.<sup>3</sup>

**Figure 4: Northern Route Passenger Exits (First Nine Months of 2020)<sup>4</sup>**

	Bus Stop	Total Exits	% of Total	% of Total
1	Maplewood Apt	1,397	10.6%	10.6%
2	The Results Companies	82	0.6%	
3	Knights Inn	285	2.2%	
4	Wheeler Ave	495	3.8%	
5	Wheeler Ave/Ridgecrest Rd	563	4.3%	
6	Collinsville Shopping Center	814	6.2%	6.2%
7	Daniels Creek/Tienda Store	609	4.6%	
8	Daniels Creek/King Mtn Rd	773	5.9%	5.9%
9	Henry County Admin	267	2.0%	
10	Patrick Henry C.C.	1,192	9.0%	9.0%
11	Liberty St/Stultz Rd	542	4.1%	
12	Northview Garden Apt	1,168	8.9%	8.9%
13	Walmart	1,601	12.1%	12.1%
14	Transfers	3,405	25.8%	25.8%
Total		<b>13,193</b>	<b>100%</b>	<b>78.5%</b>

Please see Appendix C on page 49-51 for the new route itinerary for the Martinsville and Southern Route Buses.

<sup>3</sup> According to Google Maps. Please note that this does not include added waiting time for passengers to get on and off. That was not estimated and added for these total time projections.

<sup>4</sup> Please note that there are some limitations in this data. The data only reflects where riders get off, but not where they are picked up. It could be true that multiple riders are getting picked up at a particular stop and then do not take the public transit back to that stop and therefore it is not reported.

The last change within this policy option is to extend the hours of the PART. The PART bus system currently operates from 7:30a.m. to 5:30p.m. This policy option calls to extend the hours of operation from 5:00a.m. to 8:00p.m. The aim of extending the hours is to make the PART buses more accessible for Patriot Centre workers. Many of the businesses (most notably the two largest: Eastman Chemical and Monogram Snacks) start their first shift at 7:00a.m. which is thirty minutes before the PART buses begin to run. Additionally, some of the businesses don't finish their operations until after 7p.m. By starting the PART buses earlier and running them later, it can be argued that the PART buses will be more accessible to workers at the Patriot Centre.

## Option II: Car Repair Subsidy Pilot Program

This policy option calls for a one-year pilot program of car repair subsidies. Employees at one business located at the Patriot Centre would be eligible to grant each employee who is commuting from Martinsville or Henry County with a \$500 subsidy to repair their car. This \$500 subsidy could be redeemed at one of the fifteen pre-approved auto repair shops in Martinsville and Henry County (see Appendix D for full list). It is important to note that this subsidy is only redeemable for employees who make less than \$35,000 per year. This subsidy could be used towards a motorcycle if that is the employee's primary transportation method.

This policy option states that there are three guidelines for businesses that are eligible to apply for this pilot program:

1. The firm must be located at the Patriot Centre,
2. The firm must have between 100-250 employees,
3. More than 50% of the business's employees must be Martinsville or Henry County citizens.

The next important thing to address is what the \$500 subsidy would cover. It is important to note that this subsidy would only be eligible to cover items that improve the reliability and safety of the car. This is to say that the subsidy will not be able to cover superfluous things like a new stereo system or a new interior setup. The subsidy will only cover items that are related to (1) Engine (2) Transmission (3) Brake System (4) Spark Plugs (5) Faulty Cables (6) Car Batteries (7) Tired (8) Alternators (9) Fuel Pumps and (10) Towing Costs.

It is also important to note that the subsidy recipients could be proactive with their car. The car does not necessarily have to be broken down in order for them to use the subsidy. For instance, an employee could apply this subsidy to new brake pads even if their current brake pads have not given out yet. This policy option trusts the discretion of the auto repair employees.

On that note, this policy option puts a lot of trust into the repair shops in Martinsville and Henry County. This policy option calls for them to be briefed on what is and is not permissible under the subsidy. If there were to be a scenario where something was improperly billed, if it were a first offense for the repair shop, then it would be overlooked and taken care of by the subsidy. However, if it were a second offense and it did not appear to be unintentional then the garage would be removed from the approved list of garage shops.

India Brown and Kim Harris of the Harvest Foundation would communicate with the auto repair shops to validate that an employee could receive these services. This is more preferable than disseminating a sheet with eligible participants to all the garages because of privacy concerns for the Patriot Centre workers.



### Option III: Advertising and Education Campaign on Ride Solutions

This policy options calls for an advertising and education campaign on Ride Solutions. These two campaigns will be targeted towards workers at the Patriot Centre. This policy option requires a partnership between the Harvest Foundation and Ride Solutions to make resources accessible and understandable.

Ride Solutions is a nonprofit company based out of Roanoke, Virginia whose mission is to connect individuals to transportation options in two ways. First, Ride Solutions provides users with information about local public transportation services. Second, Ride Solutions helps connect individuals who are consistently commuting to a particular place and a particular time. Ride Solutions incentivizes people to use the application by granting them rewards like 25% off at their local Domino's Pizza (*Ride Solutions*, 2020).

This policy option will institute its education through two different channels: (1) In-Person Tutorials and (2) Websites. First, the in-person tutorials will be put on at all businesses located at the Patriot Centre. The intention of this policy option is to work in this program into a regular Human Resources meeting at each business. However, if this is not possible, then this policy option seeks to pause the production lines for the first thirty minutes of work while Ride Solutions personnel go through their presentation. It is important to recognize the difficulty of putting the production line on hold, but it is logistically the best time to do it. If it were to be held before or after work then there could be some key disadvantaged people who would miss this presentation. This policy option argues that the employers at the Patriot Centre will have to be bought into fixing this problem and this is why this option asks to pause the production lines.

Please flip to Appendix E on pages 53-57 to see the agenda of the presentation that Ride Solutions personnel would give to businesses at the Patriot Centre.

The second channel of education will be through an online website. The online website will be an extension of the Harvest Foundation's website. The website will feature more information and video tutorials on how to download and use the Ride Solutions application. It would also provide the telephone and email information of Ride Solutions staff who would be able to provide any help on pressing matters.

Finally, the advertising campaign will consist of television and radio advertisements. This policy option calls for 2,000 30-second television commercials in year 1. The television commercials will be shot and edited by professional videographers in conjunction with Ride Solution. This policy option also calls for daily radio advertisements on local radio stations in the first year.



## Evaluative Criteria

The following report offers three different policy options that are aimed to reduce the number of absences at work due to transportation issues at the Patriot Centre Industrial Park. The maximum score for an alternative is twelve total points. The policy options are evaluated using the following criteria:

### Effectiveness

Effectiveness refers to each policy option's ability to decrease the number of absences at work due to transportation issues. The businesses located in the Patriot Center track employee absences and the reason for their absence. Therefore, an effective policy option will decrease the overall number and the percentage of employees who miss work due to transportation issues.

The policy options will be scored based on the following principles:

- A policy option that will substantially reduce the number of absences due to transportation issues will receive a high effective rating. **3 points.**
- A policy option that will moderately reduce the number of absences due to transportation issues will receive a medium effective rating. **2 points.**
- A policy option that will barely reduce the number of absences due to transportation issues will receive a low effective rating. **1 point.**

### Cost

Cost refers to the monetary investment needed to carry out this policy option over a one-year period. This criterion assumes that all cash flows are in the present value given that they will all be paid in year 1. A low-cost option is more desirable, all else equal.

