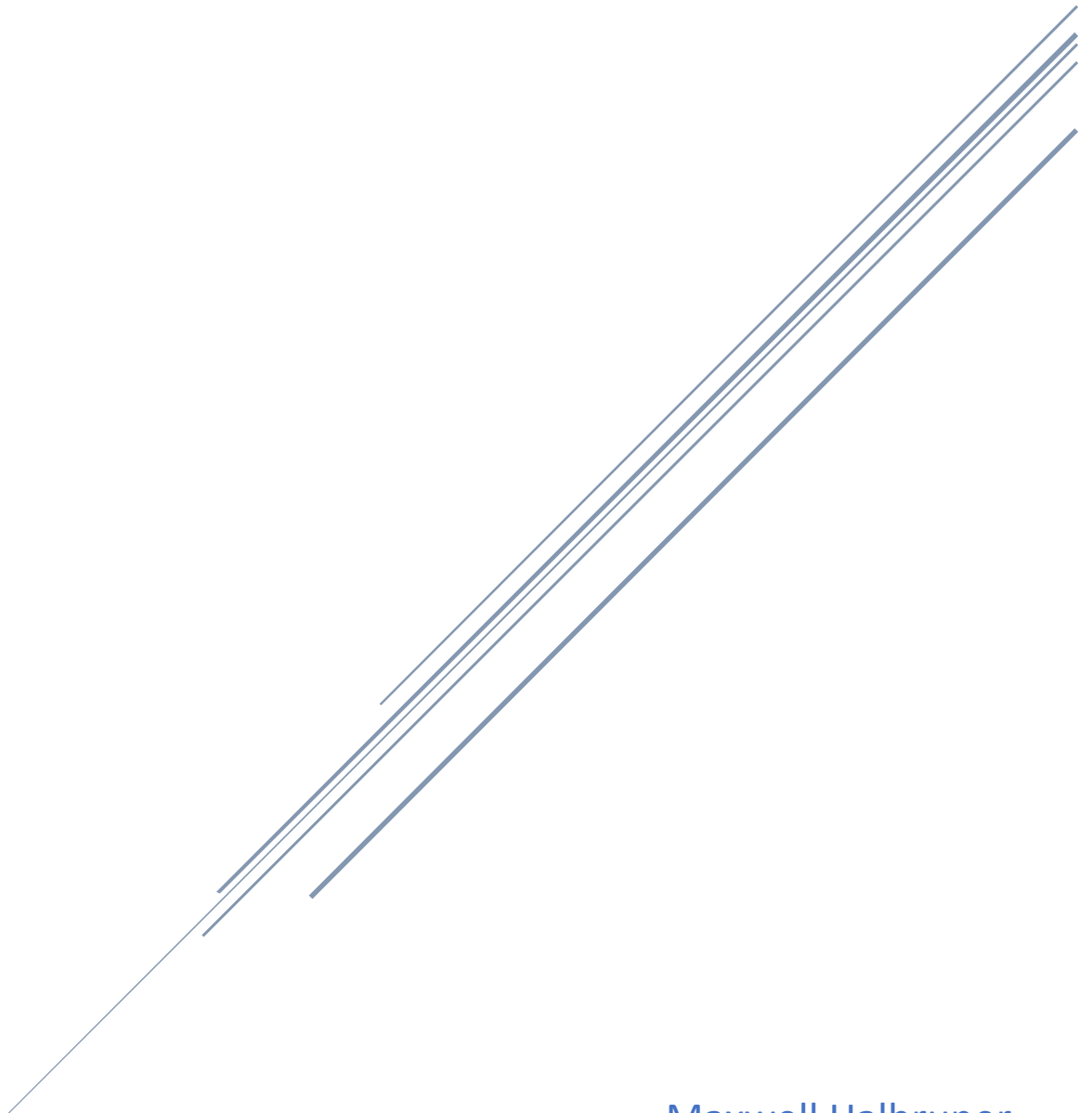


POVERTY IN RICHMOND

Applied Policy Project Technical Report



Maxwell Halbruner

Acknowledgements

I would like to begin by thanking VML for their interest in my project. A massive part of the discourse about poverty in the US centers on how intractable a problem it is. Policy solutions, when they are discussed always take the form of massive top-down initiatives. In this context, as with so many other policy issues, the potential actions of localities are often overlooked as too insufficient. At the beginning of this project, it was my hope that I could demonstrate to local officials across Virginia that there are, in fact, feasible steps they can take to alleviate the poverty in their cities.

The most valuable portion of this project, for the VML, and for any elected officials who read it, is the literature review portion of the technical report. Contained there is a summary of the evaluations of different policies which have been undertaken throughout the country, at all levels of government, trying to reduce poverty in the 20th and 21st century. This portion of the project can serve as either, helpful primers for understanding the scholarship around different policy interventions, or jumping off points for further research by either the VML, or by any interested local governments.

The rest of the project, the case study for reducing Richmond, will be less useful to the wider population of local officials. However, the example of the policy projections in the Richmond context may give other towns and cities a useful template for conducting their own outcome projections. My recommendation for Richmond was to allocate increased funding for workforce training programs, but other towns may choose another. Effectiveness of these programs was assessed primarily on the locally gathered performance measures for each program. Other towns may have programs which have exhibited more or less effectiveness in their specific context. Or, they simply may make a different value judgement. In any case, the framework exists for a locality to make an informed decision about any potential policy interventions.

Sincerely,

Maxwell Halbruner

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Executive Summary

This project explores various local level policy interventions geared towards reducing the number of people experiencing poverty. The impacts of these policy interventions are projected in the context of Richmond, Virginia, which has averaged a poverty rate of 20.9% for the past five years. This is over twice as high as the rate for the State of Virginia during the same period: 9.9%. The costs imposed by this impoverished population to the country, measured primarily in medical costs and social safety net expenditures, total around \$2.2 Billion.

The policy options included in this report all have the goal of creating more favorable conditions for impoverished individuals to obtain gainful employment within Richmond's current job market. Effects of these policies are projected through a ten-year time horizon beginning in 2023 and ending in 2032. The interventions explored in this study are: funding workforce development programs, extensions of loans to businesses, and targeting tax cuts for industries which can employ individuals without a high school degree.

Existing academic research on these interventions showcases differing levels of success in the area of poverty reduction. Literature on workforce development programs shows robust increases in individual earnings for enrollees across a variety of programs implemented in the United States. Tax incentives, coupled with various geographic and societal factors have been used to create "industry clusters" in various cities across the globe. Industry clusters are geographic concentrations of employers working in the same field, usually in the same city. These clusters have been proven to substantially increase the prosperity of the region, leading to increased rates of employment and profitability for included companies. Literature studying public financing of businesses through loans shows less robust performance for employment and wage growth than the other options.

Within the context of Richmond, the impact of these policy interventions is estimated through analysis of existing population and poverty rate trends and performance measures gathered by the Federal Government, the City of Richmond, and private sector entities. These outcome and cost projections are combined with estimates of political feasibility for Richmond's. The intervention which is able to lift the most individuals out of poverty within Richmond was the additional funding of workforce training programs operated by the city's dedicated antipoverty department. An increase in funding of \$2,000,000 million per year is projected to place 6395 residents experiencing poverty into gainful employment over ten years, more than doubling the reduction in poverty expected for this time period.

Problem Statement

The poverty rate in Richmond is strikingly high. The average poverty rate for the past five years in the city is 20.9%, or 47,361 persons, per the latest data gathered in 2019 for the census. This is more than twice the poverty rate for Virginia, which stands at 9.9%. Other Virginia cities of showcase a similar concentration of poverty, with Roanoke, and Norfolk having poverty rates of 20.8% and 18.7% respectively.

This problem in Richmond is not new. Per the mayor's Annual Report on Poverty Reduction in 2017, around one in five residents of the city have been in poverty since 1969. The mayor's report measures poverty by taking the average poverty rate of five-year periods. In the 2006-2010 period, the average poverty rate rose to 25.3% due to the Great Recession, and then did not return to pre-2006 levels. The poverty rate remained mostly stable around 25% until 2015, before dropping slightly to 24.2% in 2016. The last five-year period included in the mayor's report, 2011-2015, lists the poverty rate at 25.5%, or 51,828 persons. While the poverty rate itself has remained mostly stable, the number of impoverished persons in Richmond continued to climb as the city grows. 1,633 impoverished citizens were added to the city between the 2011-2015 period, and the most recent 2019 census data.

Poverty in Richmond is heavily segregated by location, with high wages being concentrated in the heavily white west end on the north side of the city. The heavily black south side, and east end have markedly lower wage levels. In many areas in the south and northside, the median household incomes are only around two times higher than the 2021 Federal Poverty guidelines for individuals. The outcome for this project will be the number of individuals which are lifted above the poverty line as a consequence of my proposed interventions. The Federal poverty line for 2021 was \$12,880 per year.

Costs to Society:

Direct Costs

The social safety net is the biggest driver of direct costs for the impoverished population of Richmond. One of the largest of these costs comes from Medicaid expenditures. In 2018, the annual per capita expenditure of Medicaid in Virginia was \$8,219. For a population of 53,461 in Richmond, expenditures would total \$439,395,959. annually. SNAP is another program which incurs significant costs as a consequence of Richmond's high rate of poverty. 748,319 Virginians received SNAP benefits in June of 2021. That same month, expenditures for Virginia were \$155,901,798. Transferred to the population of Richmond, this was \$11,137,851. If expenditure remained constant throughout the year, then the impoverished population of Richmond would receive \$133,654,220 in SNAP benefits annually. TANF is another federal program that impoverished Richmond families could use in order to feed their families. The last federal program which contributes heavily to direct costs is unemployment compensation. In Virginia, the maximum amount that a person can be paid in unemployment during 2021 was \$378 for 26 weeks. If every unemployed person in Richmond (11,521 people) took the maximum amount of compensation, costs would total \$113,236,250.

Richmond's local government has an agency directly responsible for reducing the poverty level: the Office of Community Wealth Building. The programs and administrative costs of this agency in 2021 were \$2,165,455, per the city's 2021 financial plan.

One of the most significant costs created by the poverty level in Richmond is crime. Crime has long been linked to absolute poverty levels in many different studies. While not all crimes committed in Richmond are committed by individuals in poverty, the median income level of inmates in the US prior to arrest was \$6,250 according to a 2018 Brookings study. With this corollary in mind, we can assume that the vast majority of crimes will be committed by impoverished individuals.

There was a total of 8,754 crimes committed in Richmond in 2020, with 1,080 being violent crimes and 7,674 property crimes, according to archived reports from the police department. If we assume that the average sentencing length for property offenses is 1.75 years, and that the average sentencing length for violent crimes was 4.7 years (Bureau of Justice Statistics, 2016), then Richmond citizens were sentenced to 13429.5 years for property crimes, and 5076 years for violent crimes in 2020. This comes to a total of 18505.5 years sentenced for crimes in Richmond Virginia in 2020.

The average cost of housing an inmate in prison in Virginia is \$21,299, (Vera Institute of Justice, 2015). This means that the sentencing time of Richmond's prisoners cost the state \$394,148,644 in 2020. If we add the costs of all these government expenditures together, we get 529,968,319 as the total direct costs of poverty in Richmond.

Externalities

The most significant externality of poverty in the US is the amount of uncompensated healthcare services incurred through treatments given to those who are unable to pay. One of the key reasons that healthcare costs often go uncompensated is that the individual lacks the income to afford health insurance. Poverty is most often the reason for this. A GAO report from 2007 found strong links between uninsured status of US Citizens living in poverty. Using Data from the Medical Expenditure Panel Survey (Household Component), an NIH database, the Kaiser Family Foundation estimated that for the years 2015-2017, the total costs of uncompensated care were \$42.4 billion, an average of \$14.1 billion per year. If we assume that these costs are spread evenly across the population of the US, Richmond's share of uncompensated healthcare costs totals almost \$1 million dollars per year.

Opportunity Costs

The opportunity costs to society come from excess deaths attributed to poverty. A 2014 meta-analysis conducted by the National Center for Biotechnology Information, a branch of the National Institute of Health, estimated the number of deaths in the US attributable to individual level poverty, and area level poverty was 172,000 for the year 2000. If we make the assumption that this Adjusted to the present-day population of the US, this number would be 200614. If we make one more assumption, that these deaths are evenly distributed across the country by population, we can calculate the number of deaths in Richmond attributable to Poverty. Richmond's share of deaths attributable for poverty, adjusted to present day population estimates is 140.83. The current US Department of Transportation's guidelines for the Valuation of a Statistical Life, are \$11.6 million dollars. Using this as our conversion to monetary amount, we come to the greatest cost incurred from poverty in Richmond: \$1.6 billion dollars.

Total Costs

When we add these costs together, we can see that poverty in Richmond imposes a total cost of over 2.2 billion dollars annually through social programs, uncompensated medical services, and attributable deaths. This is almost three times the proposed 2022 budget for the city of Richmond. In order to reduce this drain on the society, it is clear that significant investments need to be made into Richmond's poor communities.

Active Federal and State anti-poverty policies

Virginia ranks 16th last in the nation for welfare spending. The major welfare programs benefitting Virginians are funded by federal dollars, and administered by state agencies (“Virginia Spends the 16th Least on Welfare,” 2021). The first major federal policy dedicated to poverty alleviation the Temporary Assistance to Needy Families. This program is administered in the state by the Virginia Department of Social Services. In July of 2021, the average TANF recipient in Virginia received \$559 per month (Temporary Assistance for Needy Families (TANF), n.d). A similar initiative is the Supplemental Nutrition Assistance Program (SNAP), which awards Virginia recipients about \$118 per month (Virginia Poverty Law Center, 2016). Together, the expenditures of these programs account for a significant portion of poverty’s direct costs to society.

Medicaid also accounts for a significant portion of Richmond’s social safety net expenditures. The program is administered at the state level by the Virginia Department of Health. In addition, many impoverished Virginia residents depend on Section 8 housing. Currently there are 8,955 units of housing in the city which receive some level of rental assistance.

Another significant federal program which benefits Virginia is the Community Services Block Grant (CSBG), which provides funding for localities for the poverty alleviation efforts. Federal funds are allocated for assistance to the poor, but the initiatives and recipients these funds assist are determined by the localities themselves. Services funded by CSBG have included assistance for housing, energy costs, nutrition, job training, transportation, family development, child care, health care, emergency food and shelter, domestic violence prevention services, money management, and micro-business development. This program is administered in Virginia by the Virginia Department of Social Services (VDSS). The most recent audit of Virginia’s use of the program was in 2015. \$8.8 million dollars were allocated for Virginia, and split among localities (Community Services Block Grant (CSBG), 2015).

Aside from these programs which award benefits, there is also the Earned Income Tax credit, and the Child Tax Credit. Eligibility for the EITC at the individual level is reserved for individuals making less than \$15,820 per year. The Child Tax Credit will award 300 dollars per month to individuals with children under 6, and \$250 per month for individuals with children from 6-17.

With the high concentration of impoverished citizens in Richmond, these programs are incredibly vital to the standard of living of thousands. Cuts to these programs would almost certainly put the already precarious situations of many Richmond households into a state of near destitution.

In addition to these safety net programs, the State of Virginia operates a number of state and federally funded workforce training programs. The programs receive \$341 million dollars, only 8% of which is local. Oversight of these workforce development programs is handled by 9 state agencies including the Virginia Community College System, the Virginia Department of Education, and the Virginia Employment Commission. These state agencies, however, are not

usually the point of contact for those seeking training. Rather, various local entities operate a patchwork of training programs from many different organizations. Local high schools, Community Colleges, “one stop” workforce centers, and Virginia Employment Commission Offices make up this network.

Many of the programs offered are geared towards workers with specific barriers to entry into the labor force. For instance, one program caters to senior citizens, while another caters to dislocated workers who have lost employment due to business closures, while still another caters to disabled individuals. Some safety net programs also have provisions which fund workforce development for beneficiaries. SNAP and TANF both offer this funding. In total, there are 24 workforce training programs, only 13 of which serve populations with specialized needs.

The most significant operative laws in Virginia’s workforce development ecosystem are the Workforce Investment Act, the Wagner-Peyser Act, the Carl D. Perkins, Career and Technical Education Act, and the Rehabilitation Act.

The City of Richmond

People

The census lists 226,610 residents living in the city limits as of 2019. The city's demographics are 45.5% White, 46.9% Black, 6.9% Latino, and 2.1% Asian. The median household income for the city is \$47,250, far below the median household income for Virginia, which stands at \$74,222. The median per capita income for Richmond residents was \$33,549 that same year, which is much closer to the median per capita income for Virginia which stands at \$39,278. The city's unemployment rate in 2020 was 5.0%. 39.6% of the population of the city have a Bachelor's Degree or higher. 85.4% have graduated high school.

Economy of Richmond

People from across the greater Richmond area commute into the city for work. Preliminary statistics from the Bureau of Labor Statistics for December of 2021 show that the city's economy is driven mainly by white collar services. The Government sector provides 108k jobs, Professional and Business services account for 111k jobs, and finance provides 51k jobs. Education and Healthcare services provide, 98k jobs. These professions account for over half of the 658.1k nonfarm employees in the city. Blue collar professions of note in the city are the 128.0k Transportation and Utilities jobs, 57k Hospitality jobs, 39k Construction jobs, and 30.0k Manufacturing sector jobs.

Of the blue-collar professions, construction stands out for its stable growth over the last decade, moving from 30k to almost 40k jobs in the past 10 years, with little to no loss at the onset of the COVID-19 pandemic. The leisure and hospitality sector also showcased steady growth from 2011 to 2019, moving from 50k to 70k jobs during those years. However, the covid pandemic eliminated almost 30k jobs at the beginning of 2020, and employment levels of this sector are only now beginning to recover. The trade, transportation and utilities sector grew from 110k jobs in 2011 to around 123k in 2015, remaining stable, and almost immediately recovering from a 15k loss at the beginning of 2020. Manufacturing jobs, which will be of particular interest during this project, rose from 31k jobs in 2011 to around 32k in 2015, where they remained steady until a 2k loss at the beginning of the covid pandemic. The manufacturing sector in Richmond has not seen recovery from this low point.