The policy options will be scored based upon the following principles:

- $\$0 < \text{Policy Option} < \$50,000$ . **3 points.**
- $\$50,001 < \text{Policy Option} < \$80,000$ . **2 points.**
- $\$80,001 < \text{Policy Option} < \$150,000$ . **1 point.**

## Political Acceptability

Political Acceptability refers to the acceptance of the policy option by important community leaders and stakeholders in the Martinsville and Henry County Community. This criterion ensures that important stakeholders besides the Harvest Foundation approve of this policy option. These other important stakeholders include the city and county government leaders, local businesses, and YesMartinsville. An effective policy option will be accepted and supported by these important community leaders and stakeholders.

The policy option will be scored based upon the following principles:

- A policy option that will be widely accepted by the important stakeholders will receive a high political acceptability rating. **3 points.**
- A policy option that will be moderately accepted by the important stakeholders will receive a medium political acceptability rating. **2 points.**
- A policy option that will hardly be accepted by the important stakeholders will receive a low political acceptability rating. **1 point.**

## Feasibility of Implementation

Feasibility of Implementation refers to the ability to implement the policy option. This criterion will assess the likelihood that the policy option will be eligible for local, state, and federal grants. This criterion will also assess whether this is something that the Harvest Foundation could fund. A policy option that will be funded and implemented is preferred, all else equal.

The policy option will be scored based upon the following principles:

- A policy option that has a strong likelihood of being funded and implemented will receive a high feasibility of implementation rating. **3 points.**
- A policy option that has a decent likelihood of being funded and implemented will receive a medium feasibility of implementation rating. **2 points.**
- A policy option that has a low likelihood of being funded and implemented will receive a low feasibility of implementation rating. **1 point.**

## Analysis of Policy Options

### Option I Analysis: Redesign the PART

#### Effectiveness: Low (1)

This policy option would aid two different types of workers who do not have reliable private transportation, but it would leave one important group out. The first type of workers that this policy option would aid are those who live close enough and are able to walk to the bus stop. The second type of workers that this policy option would aid are the workers who have a neighbor or family member who can drive them to the bus stop (but not necessarily all the way to work). However, this bus stop is leaving out the largest majority of people.

The majority of people who work at the Patriot Centre are commuting from rural areas within Henry County. It is estimated that 53% of Patriot Centre workers are commuting from Henry County school districts that are not Martinsville City or Collinsville District (*On The Map Software*, 2020). It is also important to note that just because the PART operates in Martinsville and Collinsville, that does not necessarily mean that the PART comes close enough to residences to pick workers up.

#### Cost: High (1)

It is estimated that the net present value of the costs of this alternative equal \$109,500. The cost structure of this alternative can be broken down given the following timeline.

**Table 1: Redesign the PART Nominal Cost**

		Costs
Extend PART Hours	Gas	\$25,000
	Labor	\$37,500
	Maintenance	\$8,000
Bus Stop Signs, Benches, and Shelters	Creation & Installation	\$36,000
	Maintenance	\$3,000
		<b>\$109,500</b>

**Extending the Part Hours: \$70,500** - This policy options calls for extending the hours of all three PART buses by five hours. This figure is found given the following assumptions and items.

- **Gasoline** - Each route on the PART bus is about 20 miles. It takes an hour to complete one loop and the buses are operating for an additional five hours under this policy. This means that the be bus travels (5 hours \* 20 miles) =100

more miles per day. This means the bus goes  $(100 \text{ miles} * 5 \text{ days}) = 500$  additional miles a week and then  $(500 \text{ miles} * 50 \text{ weeks}) = 25,000$  miles per year. Given that there are three buses, we can assume that the buses are going to go an additional 75,000 miles per year. Assuming that gasoline costs \$3 per gallon and that the PART buses get 15 miles per gallon then that means  $(75,000 \text{ Miles} / \$3 \text{ per gallon}) = \$25,000$  per year. Therefore, the total gasoline costs associated with this option are **\$25,000**.

- **Labor** - It is estimated that each PART driver will be working an additional 5 hours per day. Let's assume that the PART drivers make \$10 per hour, then that means that one PART driver would make an additional \$50 per day. That means the driver would be making  $(\$50 \text{ per day} * 5 \text{ days a week}) = \$250$  additional per week or  $(\$250 \text{ per week} * 50 \text{ weeks}) = \$12,500$  per year. This means that the labor costs for three drivers  $(\$12,500 \text{ per year} * 3 \text{ drivers}) = \$37,500$  per year. The total labor costs associated with this option are **\$37,500**.
- **Maintenance** - This option assumes that each bus will have \$2,000 in additional maintenance costs due to the extended hours. Since there are three buses, it is assumed that there will be  $(3 \text{ buses} * \$2,000 \text{ maintenance costs}) = \$8,000$  of maintenance costs per year. The total maintenance costs are **\$8,000**.

**Bus Signs, Benches, and Shelters: \$39,000** - This policy option calls for the creation and installation of three bus stop signs, benches, and shelters. This figure is found given the following assumptions and items.

- **Creation and Installation** - There will be three bus stop signs, benches, and shelters that will be installed along the two roads at the Patriot Centre Industrial Park. It is estimated that average stop sign, bench, and shelter will cost about \$12,000 to produce, deliver, and install at the Patriot Centre. Given there will be three bus signs, benches, and shelter, the associated cost with this creation and installation is **\$36,000**.
- **Maintenance** - It is estimated that \$1,000 should be allotted towards the maintenance of each bus stop. Given that there are three bus stops, this means that there will be \$3,000 in annual maintenance costs that will be recognized. This maintenance costs are **\$3,000**.

#### Political Acceptability: Medium (2)

Important leaders and stakeholders in Martinsville and Henry County will have mixed opinion on this policy option. On one hand, community leaders have expressed interest in taking existing transportation infrastructure and enhancing it to fix the transportation problem at the Patriot Centre. On the other hand, other leaders argue that this policy option does not get to the root of the problem. They argue that the commuting patterns within Henry County are so expansive that a bus system could not adequately provide transportation to all of the workers at the Patriot Centre.

### Feasibility to Implement: Medium (2)

This policy option aims to implement three different initiatives. The first initiative is to add three bus stop signs, benches, and shelters at the Patriot Centre. It is estimated that this initiative has a high likelihood of receiving Capital Assistance from the Department of Rail and Public Transportation in the state of Virginia (2020). This is because this initiative falls within the guidelines and the average grant amount. The second initiative of cutting the non-performing bus stops had a decent chance of implementation. This is dependent upon city and county governmental officials agreeing to cut the stops and current estimates dictate that they are divided. The last initiative is to extend the hours of the PART and there is a small likelihood that that gets implemented.

## Option II Analysis: Car Repair Subsidy Pilot Program

### Effectiveness: High (3)

It is estimated that this policy option would be effective in decreasing the number of employee absences due to transportation issues at Patriot Centre. The \$500 car repair subsidy would help those with the greatest needs. This is because the poorest individuals in Henry County often live the furthest away from the city of Martinsville and the Patriot Centre. However, there are some concerns that the employees wouldn't be proactive enough with this subsidy for fear of being stigmatized. It is also that this funding might not be enough to fully repair their cars. Despite these concerns, it is estimated that the majority of workers would use this subsidy and it would ultimately be effective.

### Cost: Medium (2)

		Costs
Car Repair Subsidy	Subsidies	\$62,500
	Administrative Costs	\$12,500
		<b>\$75,000</b>

This policy option calls for a one-year pilot program for one business located in the Patriot Centre Industrial Park. The parameters of this policy option indicate that the business must be between 100-250 employees. Let's error on the upper bound and estimate the costs using 250 employees. If a business at the Patriot Centre has 250 employees, we can safely assume that at least 50 make over \$35,000 per year and would not qualify for the car repair subsidy. Additionally, we can assume that at least 75 individuals are commuting from outside of Martinsville and Henry County. This is given that about 2,000 individuals commute into Martinsville and Henry County from surrounding cities and counties in Virginia every day (YesMartinsville, 2019). This means that we are left with 125 employees who qualify for the car repair subsidy. A \$500 subsidy granted to 125 different employees would cost at maximum \$62,500. It is important to note that we must add an additional 20% or \$12,500 for administrative costs that will come with this subsidy (Kenny, 2015). It is important to remember that this pilot program will only last one year. Therefore, the total cost of the car repair subsidy is **\$75,000**.



### Political Acceptability: Medium (2)

Many important leaders and stakeholders in the Martinsville and Henry County community advocate for a living wage. This is a policy option that is similar to a living wage in that it seeks to put money back in the hands of those who need it most. It is also true that the businesses in the area would be supportive of an outside organization subsidizing their employee's car repair costs. Despite these two groups, it is expected that there will be opposition to this policy option. It is quite expensive per person and there is no guarantee that the \$500 subsidy will be able to cover all the repair costs of the vehicle.

### Feasibility of Implementation: Medium (2)

The major concern with this policy option is that it does not necessarily fit under any transportation grants, which means it would be up to the Harvest Foundation to fund. It is reasonable to assume that the Harvest Foundation could finance this pilot program given that they invest about \$10 million back into the M-HC community each year. After the funding source has been secured, then the implementation is straight forward. The auto repair shops must be educated and briefed on what is acceptable and then the money must be dispersed when employees are requesting to fix their cars. It is also important to note that this policy option could be implemented within a month if the Harvest Foundation chooses to fund this project.

## Option III Analysis: Advertising and Education Campaign

### Effectiveness: Low (1)

This policy option would have mixed results for workers who are commuting to the Patriot Centre. On one hand, this policy option would help some workers get to work through ridesharing. However, it is important to note that this policy option would only aid the employees who live along another employee's route to the Patriot Center. It is true that the most vulnerable populations live the furthest out from Martinsville. Therefore, there are concerns that this policy option would not aid them in getting to work.

There are other concerns that this technology would not be adopted by the employees. M-HC has an older demographic and they may not be comfortable with the technology. Additionally, there are concerns that not all of the workers at the Patriot Centre would will have a smart phone. Finally, there are concerns that some of the workers would not feel comfortable sharing their home address with people that they may have met online. It is because of all of these reasons that this option is determined to have a low effectiveness rating.

### Cost: Low (3)

It is estimated that the net present value of the costs of this alternative equal \$41,500. The cost structure of this alternative can be broken down given the following timeline.

**Table 2: Ride Solutions Nominal Cost**

		Costs
Education	In-Person	\$8,500
	Online	\$2,000
Advertisements	Television	\$20,000
	Radio	\$11,000
		<b>\$41,500</b>

**Education: \$10,500** - This policy option calls for providing in-person and online educational seminars.

- **In-Person Education** - This policy option estimates that it will cost \$500, on average, to run an education seminar at each business in the Patriot Centre. This \$500 includes all of the transportation, preparation, and presentation costs that are incurred to give the presentation. Given that there are 17 different businesses located in the Patriot Centre, it can be estimated that this will cost (17 businesses \* \$500) = **\$8,500**.

- **Online Education** - This policy option estimates that a professional video editor will be needed for 10 hours to complete the online videos. Given that it costs about \$100 per hour to hire a video editor, it can be estimated that this will cost ( $\$100 \text{ per hour} * 10 \text{ hours}$ ) = \$1,000. Then, there will be another \$1,000 necessary to publish these videos on the Harvest Foundation's website. Therefore, the total cost is estimated to be **\$2,000**.

**Advertisements: \$31,000** - This policy option calls for advertisements on local tv and radio stations within Martinsville and Henry County.

- **Television** - It is estimated to cost \$10 to advertise a 30-second commercial in an area like Martinsville and Henry County (Rudder, 2019). This policy option calls for 2,000 television commercials, which will cost ( $\$10 * 2,000 \text{ commercials}$ ) = **\$20,000**.
- **Radio** - It is estimated that radio advertisements listed for one week in Martinsville and Henry County will cost \$200 per week. Given that these radio advertisements will be listed for 52 weeks, it is estimated that this will cost ( $\$200 * 52 \text{ weeks}$ ) = **\$11,000**.

**Technology: \$0** - It is important to note that this technology has already been rolled out in Roanoke Valley area. This technology extends all the way down to Martinsville and Henry County and therefore would not cost anything to use.

Political Acceptability: High (3)

It is estimated that the community leaders and stakeholders in Martinsville and Henry County will be supportive of this policy option given that the technology has already been released and is accessible. Businesses would also be supportive of this option.

Feasibility of Implementation: Low (1)

This policy alternative does not fall under any traditional state and federal transportation grants. Therefore, this policy option would have to be funded by the Harvest Foundation in order for it to be implemented. This would not be able to be implemented until 2021.

## Full Outcome Matrix

	Alternative 1: Bus Stops Signs, Benches, and Shelters	Alternative 2: Car Repair Subsidy Pilot Program	Alternative 3: Ride Solutions Campaigns
Efficiency	Low (1)	High (3)	Low (1)
Cost	High (1)	Medium (2)	Low (3)
Political Acceptability	Medium (2)	Medium (2)	High (3)
Feasibility of Implementation	Medium (2)	Medium (2)	Low (1)
Total Points	<b>6</b>	<b>9</b>	<b>8</b>

## Recommendation

Given the three alternatives and the criteria evaluations, it is recommended that you implement Option II: Car Repair Subsidy Pilot Program. Of all the policy options, it is estimated that the car repair subsidy pilot program will be the most efficient way to decrease the number of employee absences at the Patriot Centre due to transportation issues.

The most important characteristic of the car repair subsidy is that it is the most effective way to solve the problem. The problem in M-HC is that too many workers are not showing up to work due to transportation issues. The car repair subsidy targets those people specifically who are having the issue. This is done through the fact that the only employees who are eligible are those who make less than \$35,000 per year. It is also important to note that research from other subsidies like SNAP and TANF highlight the effectiveness of programs.

The other two policy options were not as effective as the car repair subsidy and relied on too many assumptions. Redesigning the PART was not effective because it leaves out the majority of workers who live outside the three bus routes. Residents who live within the city probably do not live close enough to a bus stop for it to be a viable option. The Advertising and Education Campaign on Ride Solutions was not effective either because it relies on too many assumptions. Not only does this option assume that workers can use the technology, but it also would only work if workers who have reliable transportation are willing to share their vehicles. Furthermore, there are some major privacy and safety concerns that come with using the application.

The car repair subsidy pilot program is also attractive because of the cost structure and implementation process. The car repair subsidy had a moderate amount of costs associated with it. However, 80% of the costs went towards helping those who need it most. Additionally, the subsidy would be the easiest to implement. After the funding source is secured, then there are only two other steps that must be completed before the program is instituted. This means that it could be implemented within three months. The other two options had much longer time horizons and required additional partnerships to implement.

The only criterion that the Option II underperformed in was the political acceptability. The good news is this is the only criterion that is subject to change. It is anticipated that community leaders will be opposed to this option. This is because it is a more progressive option. However, it is true that businesses in the Patriot Centre would be in favor of this pilot program. This policy option if implemented and extended could be a great recruiting tool for bringing new businesses to the Patriot Centre. It would also encourage the employers to hire workers from the Martinsville and Henry County area rather than workers from other counties and cities.

Finally, it is important to note that this recommendation has many positive externalities that are outside the scope of this problem statement. The car repair subsidy will give workers more mobility to commute to things other than work. Not only will this help produce a happier workforce, but it also true that more mobility will give the workers more of a chance to put money back into the local economy by visiting local stores and restaurants.