Governance of Richmond Virginia.

The city is governed under a Council-Mayor system, where the mayor is the head of an executive branch, and oversees a Chief Administrative Officer of the city. The city has nine city council districts. The city council is the legislating body of the city, with control over laws, oversight, and the city's budget. The mayor has an executive cabinet which consists of a small number of policy advisers, and a human services expert cabinet, which consists of the heads of city's welfare agencies, and the leaders of some of the city's influential nonprofit organizations.

The mayor's office also includes a number of working groups centered around discrete policy areas. The Chief Administrative Officer of the city is in charge of daily operations for a number of city departments, including Justice Services, Social Services, Parks, Recreation and Community Facilities, Office of Aging and Disability Services, Office of Immigrant and Refugee Engagement, Office of Community Wealth Building, Office of Equity and Inclusion, Office of Children and Families and the Homeless Services Liaison. The city's adopted budget for the 2022 fiscal year allocates \$772,831,959 to different social programs.

The city of Richmond has two departments currently administering antipoverty and economic development policies. The first is the Office of Community Wealth Building (OCWB), Richmond's dedicated antipoverty office, which was created in 2014. OCWB administers publicly funded workforce training programs, and youth initiatives engineered to increase wages and lifetime achievement. OCWB's budget in 2021 was \$2.1 million. \$1.1 million of that was allocated to various workforce training programs, while \$144,000 of it went to youth initiatives. The publicly funded workforce training programs served 675 people in 2021, and increased wages by 15% on average for enrollees.

Richmond's Department of Economic Development operates loan programs and grants for companies moving operations into the city, or, sometimes, to keep firms from leaving. The budget for the Department of Economic development in 2020 was \$2.8 million. \$515,000 and \$653,000 went to grants for business attraction and retention respectively. The city's 2022 financial plan estimates that the amount of capital investment generated from these investments was \$68 million that same year.

Specific Thresholds for Measuring Poverty in Richmond.

In 2020 Mayor's Report on Poverty, the OCWB set thresholds for income growth in order to assess the situation of Virginia's citizens. The thresholds are: "In Crisis, At risk, Safe, Stable, and Thriving." The outcome for my project will be the number of households who will have their incomes uplifted into the "safe" category. A "safe" level of income is different depending on the type of household. For a single individual, a safe level of income will be \$24,200 per year, or \$11.63 per hour. For a family of four with two children and two working adults, a safe wage would be \$51,680 per year, or a combined wage of \$24.92 per hour. There are additional income benchmarks for different household configurations. These benchmarks are invariably higher than those used at the federal level. According to the Centers for Medicare and Medicaid, the 2021 Federal poverty line was set at \$26,500 in yearly income for a family of four, with two working adults and two children. This is well below the average expenses for a family of four living in Richmond, which sat at \$52,603 in 2020. These higher benchmarks are used for measuring the success or failure of local antipoverty strategies. Moving forward, it might be relevant to keep these thresholds in mind when evaluating the success or failure of local antipoverty initiatives. What is considered a success under federal benchmarks might be considered a failure under Richmond's local benchmarks.

Contributing Factors to Poverty

The causes of poverty in Richmond Virginia are vary widely in scope and significance, depending on the time horizon. Racial discrimination in the city is one of the causes with the longest lasting impacts. Poverty rates are drastically segregated by race. 31.6% of the black population of the city is living below the poverty line, contrasted with only 12.4% of the city's white population, per the most recent report by the Office of Community Wealth Building. Most of the city's poverty is concentrated in the city's east end, and southside, where the majority of the black population, and majority of public housing projects are located. Historic policies of segregation, including massive resistance, which cut off black communities from economic and educational opportunities undoubtedly played a role in creating these disparities. The widespread practice of housing covenants, and redlining have also prevented many black households from building generational wealth through home ownership.

More recent, more individual drivers of poverty include unemployment, which affected 5% of the city's population in 2020, and lack of education, which disadvantages 14.6% of the city's residents who do not have a high school diploma, or equivalent. In addition, 8.0% of Richmond's residents suffer some sort of disability, impacting their ability to work, or otherwise provide for themselves. These factors can be exacerbated by a lack of connection to the internet. Close to 16% of Richmond's households also do not have access to the internet, which adds additional barriers for individuals seeking work online, or trying to interact with the social safety net.

On the other hand, the expansion of the social safety net as a response to the COVID-19 pandemic will have lowered the poverty rate for the city during the, as was the case in the broader United States. The expansion of the safety net brought almost 20 million Americans out of poverty, relative to 2018 levels, a 45% drop. While the latest report from the OCWB in Richmond has not been published, we can assume that the city also experienced some drop in its poverty rate.

Concerning the country more broadly, scholarship suggests that the country's level of poverty has become unmoored from the macroeconomy. The poverty rate of the country has remained roughly stagnant since the year 1980, after a slight increase in the late 70's. The country's GDP has risen massively since the stagnation of the poverty rate began. As mentioned before, the This stagnation is especially pronounced in cities throughout the country, to the degree that population density has been studied as a contributing factor to poverty.

One of the most significant contributing factors of poverty is an individual's educational experience during childhood. Whether or not a child had the ability to obtain a quality education was highly predictive of poverty. Funding of Public Schools was highly correlated with the poverty rate of a state, with those who allocated more funds to schools seeing a lower poverty rate. Disparities in education are reproduced at the local level, since public schools are funded primarily by local property taxes. The poorest neighborhoods garner the least funding, leading to the lowest quality education. This reinforces generational poverty in many areas. This is particularly a problem in Virginia, which ranks 41st in the nation for per-pupil spending.

Family structure was another of the strongest predictors of poverty, often exacerbating other contributing factors to poverty. Single parent female-headed households had the highest incidences of poverty. An explanation for this trend is that mothers with children experience higher discrimination in the labor market, leading to higher rates of unemployment, and lower salaries.

Existing Evidence

Introduction

This short literature review will attempt to ascertain the effectiveness of four policy interventions in raising wages of low-income individuals. The first will be investment in transportation infrastructure. The second will be implementation of workforce development programs. The third will be the issuance of grants for businesses. The fourth and final will be the creation of industry clusters. Often, the literature will not directly pertain to wage growth. With infrastructure investment, for instance, the existing literature focuses on the ability of infrastructure to drive economic development generally. With business grants, the literature focuses on public financing's ability to improve the performance of recipient firms. While not directly concerning the main criteria in question, economic development and performance of companies is closely tied to wage growth, and worth taking into account when crafting policy interventions.

Workforce Development Programs

The literature suggests that workforce development programs have real potential for producing substantial wage growth in participating populations. Peer reviewed literature on adult workforce development programs shows that those who graduate see significant gains in both earnings and employment. Multiple studies cite the increasing reliance on skilled labor jobs since the 1970s as a driver of workforce development program investment (Clagett, 2006) (King, 2011) (Holzer, 2008). The ability of workforce development programs to connect individuals with employers' post-graduation was also widely lauded as one of the ways workforce development most concretely helps participants (Heinrich, Mueser, Troske, Jeon, & Kahvecioglu, 2013).

The literature holds that participation in workforce development programs results in both increased employment impacts, and increased earning impacts. Many studies have given figures in excess of 20% for the level of increased monthly earnings garnered after completion of a workforce development program (King, 2011) (Holzer, 2008), (McLendon, 2012).

The type of workforce development program is highly correlated with its success. Programs crafted for the general population generally perform very well. Programs created for at risk populations do not. One of the most widely cited examples of failure of a workforce development program was the Workforce Investment Act's (WIA) Dislocated Workers program (Heinrich, Mueser, Troske, Jeon, & Kahvecioglu, 2013) (King, 2011). The program, crafted for workers who had recently been laid off, or lost their employment in some other way. Their earnings remained depressed after graduating their workforce development program, and these participants routinely earn less wages, and are awarded less generous benefits than those of their prior job.

There is a consensus that workforce development training is cost effective. Multiple studies have estimated that states which publicly fund workforce development see returns on

their investment from long term increases in tax revenue provided by graduates of the programs (Hollenbeck, & Huang, 2006) (McLendon, 2012). The exception to this rule which is generally cited is, again the Dislocated Workers Program from WIA.

The literature generally holds that these findings on workforce development programs are consistent across all scales of governance, from federal, to state, down to local level initiatives. The uniformity in these results suggests that the literature on the workforce development programs is a reliable tool for raising the wages, especially those of low-income citizens. The results in the literature, which included programs at the local level, should be generalizable to Richmond. The body of evidence, on the whole, seems to inspire confidence in workforce development as an effective tool for raising incomes.

Business Grants

A comprehensive body of literature concerning the effectiveness of business grants in the US is more difficult to find than the assembled evidence for the other suggested policy interventions. With infrastructure development, research in foreign contexts contained findings which supported observed trends in the United States. For public financing of businesses, research in foreign contexts makes up a much larger percentage of existing literature. Many of the studies focus on programs in Europe, and in particular, Croatia. In addition, many of the studies focus on specific types of grants. Research and development grants, and grants to small businesses are the types of public financing that have received the most attention from researchers. The results of existing analyses are difficult to transfer to the context of Richmond Virginia.

The existing literature does suggest that public financing of businesses is an effective means of increasing a firm's ability to produce jobs, and produce profits. One of the most widely studied programs in the US is the Small Business Innovation Research (SBIR) program. This Federal program provided \$7 billion in research and development grants to technology firms from 1983 to 1997 (Lerner, 1999). Two analyses both showed that the SBIR program awarded firms experienced significantly more growth in the long term than matched firms who did not receive public finance (Lanahan, 2016) (Lerner, 1999).

In Europe, public financing of small businesses was widely used during the Great Recession as a tool for stimulating economic growth. The results of this intervention were middling. Croatia received particular attention from researchers, since its economy experienced an especially long recession from 2009 to 2014 (Srhoj, S., Škrinjarić, B., & Radas, S. 2021). 2021). The government instituted a public financing program for small to medium sized enterprises (SMEs) during this period. The results were mixed. Researchers found positive effects for the businesses' longevity, ability to grow capital stock and increase value added (Srhoj, S., Škrinjarić, B., & Radas, S. 2021), but much weaker effects for increasing average wages, employment, and sales (Srhoj, S., Lapinski, M., & Walde, J, 2021) (Dvouletý, Srhoj, & Pantea, 2021) .

The literature on business grants is not robust enough to concretely predict how successful business grants would be in Richmond. Literature is almost completely limited to grants for small businesses, and is usually tied to research and development. The broad types of business retention grants administered by Richmond's Department of Economic Development are different in both size and type of recipient (Loan Programs | Richmond, n.d.). Programs studied are usually implemented at the national level, both in the US and abroad. This makes it very difficult to estimate the effects of business grants at the local level. More Richmond specific data is needed in order to evaluate the effectiveness of this intervention.

Industry Clusters

"Industry Clusters" are geographic concentrations of companies, universities and other institutions organized around a single profession or industry. Often cited examples in the US are the wine industry cluster in Napa Valley, and the tech industry concentration in the Bay Area of San Francisco. Clusters are made up of a variety of different types of entities which, together, serve to increase the productivity, and profitability of a given industry. Some entities are, of course, the firms which do business in the industry. In a cluster, these firms will compete with one another, fostering innovation, and driving down costs for consumers. Outside of companies, clusters also include workforce training engines, which equip citizens in the area with in demand skills for as preparation for careers in the industry. These workforce training engines could include adult workforce development programs of the kind described in the previous section. They could also include universities and K-12 schools which offer noteworthy curriculums in areas closely related to the cluster (Porter, 1998). An additional feature of clusters is the presence of actors in that industry's supply chain. An example of this supply chain relationship would be a tech cluster which was situated in the same place as a manufacturer of electronic goods (Cortright, 2016).

Industry clusters also have effects on the behavior of those not immediately inside the apparatus of organizations and institutions which constitute the cluster itself. A cluster in one city will often attract specialized talent from across the region, country or world, as professionals make the move to work at the cutting edge of innovation in the industry. Consumers of goods produced by the industry will often concentrate near the cluster as well, providing a ready market for the product or service (Porter, 1998).

Successful efforts at cluster creation are visible in St Louis, which hosts an agriculture technology cluster, Milwaukee, which hosts a Water technology cluster, Syracuse, which hosts a growing unmanned aerial drone technology cluster. Larger, much more well-known and lucrative clusters, like the leather industry in Northern Italy, the film industry in Los Angeles, or the financial sector in London have been shaped by macroeconomic trends over long periods of history, and often have well known reputations across the globe (Donahue, et al., 2018). Recent literature focuses on the creation of much smaller, usually technology focused industry clusters at the local level.

The literature finds that clusters are organized in a few key configurations. The first and most rare is the holding company approach, where differing firms join a single corporate structure, allowing for increased collaboration, and identification of innovations with high potential. The second, and most common is the cluster hub, where one institution, such as a local government body, or industry accelerator facilitates the concentration of firms in a single geographic location. The third commonly seen organization of clusters has been the shared leadership model, where two or three firms work in close partnership with one another and local institutions to facilitate the concentration in a single locality (Donahue, et al., 2018).

Clusters have been proven to have beneficial effects for the economic development of the region. Firms in clusters grow faster than those where they are isolated, gaining the ability to compete with firms on the global market. For the geographic region, this means jobs, and higher wages. Studies suggest that the rise in average wages from the presence of a cluster could be anywhere from two to four percent. The ability of the cluster to help those in poverty, the focus of this project, is highly dependent on whether or not the industry in question has use for unskilled workers. For instance, a cluster of nurseries in Oregon provides an excellent pathway for unskilled individuals previously employed on a part time basis to pursue full time employment, lifting many workers out of poverty (Cortright, 2016). A cluster like the tech hub of Silicon Valley, or the financial cluster in London will not produce the same effects for individuals currently below the poverty line. However, even absent the material effects of employment, the presence of a cluster allows for the opportunity for social interaction beyond the immediate workplace, as well as providing a worker with information about the labor market. Analyses of job training programs have identified lack of employer engagement, poor understanding of regional labor markets, and poor opportunities for networking as major factors in cases where workers do not succeed after graduating. Industry clusters provide a potential opportunity to solve all of those issues at once (Cortright, 2016).

While these effects have been observed, the literature is still too thin to provide a comprehensive body of evidence concerning predictable effects in poverty rate or average wage due to the creation of an industry cluster. Part of this is due to the fact that many of the high-profile clustering efforts in large cities have been failures. These are the ones given the most foresight, and the ones most likely to fail. Two literature reviews from Brookings stress that top-down efforts to create clusters from scratch usually do not produce success (Cortright, 2016) (Donahue, et al., 2018). Much more successful are efforts which begin with cooperation between firms or other local organizations. These less visible, bottom-up initiatives have a stronger track record.

The literature prescribes a few policy interventions for the facilitation of an industry cluster. The role of local government is threefold: first, provide avenues for startup firms to access capital, whether through an industry accelerator or through a separate business financing initiative. Second, facilitate the production of talent in the area to provide a workforce for the industry. This is done through workforce training programs, or local academic institutions. Third, create a regulatory environment which does not interfere with the workings of these industries (This can also extend to corporate tax rates) (Porter, 1998).

In short, the existing literature, while somewhat thin relative to the other options, points to industry clusters as a very promising venue for spurring economic growth, increasing employment and raising wages. However, these benefits are not guaranteed since many government-led efforts to create clusters have failed. Moreover, benefits will not be immediately visible in the few years after interventions are implemented, since cluster creation is a long-term endeavor, which can take many years to come to fruition.

Alternatives

Status Quo

The city of Richmond has two departments currently administering antipoverty and economic development policies. The first, already mentioned, is the OCWB, which administers publicly funded workforce training programs, and youth initiatives engineered to increase wages and lifetime achievement. Per the city's financial plan, the OCWB's budget in 2021 was \$2.1 million. \$1.1 million of that was allocated to various workforce training programs, while \$144,000 of it went to youth initiatives. The most recent report from OCWB says that their publicly funded workforce training programs placed 604 people into full time employment during the year of 2020, with an average wage of \$12.71 for new enrollees.

Richmond's Department of Economic Development operates loan programs and grants for companies moving operations into the city, or, sometimes, to keep firms from leaving. The budget for the Department of Economic development in 2021, agency wide, was \$5.6 million. \$515k and \$653k went to grants for business attraction and retention respectively. The city's 2022 financial plan estimates that the amount of capital investment generated from these investments was \$68 million that same year.

#1 – Cluster Intervention (REAP Adaptation)

Industry clusters are geographic concentrations of companies, universities and other institutions organized around a single profession or industry. Often cited examples in the US are the wine industry cluster in Napa Valley, and the tech industry concentration in the Bay Area of San Francisco. Clusters are made up of a variety of different types of entities which, together, serve to increase the productivity, and profitability of a given industry.

Richmond Virginia is currently home to a sizeable wood products cluster. The city's strategic placement in the railroad system, as well as its position as a crossroads for multiple interstate highways creates a unique opportunity for Richmond to serve as a hub in the Eastern Seaboard's timber and paper industries. In the city of Richmond, this cluster manifests in a concentration of paper packaging services. This includes both the corporate offices of paper packaging conglomerates, such as Westrock, and more relevant for this project, a number of paper packaging plants located in the city's southside.

The first alternative that this project will present is an adaptation of the Relocation and Employment Assistance Program (REAP) implemented in New York City in 2015. The program awards a tax credit of \$7,000 annually for 12 years per employee, or "eligible aggregate employment share," to any business which has relocated into any area of the city which is zoned commercial or industrial (C4, C5, C6, M1, M2, or M3).