## Implementation

In order to proceed with the recommended alternative, the Harvest Foundation will need to secure the funding stream. While the Harvest Foundation could look for various grants within the state, it would likely expedite the process if they provided the funding themselves.

Once the funding source is secured, then there are two additional steps to complete. First, the Harvest Foundation will need to lead a meeting with the participating auto shops in the Martinsville and Henry County community. This meeting will be held at the New College Institute in Downtown Martinsville at the auditorium. It is at this meeting that India Brown of the Harvest Foundation will go over all of the details about the subsidy. She will provide a presentation on what is and is not permissible under the subsidy. After the presentation, she will answer any of the questions that the auto repair shop managers may have. She will also provide each garage with a one-page guide on what is and is not included in the subsidy.

The next part of the implementation process is briefing the workers at the participating pilot study business. India Brown will give a 30-minute presentation where she will go over what will and will not be included in the subsidy. She will then take questions and will also disseminate flyers as to what exactly will be included in this program. These fliers will also be posted to the Harvest Foundation website. India will provide her cell phone number and encourage the workers to reach out if they have any questions regarding the program.

After the workers and auto repair shop managers have been briefed, the subsidy will start. When a pilot program employee shows up to an auto repair shop requesting for car repair services, the auto repair shop will call and confirm with Kim Harris at the Harvest Foundation that this person is qualified for the program. While this does seem inefficient, this course of action is preferable because of privacy concerns. If Kim Harris is not available then the auto repair shop will contact India Brown to seek approval to work on the car of a pilot program employee.

The Harvest Foundation will work with the chosen business in the Patriot Centre to measure and evaluate the effectiveness of this pilot program on reducing employee absences to work due to transportation issues.

## Conclusion

There are two problems in Martinsville and Henry County. The first problem is that there is a lack of public transportation infrastructure in M-HC. The second problem is that too many employees at the Patriot Centre are missing work due to transportation issues. While on the surface they seem like they are the same problem, it is my opinion that they are two different problems and will need two different solutions.

The scope of this project has been focused on aiding Patriot Centre workers who are having transportation issues. It is recommended that the Harvest Foundation also looks to increase the public transportation infrastructure within the community. Many of the proposals outlined in redesigning the PART could be implemented to aid this effort. However, it is my opinion that those proposals will not effectively help Patriot Centre workers who are struggling to get to work.

To conclude, I want to encourage the Harvest Foundation to create deep, sustainable change and to remember that that might include an alternative that is not in the public eye.

## Bibliography

Adams, J. S. (1976). *Martinsville and Henry County Historic Views*.

American Public Transportation Association. (2019, April). *2019 Public Transportation Fact Book*. [https://www.apta.com/wp-content/uploads/APTA\\_Fact-Book-2019\\_FINAL.pdf](https://www.apta.com/wp-content/uploads/APTA_Fact-Book-2019_FINAL.pdf)

American Public Transportation Association. (2020). *Public Transportation Facts*. American Public Transportation Association. <https://www.apta.com/news-publications/public-transportation-facts/>

Bailey, L. (2004, April). *Aging Americans: Stranded Without Options*. [https://www.apta.com/wp-content/uploads/Resources/resources/reportsandpublications/Documents/aging\\_stranded.pdf](https://www.apta.com/wp-content/uploads/Resources/resources/reportsandpublications/Documents/aging_stranded.pdf)

Boarnet, M. G., Giuliano, G., Hou, Y., & Shin, E. J. (2017). First/last mile transit access as an equity planning issue. *Transportation Research Part A: Policy and Practice*, 103, 296–310. <https://doi.org/10.1016/j.tra.2017.06.011>

Bonior, J. (2014, December 11). *They Once Had the Best Job in Town. Not Anymore*. <https://www.americanmanufacturing.org/blog/entry/they-once-had-the-best-job-in-town.-not-anymore>

Burkhardt, J. E., Hedrick, J. L., & McGavock, A. T. (1998). *Assessment of the economic impacts of rural public transportation*. National Academy Press.

*Bus System (P.A.R.T.)*. (2020). City of Martinsville Virginia. <https://www.martinsville-va.gov/residents/bus-system-p-a-r-t>

- Cally Ardington, Anne Case, & Victoria Hosegood. (2009). Labor Supply Responses to Large Social Transfers: Longitudinal Evidence from South Africa. *American Economic Journal: Applied Economics*, 1(1), 22.
- Charis Transportation. (2020). Charis Transportation. <http://gocharis.com/home.html>
- Chediak, M. (2018, February 1). Electric Buses Will Take Over Half the World Fleet by 2025. *Bloomberg*.
- Derks, S. (2000). *Working Americans*.
- El-Geneidy, A., Grimsrud, M., Wasfi, R., Tetreault, P., & Surprenant-Legault, J. (2013, October). *New Evidence on Walking Distances to Transit Stops: Identifying Redundancies and Gaps Using Variable Service Areas*.  
[http://tram.mcgill.ca/Research/Publications/Transit\\_service\\_area.pdf](http://tram.mcgill.ca/Research/Publications/Transit_service_area.pdf)
- Fan, Y., Guthrie, A., & Levinson, D. (2016, February). *Perception of Waiting Time at Transit Stops and Stations*.  
<https://conservancy.umn.edu/bitstream/handle/11299/180134/CTS16-01.pdf?sequence=1&isAllowed=y>
- Furman, J., & Munoz, C. (2015, December 8). *New CEA Report Finds that SNAP Benefits are Crucial for Families but Sometimes Inadequate*. Whitehouse.Gov.  
<https://obamawhitehouse.archives.gov/blog/2015/12/08/new-cea-report-finds-snap-benefits-are-crucial-families-sometimes-inadequate>
- Henry County Population Growth. (2018). <https://worldpopulationreview.com/us-counties/va/henry-county-population/>
- Higashide, S. (2019). *Better Buses, Better Cities*.

- Jesse M. Cunha. (2014). Testing Paternalism: Cash versus In-Kind Transfers. *American Economic Journal: Applied Economics*, 6(2), 195.
- Kenny, C. (2015, September 25). *The Best Way to Reform Welfare: Give Poor People Cash*. The Atlantic.  
<https://www.theatlantic.com/international/archive/2015/09/welfare-reform-direct-cash-poor/407236/>
- Litman, T. (2018). *Public Transportation's Impact on Rural and Small Towns*. 48.
- Lyons, T., Ewing, R., & Guang, T. (2017, November). *Coverage vs Frequency: Is Spatial Coverage or Temporal Frequency More Impactful on Transit Ridership?*  
<http://mrc.cap.utah.edu/wp-content/uploads/sites/8/2015/12/Coverage-vs-Frequency.pdf>
- Mallett, W. J. (2018). *Trends in Public Transportation Ridership: Implications for Federal Policy*. 19.
- Martinsville City Population Growth*. (2018). <https://worldpopulationreview.com/us-counties/va/martinsville-city-population/>
- Miles 4 Vets*. (2020). Mobility Management. <https://www.mile1.net>
- National Center for Children in Poverty. (2020). *NCCP | Temporary Assistance for Needy Families (TANF) Cash Assistance*.  
[http://www.nccp.org/profiles/index\\_36.html](http://www.nccp.org/profiles/index_36.html)
- On The Map Software*. (2020). <https://onthemap.ces.census.gov/>

Paul J. Gertler, Sebastian W. Martinez, & Marta Rubio-Codina. (2012). Investing Cash Transfers to Raise Long-Term Living Standards. *American Economic Journal: Applied Economics*, 4(1), 164.

Paxson, C., & Schady, N. (2010). Does Money Matter? The Effects of Cash Transfers on Child Development in Rural Ecuador. *Economic Development and Cultural Change*, 59(1), 187-229. <https://doi.org/10.1086/655458>

*Research on Cash Transfers*. (2020). GiveDirectly.

<https://www.givedirectly.org/research-on-cash-transfers/>

*Ride Solutions*. (2020). <https://www.ridesolutions.org/>

Rudder, A. (2019, May 20). *Local & National TV Advertising Costs & How to Advertise 2019*. Fit Small Business. <https://fitsmallbusiness.com/tv-advertising/>

*Textile Highlights*. (2013). Martinsville-Henry County Virginia.

<https://www.visitmartinsville.com/textile-highlights>

TransitCenter. (2016). *Who's On Board 2016*. <https://transitcenter.org/wp-content/uploads/2016/07/TransitCenter-WOB-2016.pdf>

United States Census Bureau. (2017, May). *Older Americans Month*. The United States Census Bureau. <https://www.census.gov/newsroom/facts-for-features/2017/cb17-ff08.html>

U.S. Bureau of Labor. (2020, April 14). *Industries at a Glance: Manufacturing: NAICS 31-33*. <https://www.bls.gov/iag/tgs/iag31-33.htm>



U.S. Bureau of Labor Statistics. (2020, April 16). *Unemployment Rate in Henry County, VA*. FRED, Federal Reserve Bank of St. Louis; FRED, Federal Reserve Bank of St. Louis. <https://fred.stlouisfed.org/series/VAHENR5URN>

U.S. Census Bureau. (2019, February 21). *Educational Attainment in the United States: 2018*. The United States Census Bureau.  
<https://www.census.gov/data/tables/2018/demo/education-attainment/cps-detailed-tables.html>

Virginia Department of Rail and Public Transit. (2020). *FY2021 Grant Program Application Guidance*.

*Voucher Program*. (2020). Mobility Management. <https://www.mile1.net>

*What is SNAP? | Feeding America*. (2020). <https://www.feedingamerica.org/take-action/advocate/federal-hunger-relief-programs/snap>

YesMartinsville. (2019). *M-HC Market Profile*.

*YesMartinsville Success Stories*. (2020). Martinsville-Henry County Economic Development Corporation (YesMartinsville).  
<https://www.yesmartinsville.com/news/all>

## Appendix A: M-HC Demographics and Key Statistics

### Martinsville Population Growth

Year	Population	% Change
2018	12,902	-3.12%
2014	13,317	-3.21%
2010	13,760	-8.03%
2000	14,961	-7.43%
1990	16,162	-10.95%
1980	18,149	-7.65%
1970	19,653	

### Henry County Population Growth

Year	Population	% Change
2018	50,953	-2.44%
2014	52,230	-3.51%
2010	54,132	-2.53%
2000	55,537	-2.47%
1990	56,942	-1.23%
1980	57,654	13.27%
1970	50,901	

### 2019 M-HC Household Income

Household Income Base	Percent	Percent Total
< \$15,000	19.4%	19.4%
\$15,000 - \$24,999	15.0%	34.4%
\$25,000 - \$34,999	15.1%	49.5%
\$35,000 - \$49,999	15.9%	65.4%
\$50,000 - \$74,999	16.7%	82.1%
\$75,000 - \$99,999	8.7%	90.8%
\$100,000 - \$149,999	6.2%	97%
\$150,000 - \$199,999	1.6%	98.6%
\$200,000 +	1.4%	100%

\*Note: 28,610 Households

\*\*Average Household Income: \$49,332

### 2019 M-HC Population by Race/Ethnicity

Race/Ethnicity	Percent
White Alone	65.8%
Black Alone	27.2%
American Indian Alone	0.2%
Asian Alone	0.8%
Pacific Islander Alone	0.0%
Some Other Race Alone	3.6%
Two or More Races	2.3%

\*Count: 66,209 individuals

### 2019 Population 25+ by Educational Attainment

Educational Attainment	Percent
Less than 9 <sup>th</sup> Grade	6.7%
9 <sup>th</sup> - 12 <sup>th</sup> Grade, No Diploma	12.0%
High School Graduate	26.5%
GED/Alternative Credential	6.8%
Some College, No Degree	21.1%
Associate Degree	11.6%
Bachelor's Degree	9.5%
Graduate/Professional Degree	5.8%

\*Count: 49,343

### 2019 Employed Population 16+ Industry

Industry	Percent
Agriculture/Mining	0.3%
Construction	7.1%
Manufacturing	18.7%
Wholesale Trade	1.9%
Retail Trade	12.6%
Transportation/Utilities	4.4%
Information	0.7%
Finance/Insurance/Real Estate	3.4%
Services	45.9%
Public Administration	4.9%

## Appendix B: On the Map Data

### 2019 Daily Commuting Patterns to Patriot Centre by County

County	Count	Share
All Counties	2,835	100.0%
Henry County, VA	1,388	49.0%
Martinsville City, VA	464	16.4%
Franklin County, VA	166	5.9%
Pittsylvania County, VA	160	5.6%
Patrick County, VA	143	5.0%
Rockingham County, NC	97	3.4%
Danville City, VA	95	3.4%
Guilford County, NC	26	0.9%

### 2019 Daily Commuting Patterns to Patriot Centre by County Subdivision

County Subdivision	Count	Share
All County Subdivisions	2,835	100.0%
Martinsville City, VA	464	16.4%
Collinsville District, VA	292	10.3%
Reed Creek District, VA	235	8.4%
Ridgeway District, VA	222	7.8%
Horsepasture District, VA	210	7.4%
Blackberry District, VA	191	6.7%
Danville City, VA	97	3.4%
Snow Creek District, VA	67	2.4%
Tunstall District, VA	59	2.1%

## Appendix C: 2019 PART Schedules and Data

### Martinsville Route

#### Martinsville Route Schedule

Stop	1st Trip	2nd Trip	3rd Trip	4th Trip	5th Trip	6th Trip	7th Trip	8th Trip	9th Trip	10th Trip
Wal-Mart	7:30am	8:30am	9:30am	10:30am	11:30am	12:30pm	1:30pm	2:30pm	3:30pm	4:30pm
American National University	7:34am	8:34am	9:34am	10:34am	11:34am	12:34pm	1:34pm	2:30pm	3:30pm	4:30pm
Womack Electric	7:36am	8:36am	9:36am	10:36am	11:36am	12:36pm	1:36pm	2:36pm	3:36pm	4:36pm
Martinsville Municipal Building	7:39am	8:39am	9:39am	10:39am	11:39am	12:39pm	1:39pm	2:39pm	3:39pm	4:39pm
Martinsville Library	7:42am	8:42am	9:42am	10:42am	11:42am	12:42pm	1:42pm	2:42pm	3:42pm	4:42pm
Virginia Museum of Natural History	7:44am	8:44am	9:44am	10:44am	11:44am	12:44pm	1:44pm	2:44pm	3:44pm	5:44am
Patrick Henry Mall	7:47am	8:47am	9:47am	10:47am	11:47am	12:47pm	1:47pm	2:47pm	3:47pm	4:47pm
Spruce Village	7:49am	8:49am	9:49am	10:49am	11:49am	12:49pm	1:49pm	2:49pm	3:49pm	4:49pm
Food Lion	7:51am	8:51am	9:51am	10:51am	11:51am	12:51pm	1:51pm	2:51pm	3:51pm	4:51pm
Memorial Hospital	7:53am	8:53am	9:53am	10:53am	11:53am	12:53pm	1:53pm	2:53pm	3:53pm	4:53pm
Department of Social Services	8:01am	9:01am	10:01am	11:01am	12:01pm	1:01pm	2:01pm	3:01pm	4:01pm	5:01pm
Grace Networks	8:08am	9:08am	10:08am	11:08am	12:08pm	1:08pm	2:08pm	3:08pm	4:08pm	5:08pm
Virginia Workforce Center	8:13am	9:13am	10:13am	11:13am	12:13pm	1:13pm	2:13pm	3:13pm	4:13pm	5:13pm
Village of Martinsville	8:19am	9:19am	10:19am	11:19am	12:19pm	1:19pm	2:19pm	3:19pm	4:19pm	5:19pm
Social Security	8:22am	9:22am	10:22am	11:22am	12:22pm	1:22pm	2:22pm	3:22pm	4:22pm	5:22pm