The proposed plan for Richmond would target businesses in the wood products industry specifically, and would reward that same \$3,000 annual tax credit per employee to any company which chose to relocate operations to Richmond. REAP in New York City is not targeted to the

paper packaging industry, but is instead available for all businesses. The Richmond REAP program would award benefits to businesses which chose to relocate to areas of the city zoned for industry, M-1 and M-2. Industrial zoning is predominately located on the south side of the city, where many of Richmond's poorer residents live. Hopefully expand existing paper product manufacturing operations close to the city's most vulnerable populations will help more people become gainfully employed.

#2 – Increasing investment in Workforce Training Programs in the Healthcare Sector

My second alternative for this project will be to increase the city of Richmond's investment in Workforce development programs by \$2M. In its 2020 report, Richmond's dedicated antipoverty office, The Office of Community Wealth Building was given \$1.3 million dollars for workforce development programs. This level of funding was able to enroll 5351 people in OCWB professional development programs. The average wage of those who participated in the programs after the program's conclusion was \$13.92 per hour.

My intention by increasing the level of funding for workforce development programs is to increase enrollment. A 2015 study from JLARC found that workforce development programs were often underutilized, and that the low enrollment rates were the result of poor marketing decisions. To this end, a percentage of the increase in funding will be earmarked for increasing marketing for existing workforce training programs, while the rest will be left for expansion of the programs.

Healthcare services sector provides jobs for a large number of people in the greater Richmond area. The Covid-19 pandemic is also still producing massive amounts of hospitalizations across the US. With this in mind, the money left over after increasing marketing efforts will be used to expand existing ADN programs and healthcare technology curriculums at Richmond's community colleges (especially the John Tyler Community College Nursing Education Center).

#3 – Increasing Investment in Small Business Financing (SBLF Adaptation)

Richmond's Department of Economic Development operates loan programs and grants for companies moving operations into the city, or, sometimes, to keep firms from leaving. The budget for the Department of Economic development in 2020 was \$2.8 Million. These combined loan programs and incentives were able to attract or retain \$74 Million in capital investment in Richmond. In 2010, the Federal government implemented the Small Business Lending Fund (SBLF), which provided loans to small businesses which could not raise capital through private financial institutions (US Department of the Treasury, 2022).

The third alternative is that the city of Richmond implement this program on a smaller scale. The Richmond SBLF would allocate a \$5M from the city's general fund. The \$5M would then be extended to businesses which raise less than \$25M dollars in annual revenue. The

program would be administered by Richmond's Department of Economic Development, but the benefits would be delivered through local banks. The creation of such a program would be a monumental increase in Richmond's economic development efforts, and, as one of the costliest options, would almost certainly draw attention and create conflict in the political ecosystem of the city. Nevertheless, the loan program has the potential to draw in massive amounts of capital investment for the city.

Criteria

#1 – Political Feasibility

Political Feasibility will be the first of my criteria for determining which of the alternatives will be ripe for implementation. Political feasibility of an alternative will be determined by examining the content of press releases, speeches, and political positions of Richmond's Mayor, Levar Stoney, and the sitting members of the Richmond City Council. The political feasibility of these alternatives will also be ascertained by examining any publicly available sources of campaign finance for these local officials, and those at the state level. While the local officials will have control over whether any measure passes, looking at the campaign finance of Richmond's state level officials will reveal political fault lines which may not be apparent from looking just at the local level. (For instance, a bill from Richmond's delegate Betsy Carr which would have imposed costs on paper manufacturers was recently introduced. This goes against the assumption that Richmond's officials would seek to improve the regulatory environment for one of their town's largest industries.)

#2 – Cost-Effectiveness

Cost effectiveness will be the most important criterion considered in this project. The first part of this criteria will be the annual dollar amount costs for each alternative, including the status quo. The new levels of spending will be projected for ten years into the future, from 2023, to 2032. The Net Present value for all the years of spending, with a discount rate of 3% assumed will then be calculated. This NPV of all spending for the ten-year time horizon will then be divided by the outcome: The total number of people lifted from poverty by the policy. This dollar value will correspond to the amount of funds needed to lift one person out of poverty, and will be our measure of cost effectiveness.

#3 – Equity

This criterion will assess the degree to which the policy in question is targeted to the impoverished population in question. This will be a qualitative judgement, ranging from low, to medium, to high. Policies which provide benefits directly to the impoverished in the city will have a high degree of equity. Policies which seek to improve the situation of impoverished through providing funds to middleman, such as employers, will have lower degrees of equity.

#4 – Ability to implement

The last criterion will assess the ability of the City of Richmond to implement the policy in question. This will be a qualitative judgement, ranging from low to medium to high, based on two factors. The first factor will be the number of city agencies involved in the implementation of the policy. The more agencies involved with the implementation of the policy, the more complex and inefficient the implementation process will be. The second factor will be whether or not the agency has implemented similar policies previously, and whether the implementation of that policy was successful. Previous successful implementation will be judged by whether or not media outlets have reported on specific implementation failures, or organizational

disfunction. Both of these factors will determine the ability for the city to implement policy alternatives.

Cost Effectiveness Methodology

Outcome Projections Background

The base year for the outcome projections will be 2022, the year where we have the most recent financial plans adopted by the city council and the mayor. The time horizon will be ten years into the future, with the new policies enacted in 2023, and the last year projected in 2032. The outcome will be the number of people lifted from poverty in the city by the individual policy alternative. Outcome measures looked different for each alternative. For the REAP adaptation, it was assumed that each manufacturing job created would lift one person out of poverty. For the workforce training program, it was assumed that each would be lifted out of poverty. For the business attraction and retention alternative, it was assumed that a 92-thousand-dollar expenditure would lead to a single job being created, as was the case for the American Recovery and Reinvestment Act.

Projections of population, and poverty rate (Table 2)

Projections of populations for this cost effectiveness estimate were created using the census population data, for the past two decades. A linear relationship was assumed, and the population was predicted to increase by 2240 citizens per year. Existing poverty rate data for Richmond was found in the 2017 Mayor's Report on Poverty Reduction created by the Office of Community Wealth Building. The rates for every year beginning at 2006 were used to extrapolate the rates for every year after 2022. A linear relationship was assumed and the poverty rate was found to decrease by .3% annually.

Projections of Cost

Costs of the Status Quo, Workforce Training, and Business Incentive spending policies were calculated primarily using the existing Richmond Adopted financial plans going back to the year 2017. The budgets for the existing Workforce Training Programs under the OCWB, and the existing business attraction and retention expenditures by the Office of Economic Development. These costs were projected ten years into the future, with a linear increase in funding assumed. The increases in funding proposed were then added to these projections, with \$2 Million added to the budgets for Workforce Training Programs, and \$5 Million added to the budgets for Business Attraction and Retention.

Findings

Table 1.

Outcomes Matrix

	Cost-Effectiveness	Political Feasibility	Equity	Ability to implement
REAP Adaptation	\$5,933	High	Moderate	Moderate
WTP Expansion	\$4,977	Medium	High	High
Business Attraction/Retention Expansion	\$78,178	Low	Low	High
Status Quo Policy	\$4,631	High	Low	High

Cost Effectiveness Estimates

Projections for REAP Adaptation (Table 5.)

The projections for the REAP adaptation were created using the 2019 jobs report from New York City, where the program was first implemented, and a report from McKinsey on the effectiveness of Tax Incentives in different states. Since the year 2014, Richmond has averaged a \$7,000 dollars of incentive spending for every job created. This was combined with the results from the 2019 NYC jobs report, which stated that 11% of the jobs created in New York had taken advantage of the REAP tax credit. The projections for this alternative then the assumption that a targeted tax credit in Richmond would produce a similar 11% increase in job creation. Using Bureau of Labor Statistics data going back to 2013, the number of manufacturing jobs soon to be added were projected, and then increased by 11%. It was then assumed that each new paper-products manufacturing job created would be acquired by a person living in poverty.

This alternative produced 3885 new paper products manufacturing jobs over ten years at a cost of \$162,570,816 in foregone tax revenue. This alternative had a Net-Present-Value of \$23,081,567.72, and a cost effectiveness estimate of \$5,933.56.

Projections for \$5Million Business Incentive Spending Increase (Table 6.)

The projections for the five-million-dollar increase to business attraction and retention by the city of Richmond were modeled off of spending from the Federal Government after the 2008 recession, when the Obama Administration passed the American Recovery and Reinvestment Act. A 2014 report from the White Council of Economic Advisors found that for each job created, the Federal government spent around 92 thousand dollars. This number was used to estimate the number of jobs a 5 million dollar increase in local spending would create. The five-million-dollar increase was then added to the projection for business incentive spending under the status quo policy, and then divided by the CEA's figure.

This alternative produced 772 jobs over ten years, at a cost of \$31,668,903.81. The Net Present Value for this alternative was \$59,180,770.74, with a cost effectiveness estimate of \$78,178.03.

Projections for \$2 Million Workforce Training Investment (Table 4.)