#### Northern Route Passenger Exits (First Nine Months of 2020)<sup>5</sup>

	Bus Stop	Total Exits	% of Total	% of Total
1	Social Security	123	0.7%	
2	Village of Martinsville	1063	6.2%	6.2%
3	Virginia Workforce Center	778	4.5%	4.5%
4	Grace Networks	221	1.3%	
5	Department of Social Services	1351	7.9%	7.9%
6	Memorial Hospital	707	4.1%	
7	Food Lion	802	4.7%	
8	Spruce Village	1329	7.8%	7.8%
9	Spruce Street	426	2.5%	
10	Patrick Henry Mall	1561	9.1%	9.1%
11	Virginia Museum of National History	558	3.3%	
12	Martinsville Library	822	4.8%	4.8%
13	Martinsville Municipal Building	1146	6.7%	6.7%
14	Womack Electronics	324	1.9%	
15	American National University	56	0.3%	
16	Walmart	2019	11.8%	11.8%
17	Transfers	3833	22.4%	22.4%
		<b>17119</b>	<b>100.0%</b>	<b>81.2%</b>

<sup>5</sup> Please note that there are some limitations in this data. The data only reflects where riders get off, but not where they are picked up. It could be true that multiple riders are getting picked up at a particular stop and then do not take the public transit back to that stop and therefore it is not reported.

## Northern Route

### Northern Route Schedule

Stop	1st Trip	2nd Trip	3rd Trip	4th Trip	5th Trip	6th Trip	7th Trip	8th Trip	9th Trip	10th Trip
Wal-Mart	7:30am	8:30am	9:30am	10:30am	11:30am	12:30pm	1:30pm	2:30pm	3:30pm	4:30pm
Northview Garden Apartments	7:37am	8:37am	9:37am	10:37am	11:37am	12:37pm	1:37pm	2:37pm	3:37pm	4:37pm
Liberty St/Stultz Rd	7:41am	8:41am	9:41am	10:41am	11:41am	12:41pm	1:41pm	2:41pm	3:41pm	4:41pm
Patrick Henry C.C.	7:49am	8:49am	9:49am	10:49am	11:49am	12:49pm	1:49pm	2:49pm	3:49pm	4:49pm
Henry County Administration	7:56am	8:56am	9:56am	10:56am	11:56am	12:56pm	1:56pm	2:56pm	3:56pm	4:56pm
Daniels Creek Rd/King Mountain Rd	7:59am	8:59am	9:59am	10:59am	11:59am	12:59pm	1:59pm	2:59pm	3:59pm	5:59am
Daniel Creek Rd/ Tienda Store	8:01am	9:01am	10:01am	11:01am	12:01pm	1:01pm	2:01pm	3:01pm	4:01pm	5:01pm
Collinsville Shopping Center	8:05am	9:05am	10:05am	11:05am	12:05pm	1:05pm	2:05pm	3:05pm	4:05pm	5:05pm
Wheeler Ave/Ridgecrest Rd	8:08am	9:08am	10:08am	11:08am	12:08pm	1:08pm	2:08pm	3:08pm	4:08pm	5:08pm
Wheeler Ave	8:09am	9:09am	10:09am	11:09am	12:09pm	1:09pm	2:09pm	3:09pm	4:09pm	5:09pm
Knights Inn	8:13am	9:13am	10:13am	11:13am	12:13pm	1:13pm	2:13pm	3:13pm	4:13pm	5:13pm
The Results Company	8:15am	9:15am	10:15am	11:15am	12:15pm	1:15pm	2:15pm	3:15pm	4:15pm	5:15pm
Maplewood Apt	8:21am	9:21am	10:21am	11:21am	12:21pm	1:21pm	2:21pm	3:21pm	4:21pm	5:21pm

### Northern Route Passenger Exits (First Nine Months of 2020)<sup>6</sup>

	Bus Stop	Total Exits	% of Total	% of Total
1	Maplewood Apt	1,397	10.6%	10.6%
2	The Results Companies	82	0.6%	
3	Knights Inn	285	2.2%	
4	Wheeler Ave	495	3.8%	
5	Wheeler Ave/Ridgecrest Rd	563	4.3%	
6	Collinsville Shopping Center	814	6.2%	6.2%
7	Daniels Creek/Tienda Store	609	4.6%	
8	Daniels Creek/King Mtn Rd	773	5.9%	5.9%
9	Henry County Admin	267	2.0%	
10	Patrick Henry C.C.	1,192	9.0%	9.0%
11	Liberty St/Stultz Rd	542	4.1%	
12	Northview Garden Apt	1,168	8.9%	8.9%
13	Walmart	1,601	12.1%	12.1%
14	Transfers	3,405	25.8%	25.8%
Total		<b>13,193</b>	<b>100%</b>	<b>78.5%</b>

<sup>6</sup> Please note that there are some limitations in this data. The data only reflects where riders get off, but not where they are picked up. It could be true that multiple riders are getting picked up at a particular stop and then do not take the public transit back to that stop and therefore it is not reported.



## Southern Route

### Southern Route Schedule

Stop	1st Trip	2nd Trip	3rd Trip	4th Trip	5th Trip	6th Trip	7th Trip	8th Trip	9th Trip	10th Trip
Wal-Mart	7:30am	8:30am	9:30am	10:30am	11:30am	12:30pm	1:30pm	2:30pm	3:30pm	4:30pm
Fayette St/Route 220	7:34am	8:34am	9:34am	10:34am	11:34am	12:34pm	1:34pm	2:30pm	3:30pm	4:30pm
Fayette St/Roudabout Rd	7:37am	8:37am	9:37am	10:37am	11:37am	12:37pm	1:37pm	2:37pm	3:37pm	4:37pm
Pony Place	7:39am	8:39am	9:39am	10:39am	11:39am	12:39pm	1:39pm	2:39pm	3:39pm	4:39pm
Dollar General/Food Lion	7:50am	8:50am	9:50am	10:50am	11:50am	12:50pm	1:50pm	2:50pm	3:50pm	4:50pm
Richwood Apartments	7:55am	8:55am	9:55am	10:55am	11:55am	12:55pm	1:55pm	2:55pm	3:55pm	4:55pm
Glenn Ridge Apartments	7:58am	8:58am	9:58am	10:58am	11:58am	12:58pm	1:58pm	2:58pm	3:58pm	4:58pm
Joseph Martin Hwy/Fisher Farm Rd	8:00am	9:00am	10:00am	11:00am	12:00pm	1:00pm	2:00pm	3:00pm	4:00pm	5:00pm
Tractor Supply Store	8:02am	9:02am	10:02am	11:02am	12:02pm	1:02pm	2:02pm	3:02pm	4:02pm	5:02pm
Community Storehouse	8:05am	9:05am	10:05am	11:05am	12:05pm	1:05pm	2:05pm	3:05pm	4:05pm	5:05pm
CVS	8:08am	9:08am	10:08am	11:08am	12:08pm	1:08pm	2:08pm	3:08pm	4:08pm	5:08pm
Rivermont Heights	8:11am	9:11am	10:11am	11:11am	12:11pm	1:11pm	2:11pm	3:11pm	4:11pm	5:11pm
DMV	8:16am	9:16am	10:16am	11:16am	12:16pm	1:16pm	2:16pm	3:16pm	4:16pm	5:16pm
Piedmont Community Services	8:18am	9:18am	10:18am	11:18am	12:18pm	1:18pm	2:18pm	3:18pm	4:18pm	5:18pm
Main St	8:21am	9:21am	10:21am	11:21am	12:21pm	1:21pm	2:21pm	3:21pm	4:21pm	5:21pm