The projections for workforce training were created using the annual reports from Richmond's Office of Community Wealth Building. Since 2016, for every graduate of the city's existing workforce training programs who finds full time employment, the city spent an average of \$5688. The projection assumed that this figure would produce similar numbers of jobs in the future. The million-dollar increase was added to the level of spending under the status quo.

This alternative produced 6395 graduates over ten years, at a total cost of \$37,509,255. This option had a Net-Present-Value of \$23,081,567.72 and a cost effectiveness estimate of \$4,977.12.

Projections for Status Quo (Table 3.)

The projections for the current policy were created using data from the city's financial plans. Dollar amounts for business attraction, and retention programs, as well as workforce training programs were used to establish a linear trend, which was projected for ten years. Outcomes for the workforce training spending were established by using the aforementioned 5688 dollar-per graduate figure, and outcomes for business attraction and retention were established by using the aforementioned 92-thousand-dollar figure. The outcomes for both programs were added together to establish the number of people who would be lifted out of poverty every year at baseline.

The status quo policy produced 3189 jobs at a total cost of \$37,237,835. This option had a Net-Present-Value of \$14,768,248.38 and a cost effectiveness estimate of \$4,631.

Equity

Status Quo

Equity for the Status Quo policy will be considered "low." As it stands, the city is already experiencing one of the highest poverty rates in the state. While the city does provide some funding to its programs, the benefits only help a very small number of Richmond residents every year. Most of the projected years are predicted to be around 300, relative to a total impoverished population of over 40,000. Should nothing improve, the city will still suffer from this high rate of poverty, leaving many communities trapped in a cycle of privation.

REAP Adaptation

Equity for the REAP Adaptation will be classified as "Moderate." The tax credit for the paper packaging industry will confer benefits one step removed from the citizens directly experiencing poverty. First and foremost, it will benefit the paper packaging companies who

have hired workers for the plants. Only through this private-sector middleman will the policy benefit job seekers living in poverty. This policy is engineered to produce jobs which could be filled by individuals without a high school education, and locates them in M-2 Zoning, which is located on the poorer South Side of Richmond. This targeting the demographic and the location where individuals are most likely to be experiencing poverty. While the populations in the targeted demographic are likely to benefit in the form of the increased availability of jobs, the benefit is still indirect.

Business Incentive Spending Increase

Equity for the incentive spending increase will be classified as “Low.” The loans financed by the city would be provided not by city itself, but instead through local banks, in the same manner as the SBLF. This delivers the benefit two degrees of separation from the individual experiencing poverty, with the first step being the bank, and the second step being the employer. In both of these steps there will be the opportunity for spillage, firstly for the operation of the bank, and secondly for the operation of the recipient business. It is safe to assume that only a fraction of the funds provided here will translate into salary paid to the individual experiencing poverty. This, of all the alternatives listed is the most indirect option for the provision of benefits.

Workforce Training Investment

Equity for the increased investment in the workforce training program will be classified as “high. The benefits of the policy are conferred directly upon impoverished citizens interfacing with the Office of Community Wealth Building. There are no degrees of separation between the individual and the administering agency. The individual will be the one to directly receive the benefit which in this case takes the form of job training, rather than funds.

Ability To Implement

Status Quo

The Ability to Implement for the Status Quo policy will be classified as “High.” The city of Richmond has already implemented these policies, with very little changes in the past five years. Absent any disruption in the bureaucracy of the city, it is safe to say that business as usual could continue unimpeded.

REAP Adaptation

The Ability to Implement for the REAP Adaptation will be classified as “Moderate”. This is simply because the policy will involve two city departments: The Richmond Tax Office, and the Office of Economic Development. The Office of Economic Development is the agency which will interface with the paper packaging firms, and will sign them up to receive the benefits. The Richmond Tax Office will be responsible for conferring that monetary benefit after the fact.

Business Incentive Spending Increase

The Ability to Implement for the Incentive Spending Increase will be classified as “High.” There is only one agency involved in the implementation for this policy: the Office of Economic Development. The OED has been offering similar incentives to Richmond Businesses for close to a decade. This makes it clear that policymakers can expect a smooth rollout for the use of the additional resources.

Workforce Training Investment

The Ability to Implement for the Workforce training Investment will be classified as “High.” The City of Richmond already operates a number of workforce training programs through the Office of Community Wealth Building. These programs will simply be expanded into high growth areas with the help of the higher spending threshold. The fact that the OCWB is the only agency involved in the implementation, coupled with the fact that workforce training its principal activity predicts a smooth rollout for the policy.

Political Feasibility

Status Quo

The political Feasibility of the Status Quo Policy will be classified as High. The city’s records show that the poverty rate remained stagnant around 25% from 2006 until 2015. Concern for poverty in the city, and in the other cities of Virginia seems to be absent in the media coverage of the city in favor of more hot button issues, such as the easing of Covid Restrictions, school funding, and debates over the handling of police misconduct. Absent a renewed concern for poverty in the city, it is conceivable that the status quo policies around poverty could continue.

REAP Adaptation

Political Feasibility for the REAP Adaptation will be “High.” The measure would not require any additional expenditures by the city, meaning that no new taxes would need to be adopted. Moreover, Richmond Mayor Levar Stoney has demonstrated a willingness in the past to use tax breaks as a means of incentivizing businesses to move to the city. Most recently, the mayor proposed a 2% reduction in taxes in order to create more favorable conditions for a second casino development.

Workforce Training Investment

Political Feasibility for the workforce training program will be classified as “Moderate.” The suggested million dollar increase to the budget of the OCWB will necessitate an increase in taxes to offset costs. A 50-cent increase to the city’s cigarette tax proposed in 2019 was heavily opposed in the city council, as well as in the business community, but still passed by a wide margin. The measure added 3 million dollars to the city budget. A more modest tax increase would be required to offset the costs of the expanded workforce development training.

Business Incentive Spending Increase

The Political Feasibility for the Business Incentive Spending Increase will be classified as “Low.” While spending on business attraction and retention has risen steadily in the past decade, at no point in the city’s history has the budget for these services been as high as 5 million dollars. This alternative would be a historic investment in the city’s business community which, as of the time this report was written, has no significant advocacy or lobbying effort behind it. Taxes would need to be raised in a variety of different areas in order to offset the increased costs, likely bringing opposition from the business community, the very demographic which would benefit from the policy.

Recommendation

Every Virginia town will have to decide which, if any, intervention fits their locality. Many towns will not have the tax base to implement these programs. Many more will not have the bureaucracy, or the performance measures to make interventions like these worthwhile. What every town should know, however, is that interventions like the ones described in this project are possible, and will reduce the number of individuals in poverty.

For Richmond, this project recommends implementing the increased funding for the workforce training programs. The status quo policy of existing training program funding, coupled with business attraction and retention spending will lift 3,189 Richmond residents out of poverty by 2032. The increased spending on the workforce training programs will lift 6395 Richmond residents out of poverty, over double what the city's current policy can expect. This can be accomplished for just 346 more dollars per participant. While Richmond's current policy might be the most cost effective, currently, the benefits of alleviating poverty for twice the amount of Richmond's citizens are too large to ignore.

Looking back to the costs of society, the combined poverty of Richmond in poverty costs various government bodies a total of \$2.2 Billion, With 44,369 residents currently living below the poverty line, this works out to about \$49,584 per individual served. Each person lifted out of poverty by the workforce training program eases the strain on these various social safety net programs, and moves a person into a position of self-sufficiency.

The REAP Adaptation strategy, should it be implemented and perform just as well in Richmond as it has in New York City, could create 3,885 manufacturing jobs in ten years for Richmond's paper packaging cluster. This option is attractive in that it requires no additional expenditures. However, operative benefits of this tax break will go to existing businesses, not to those experiencing poverty firsthand. This, along with the

The least attractive option by far is the additional spending for the business retention and attraction grants. This is by far one of the least equitable options, as it will filter benefits through banks rather than awarding funds immediately to either employers or impoverished individuals. Additionally, this is the least cost-effective option of the interventions used, with a massive per-beneficiary cost of \$78,178. Realistically, no locality in Virginia will have the funds to implement this option, which is why we see loan programs of this kind implemented at the Federal Level, during recessions. This alternative should be thought of as somewhat of an emergency measure, rather than a policy intervention to implement during times of robust growth.

The most feasible option, which serves the highest number of individuals is the increased funding for the workforce training funding. The concentration of poverty in Richmond is a pressing reality for many thousands of individuals in the city. While the poverty rate is lowering under the current policy, Richmond can double the rate of decrease for the next ten years period, pulling up twice as many individuals by equipping them for careers. This can be accomplished for an additional cost of around \$2,000,000, a small portion of the budget compared to many other city initiatives.

Appendix

Table 2.

Population and Poverty Rate Projections for Richmond, 2023-2032

Year	Population of Richmond	Impoverished Population Proportion	Impoverished Population Total Individuals
2023	233329	0.219	51099
2024	235568	0.216	50882
2025	237808	0.213	50653
2026	240048	0.21	50410
2027	242287	0.207	50153
2028	244527	0.204	49883
2029	246766	0.201	49599
2030	249006	0.198	49303
2031	251246	0.195	48992
2032	253485	0.192	48669

Table 3.

Current Policy Budgets, and Outcome Projection

Year	Economic Development Loans Budget (\$)	OCWB Workforce Development Budget (\$)	People Served
2023	1324822	1,388,041	250
2024	1468830	1,468,682	265
2025	1612838	1,549,323	281
2026	1756846	1,629,964	296
2027	1900854	1,710,605	311
2028	2044862	1,791,246	327
2029	2188870	1,871,887	342
2030	2332878	1,952,528	357
2031	2476886	2,033,169	372
2032	2620894	2,113,810	388
Totals	19,728,580	37,237,835	3189

Table 4.

Workforce Development Program Funding Increase Outcome Projections

Year	Number of People Placed in Full-Time Employment	Cost (\$)
2023	598	3388041
2024	589	3468682
2025	603	3549323
2026	617	3629964
2027	630	3710605
2028	644	3791246
2029	658	3871887
2030	672	3952528
2031	685	4033169
2032	699	4113810
Totals	6395	37509255

Table 5.

REAP Adaptation Outcome Projections

Year	Cost (Foregone Tax Revenue) (\$)	Manufacturing Jobs Created (People Assisted)
2023	2,467,500	352
2024	2,523,500	360
2025	2,579,500	368
2026	2,635,500	376
2027	2,691,500	384
2028	2,747,500	392
2029	2,803,500	400
2030	2,859,500	408
2031	2,915,500	416
2032	2,971,500	424
Totals	27,195,000	3885

Table 6.

Increase in Business Loans Outcome Projections

Year	Cost	People Assisted
2023	6,324,822	69
2024	6,468,830	70
2025	6,612,838	72
2026	6,756,846	73
2027	6,900,854	75
2028	7,044,862	76
2029	7,188,870	78
2030	7,332,878	80
2031	7,476,886	81
2032	7,620,894	83
Totals	69,728,580	772

Works Cited

Background Sources

- Community Services Block Grant (CSBG)*. (n.d.). Retrieved December 7, 2021, from <http://www.dss.virginia.gov/community/csbg.cgi>
- Cortright, J. (n.d.). *ECONOMIC DEVELOPMENT*. 66.
- Donahue, R., Parilla, J., & McDearman, B. (n.d.). *RETHINKING CLUSTER INITIATIVES*. 52.
- Earned Income Tax Credit (EITC) and Child Tax Credit (CTC)*. (n.d.). Retrieved December 7, 2021, from <http://www.dss.virginia.gov/community/eitc.cgi>
- FINAL 2020 Annual Performance Report v5.pdf*. (n.d.). Retrieved December 7, 2021, from <https://www.rva.gov/sites/default/files/2021-03/FINAL%202020%20Annual%20Performance%20Report%20v5.pdf>
- Incentive Programs / Richmond*. (n.d.). Retrieved December 7, 2021, from <https://www.rva.gov/economic-development/incentive-programs>
- Low-Income Housing Tax Credit Program—Virginia Housing*. (n.d.). Retrieved December 7, 2021, from <https://www.vhda.com/BusinessPartners/MFDevelopers/LIHTCProgram/Pages/LIHTCProgram.aspx>
- Porter, M. E. (1998, November 1). Clusters and the New Economics of Competition. *Harvard Business Review*. <https://hbr.org/1998/11/clusters-and-the-new-economics-of-competition>
- Sa_virginia_final_fy2015.pdf*. (n.d.). Retrieved December 7, 2021, from https://www.acf.hhs.gov/sites/default/files/documents/ocs/sa_virginia_final_fy2015.pdf
- States Must Continue Recent Momentum to Further Improve TANF Benefit Levels*. (n.d.). Center on Budget and Policy Priorities. Retrieved December 7, 2021, from <https://www.cbpp.org/research/family-income-support/states-must-continue-recent-momentum-to-further-improve-tanf-benefit>
- Stoney, L. M. (n.d.). *FOR FISCAL YEAR 2022*. 681.
- Stoney—FOR FISCAL YEAR 2022.pdf*. (n.d.). Retrieved December 7, 2021, from <https://www.rva.gov/sites/default/files/2021-06/FY22%20Adopted%20Annual%20Fiscal%20Plan%20-%20Web%20Version.pdf>
- Temporary Assistance for Needy Families (TANF)*. (n.d.). Retrieved December 7, 2021, from <http://www.dss.virginia.gov/benefit/tanf/index.cgi>
- Virginia Spends the 16th Least on Welfare. (2021, September 15). *Prince William Living*. <https://princewilliamliving.com/virginia-spends-the-16th-least-on-welfare/>

VPLC_Snap_20160429_final.pdf. (n.d.). Retrieved December 7, 2021, from http://vahungersolutions.org/wp-content/uploads/2015/07/VPLC_Snap_20160429_final.pdf

Costs to Society Sources

7829, 135, & 244. (n.d.). *Conviction, Imprisonment, and Lost Earnings: How Involvement with the Criminal Justice System Deepens Inequality* / Brennan Center for Justice. Retrieved September 29, 2021, from <https://www.brennancenter.org/our-work/research-reports/conviction-imprisonment-and-lost-earnings-how-involvement-criminal>

CityWide_123120YTD.pdf. (n.d.). Retrieved September 29, 2021, from https://www.rva.gov/sites/default/files/2021-01/CityWide_123120YTD.pdf

Costs of Poverty Fact Sheet. (n.d.). Poor People's Campaign. Retrieved September 29, 2021, from <https://www.poorpeoplescampaign.org/resource/costs-of-poverty-fact-sheet/>

Cost-Savings-from-PSH.pdf. (n.d.). Retrieved September 29, 2021, from <http://endhomelessness.org/wp-content/uploads/2017/06/Cost-Savings-from-PSH.pdf>

Departmental Guidance on Valuation of a Statistical Life in Economic Analysis / US Department of Transportation. (n.d.). Retrieved October 18, 2021, from <https://www.transportation.gov/office-policy/transportation-policy/revised-departmental-guidance-on-valuation-of-a-statistical-life-in-economic-analysis>

Fy2020_tanf_caseload_trec_0.pdf. (n.d.). Retrieved October 8, 2021, from https://www.acf.hhs.gov/sites/default/files/documents/ofa/fy2020_tanf_caseload_trec_0.pdf

Fy2020_tanf_financial_data_table_092221.pdf. (n.d.). Retrieved October 8, 2021, from https://www.acf.hhs.gov/sites/default/files/documents/ofa/fy2020_tanf_financial_data_table_092221.pdf

Galea, S., Tracy, M., Hoggatt, K. J., DiMaggio, C., & Karpati, A. (2011). Estimated Deaths Attributable to Social Factors in the United States. *American Journal of Public Health, 101*(8), 1456–1465. <https://doi.org/10.2105/AJPH.2010.300086>

Homeward—Point In Time Count. (n.d.). Retrieved September 29, 2021, from <https://www.homewardva.org/point-in-time-count>

Kaeble, D. (2016). *Time Served in State Prison, 2016*. 7.

Karpman, M., Coughlin, T. A., & 2021. (2021, April 6). Declines in Uncompensated Care Costs for The Uninsured under the ACA and Implications of Recent Growth in the Uninsured Rate. *KFF*. <https://www.kff.org/uninsured/issue-brief/declines-in-uncompensated-care-costs-for-the-uninsured-under-the-aca-and-implications-of-recent-growth-in-the-uninsured-rate/>

Looney, A. (2018, March 14). 5 facts about prisoners and work, before and after incarceration. *Brookings*. <https://www.brookings.edu/blog/up-front/2018/03/14/5-facts-about-prisoners-and-work-before-and-after-incarceration/>

Medicaid Per Capita Expenditures / Medicaid. (n.d.). Retrieved September 29, 2021, from <https://www.medicaid.gov/state-overviews/scorecard/how-much-states-spend-per-medicaid-enrollee/index.html>

Medical Expenditure Panel Survey Public Use File Details. (n.d.). Retrieved October 18, 2021, from https://meps.ahrq.gov/data_stats/download_data_files_detail.jsp?cboPufNumber=HC-201

Poverty in America: Consequences for Individuals and the Economy: (665362007-001). (2007). [Data set]. American Psychological Association. <https://doi.org/10.1037/e665362007-001>

Productivity Lost from Incarceration. (2019, May 30). Laguna Treatment Hospital. <https://lagunatreatment.com/blog/productivity-lost-incarceration-by-state/>

SNAP Data Tables / USDA-FNS. (n.d.). Retrieved September 29, 2021, from <https://www.fns.usda.gov/pd/supplemental-nutrition-assistance-program-snap>

The Price of Prisons—The Price of Prisons—Prison spending in 2015. (n.d.). Vera Institute of Justice. Retrieved September 29, 2021, from <https://www.vera.org/publications/price-of-prisons-2015-state-spending-trends/price-of-prisons-2015-state-spending-trends/price-of-prisons-2015-state-spending-trends-prison-spending>

U.S. Census Bureau QuickFacts: Richmond city, Virginia; Virginia; United States. (n.d.). Retrieved September 29, 2021, from <https://www.census.gov/quickfacts/fact/table/richmondcityvirginia,VA,US/PST045219>

Federal and State Antipoverty Policy Sources

Community Services Block Grant (CSBG). (n.d.). Retrieved December 7, 2021, from <http://www.dss.virginia.gov/community/csbg.cgi>

Cortright, J. (n.d.). *ECONOMIC DEVELOPMENT*. 66.