### Southern Route Passenger Exits (First Nine Months of 2020)<sup>7</sup>

	Bus Stop	Total Exits	% of Total	% of Total
1	Memorial Rd	78	0.7%	
2	Fahi/Fayette St	261	2.3%	
3	Main Street/Uptown	598	5.2%	5.2%
4	DMV	874	7.7%	7.7%
5	Rivermont Heights	726	6.4%	6.4%
6	CVS	438	3.8%	
7	Community Storehouse	221	1.9%	
8	Tractor Supply	248	2.2%	
9	Joseph Martin Hwy / Fisher Farm Rd	22	0.2%	
10	Glenn Ridge Apartments	75	0.7%	
11	Richwood Apts	616	5.4%	5.4%
12	Food Lion	747	6.5%	6.5%
13	Dollar General	727	6.4%	6.4%
14	Pony Place	685	6.0%	6.0%
15	Fayette St/Roundabout Rd	568	5.0%	5.0%
16	Fayette St/Rte 220	370	3.2%	
17	Walmart	1417	12.4%	12.4%
18	Transfers	2734	24.0%	24.0%
		<b>11405</b>	<b>100.0%</b>	<b>85.0%</b>

<sup>7</sup> Please note that there are some limitations in this data. The data only reflects where riders get off, but not where they are picked up. It could be true that multiple riders are getting picked up at a particular stop and then do not take the public transit back to that stop and therefore it is not reported.

## Appendix D: Pre-Approved Auto Repair Shop List

Name	Phone Number	Address
<b>A R Bates Jr Garage</b>	276-650-8306	11220 Chatham Rd, Axton, VA 24054
<b>Auto Tech</b>	276-666-5957	1730 Virginia Ave, Martinsville, VA 24112
<b>Axton Auto Service</b>	276-650-2151	16680 Martinsville Hwy, Axton, VA 24054
<b>Danny's Auto Repair</b>	276-629-7382	1622 Fairystone Park Hwy, Bassett, VA 24055
<b>Doug's Import &amp; Auto Repair</b>	276-666-7168	30 Terrys Mountain Rd, Martinsville, VA 24112
<b>Elliott's Garage</b>	276-629-9070	2610 Fairystone Park Hwy, Bassett, VA 24055
<b>ERI Automotive Center</b>	276-732-5409	2610 Greensboro Rd., Martinsville, VA 24112
<b>Gene's Auto Repair</b>	276-647-1366	1915 Virginia Ave, Martinsville, VA 24112
<b>Jimmy's Tire &amp; Auto</b>	276-647-3881	3759 Virginia Ave, Collinsville, VA 24078
<b>Martinsville Collision Center</b>	276-666-6756	517 Memorial Blvd S, Martinsville VA, 24112
<b>McMillon Automotive</b>	276-650-3081	6478 Irisburg Rd, Axton, VA 24054
<b>Performance Automotive</b>	276-629-5571	2718 Fairystone Park Hwy, Bassett, VA 24055
<b>Pro Automotive</b>	276-666-2167	1741 Spruce St., Martinsville, VA 24112
<b>Ridgeway Tire &amp; Auto</b>	276-956-2665	7394 Greensboro Rd., Ridgeway, VA 24148
<b>Riverside Tire &amp; Auto</b>	276-632-7181	39 Dye Plant Rd., Martinsville, VA 24112

## Appendix E: In-Person Ride Solutions Tutorial

The agenda of the presentation that Ride Solutions will give to the various businesses at the Patriot Center are as follows.

**First,** the representatives from Ride Solutions will explain the purpose and capabilities of the application.

**Second,** they will explain and walk through a tutorial of how Ride Solutions can connect them to other riders in their neighborhood who commute in the same direction and at the same time as them....

Verizon LTE 10:04 PM

Profile Save

GENERAL

Username: lester1176

First name: Lester

Last name: Coleman

Gender: Male

Smoker: ☐ Yes ☐ No

Languages: English

About me: I work at Monogram Snacks...

HOME

Address: Windsong Ln, Martinsville, VA 241...

Joseph

Verizon LTE 10:05 PM

Profile Save

COMMUTE

Days: M-T-W-T-F

Leave at: No preference

Return at: No preference

I'll respond to: male non-smokers

who want to ...

car/vanpool: ☐ Yes ☐ No

bike: ☐ Yes ☐ No

walk: ☐ Yes ☐ No

take transit: ☐ Yes ☐ No

Carpooling: I'll drive or ride

I have vehicle: ☐ Yes ☐ No

They will walk the workers through how to download and access the Ride Solutions application. Then, they will show them how to create a profile.

Verizon LTE 10:04 PM

Profile Save

HOME

Address: Windsong Ln, Martinsville, VA 241...

Joseph

Rich Acres School P...

ORGANIZATION

Name: Monogram Snacks

Website: www.monogramsnacks.com

Address: 200 Knauss Dr, Martinsville, VA 2...

Verizon LTE 11:08 PM

Profile Save

ORGANIZATION

Name: Monogram Snacks

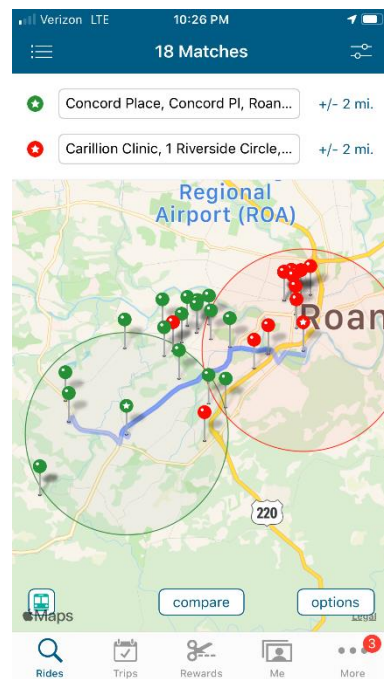
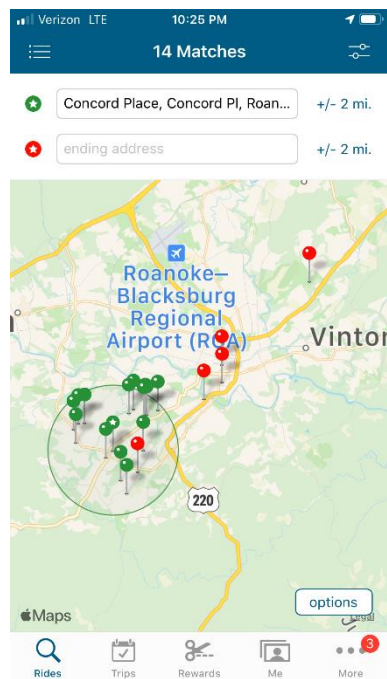
Website: www.monogramsnacks.com

Address: 200 Knauss Drive, Martinsville, V...

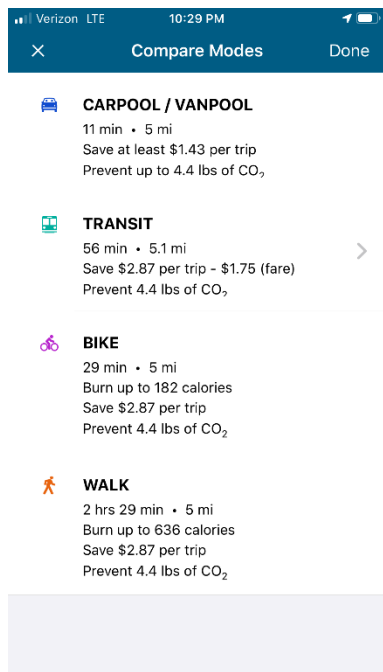
COMMUTE

Days: M-T-W-T-F

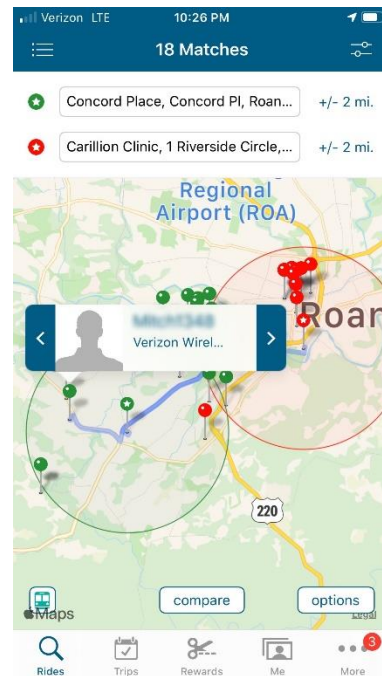
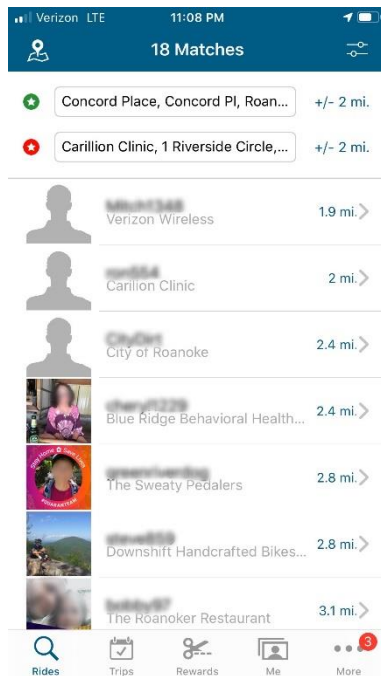
The representatives will then walk through how to record their home address and their work location.



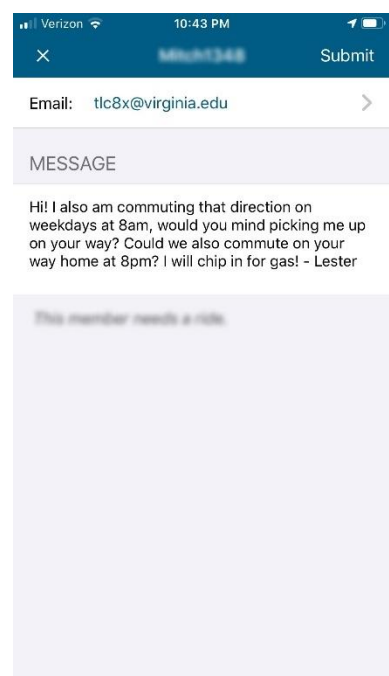
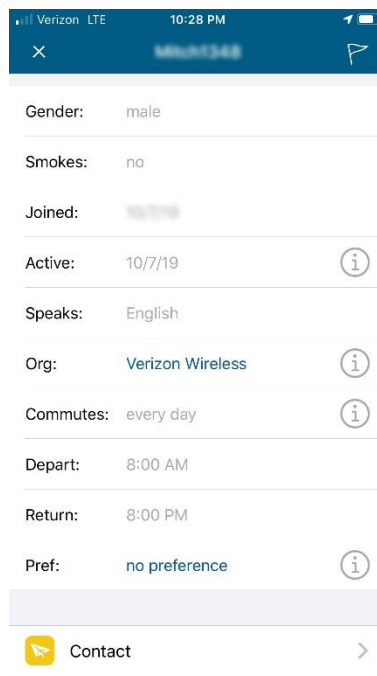
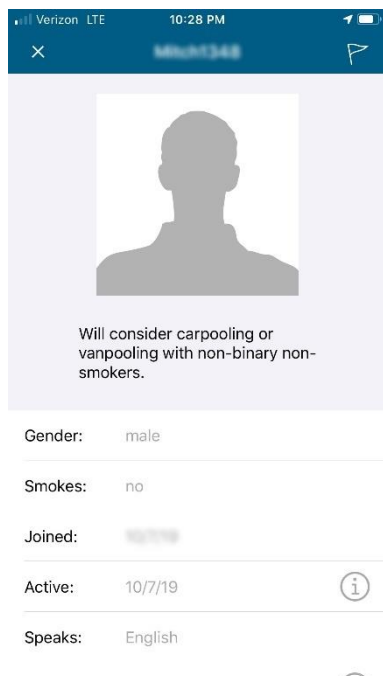
The representatives will then take the employees through an example. Let's say a person lives outside of Roanoke in the Caves Spring area. They're trying to commute into the city on Weekday mornings and need a ride. They'd put in their home address and destination into the application and it would come up with some ride solutions.



Ride Solutions then states the different options on how to get there!



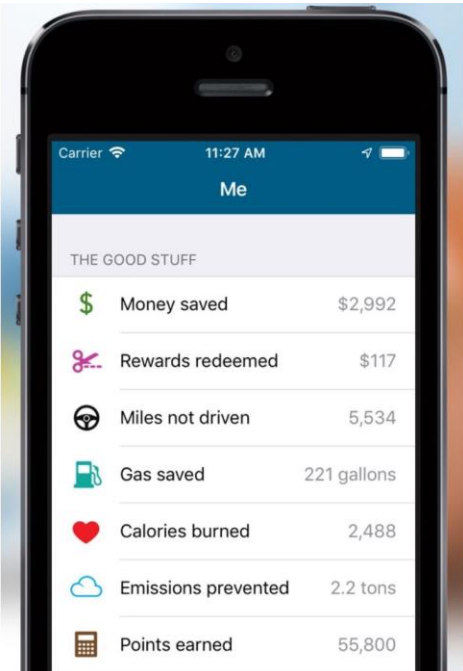
If you'd like to rideshare, then you can use this function to find someone who travels along the same path. It appears that this person goes right past our house, so maybe we could Rideshare with this person.



You can click on this person and contact him via email to see if he would like to rideshare.



**Third,** it is important to point out to the workers just how much money they could save by ridesharing. They could cut their monthly expenditures towards gas and car repairs in half!



The image shows a smartphone screen with a 'Me' profile page. The page has a blue header with the text 'Me'. Below the header is a section titled 'THE GOOD STUFF' in a light purple box. This section contains a list of seven metrics, each with a small icon, a text label, and a numerical value.

THE GOOD STUFF		
\$	Money saved	\$2,992
✂️	Rewards redeemed	\$117
🚗	Miles not driven	5,534
⛽	Gas saved	221 gallons
❤️	Calories burned	2,488
☁️	Emissions prevented	2.2 tons
📊	Points earned	55,800

**Fourth,** The Harvest Foundation will fund prizes and raffle them off to individuals who logged a rideshare.

**Finally,** the presenters will answer any questions and administer \$5 gift cards to Domino's Pizza for those who downloaded the application