Donahue, R., Parilla, J., & McDearman, B. (n.d.). *RETHINKING CLUSTER INITIATIVES*. 52.

Earned Income Tax Credit (EITC) and Child Tax Credit (CTC). (n.d.). Retrieved December 7, 2021, from <http://www.dss.virginia.gov/community/eitc.cgi>

FINAL 2020 Annual Performance Report v5.pdf. (n.d.). Retrieved December 7, 2021, from <https://www.rva.gov/sites/default/files/2021-03/FINAL%202020%20Annual%20Performance%20Report%20v5.pdf>

Incentive Programs / Richmond. (n.d.). Retrieved December 7, 2021, from <https://www.rva.gov/economic-development/incentive-programs>

Low-Income Housing Tax Credit Program—Virginia Housing. (n.d.). Retrieved December 7, 2021, from

<https://www.vhda.com/BusinessPartners/MFDevelopers/LIHTCProgram/Pages/LIHTCProgram.aspx>

Porter, M. E. (1998, November 1). Clusters and the New Economics of Competition. *Harvard Business Review*. <https://hbr.org/1998/11/clusters-and-the-new-economics-of-competition>

Sa_virginia_final_fy2015.pdf. (n.d.). Retrieved December 7, 2021, from https://www.acf.hhs.gov/sites/default/files/documents/ocs/sa_virginia_final_fy2015.pdf

States Must Continue Recent Momentum to Further Improve TANF Benefit Levels. (n.d.). Center on Budget and Policy Priorities. Retrieved December 7, 2021, from <https://www.cbpp.org/research/family-income-support/states-must-continue-recent-momentum-to-further-improve-tanf-benefit>

Stoney, L. M. (n.d.). *FOR FISCAL YEAR 2022*. 681.

Stoney—FOR FISCAL YEAR 2022.pdf. (n.d.). Retrieved December 7, 2021, from <https://www.rva.gov/sites/default/files/2021-06/FY22%20Adopted%20Annual%20Fiscal%20Plan%20-%20Web%20Version.pdf>

Temporary Assistance for Needy Families (TANF). (n.d.). Retrieved December 7, 2021, from <http://www.dss.virginia.gov/benefit/tanf/index.cgi>

VPLC_Snap_20160429_final.pdf. (n.d.). Retrieved December 7, 2021, from http://vahungersolutions.org/wp-content/uploads/2015/07/VPLC_Snap_20160429_final.pdf

Workforce Training Sources

Clagett—2006—Workforce Development in the United States An Over.pdf. (n.d.). Retrieved November 1, 2021, from https://ncee.org/wp-content/uploads/2011/08/ACII_WIA_Summary.pdf

The return on investment (ROI) from adult education and training: Measuring the economic impact of a better educated and trained US workforce | VOCEDplus, the international tertiary education and research database. (n.d.). Retrieved November 1, 2021, from <https://www.voced.edu.au/content/ngv:62535#>

Hollenbeck, K., & Huang, W.-J. (2006). *Net Impact and Benefit-Cost Estimates of the Workforce Development System in Washington State*. W.E. Upjohn Institute. <https://doi.org/10.17848/tr06-020>

Holzer, H. J. (2008). *Workforce Development as an Antipoverty Strategy: What do We Know? What Should We do?* (SSRN Scholarly Paper ID 1293548). Social Science Research Network. <https://papers.ssrn.com/abstract=1293548>

King—HOW EFFECTIVE ARE WORKFORCE DEVELOPMENT PROGRAMS .pdf. (2011). Retrieved November 1, 2021, from <http://sites.utexas.edu/raymarshallcenter/files/2011/10/King-Heinrich-APPAM-10222011.pdf>

Heinrich, C. J., Mueser, P. R., Troske, K. R., Jeon, K.-S., & Kahvecioglu, D. C. (2013). Do Public Employment and Training Programs Work? *IZA Journal of Labor Economics*, 2(1), 6. <https://doi.org/10.1186/2193-8997-2-6>

Hollenbeck, K. (2003). *Net Impact Estimates of the Workforce Development System in Washington State*. W.E. Upjohn Institute. <https://doi.org/10.17848/wp03-92>

Business Grant Sources

Dvouletý, O., Srhoj, S., & Pantea, S. (2021). Public SME grants and firm performance in European Union: A systematic review of empirical evidence. *Small Business Economics*, 57(1), 243–263. <https://doi.org/10.1007/s11187-019-00306-x>

Srhoj, S., Lapinski, M., & Walde, J. (2021). Impact evaluation of business development grants on SME performance. *Small Business Economics*, 57(3), 1285–1301. <https://doi.org/10.1007/s11187-020-00348-6>

Srhoj, S., Škrinjaric, B., & Radas, S. (2021). Bidding against the odds? The impact evaluation of grants for young micro and small firms during the recession. *Small Business Economics*, 56(1), 83–103. <https://doi.org/10.1007/s11187-019-00200-6>

Lanahan, L. (2016). Multilevel public funding for small business innovation: A review of US state SBIR match programs. *The Journal of Technology Transfer*, 41(2), 220–249. <https://doi.org/10.1007/s10961-015-9407-x>

Lerner, J. (1999). The Government as Venture Capitalist: The Long-Run Impact of the SBIR Program. *The Journal of Business*, 72(3), 285–318. <https://doi.org/10.1086/209616>

Chandler, V. (2012). The economic impact of the Canada small business financing program. *Small Business Economics*, 39(1), 253–264. <https://doi.org/10.1007/s11187-010-9302-7>

Financing of Research and Development | Oxford Review of Economic Policy | Oxford Academic. (n.d.). Retrieved November 1, 2021, from <https://academic.oup.com/oxrep/article-abstract/18/1/35/353760>

Small Business Lending Fund. (n.d.). U.S. Department of the Treasury. Retrieved May 2, 2022, from <https://home.treasury.gov/policy-issues/small-business-programs/small-business-lending-fund>

Industry Cluster Sources

Cortright—ECONOMIC DEVELOPMENT.pdf. (n.d.). Retrieved December 7, 2021, from https://www.brookings.edu/wp-content/uploads/2016/06/20060313_Clusters.pdf

Donahue et al. - RETHINKING CLUSTER INITIATIVES.pdf. (n.d.). Retrieved December 6, 2021, from https://www.brookings.edu/wp-content/uploads/2018/07/201807_Brookings-Metro_Rethinking-Clusters-Initiatives_Full-report-final.pdf

Porter, M. E. (1998, November 1). Clusters and the New Economics of Competition. *Harvard Business Review*. <https://hbr.org/1998/11/clusters-and-the-new-economics-of-competition>

Contributing Factors to Poverty Sources

Azih, C. A.-M. (n.d.). *Analysis of Factors Contributing to Poverty in the United States: An Empirical Study*. 15.

Brady, D. (2019). Theories of the Causes of Poverty. *Annual Review of Sociology*, 45(1), 155–175. <https://doi.org/10.1146/annurev-soc-073018-022550>

Bureau, U. C. (n.d.). *Income and Poverty in the United States: 2020*. Census.Gov. Retrieved April 30, 2022, from <https://www.census.gov/library/publications/2021/demo/p60-273.html>

Charter—Richmond. (n.d.). Retrieved April 30, 2022, from <https://law.lis.virginia.gov/charters/richmond/>

GDP growth (annual %)—United States / Data. (n.d.). Retrieved April 30, 2022, from <https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=US>

Haveman, R. (n.d.). *Causes of Poverty*. 37.

Hoynes, H. W., Page, M. E., & Stevens, A. H. (n.d.). *Poverty in America: Trends and Explanations*. 23.

Society or the Individual: Root Causes of Poverty in America. (2016, January 25). College of Mount Saint Vincent. <https://mountsaintvincent.edu/society-or-the-individual-root-causes-of-poverty-in-america/>

State & Local Taxes / Richmond. (n.d.). Retrieved April 30, 2022, from <https://www.rva.gov/economic-development/state-local-taxes>

The Basic Facts About Children in Poverty. (n.d.). *Center for American Progress*. Retrieved April 30, 2022, from <https://www.americanprogress.org/article/basic-facts-children-poverty/>

Tinsley, K., & Bishop, M. (n.d.). *Poverty and Population Density: Implications for Economic Development Policy*. 14.

Other Sources

JLARC | *Virginia's Workforce Development Programs*. (n.d.). Retrieved May 2, 2022, from <http://jlarc.virginia.gov/va-workforce.asp>

Estimates of Job Creation from the American Recovery and Reinvestment Act of 2009. (n.d.). The White House. Retrieved April 8, 2022, from <https://obamawhitehouse.archives.gov/node/958>

New York Economy at a Glance. (n.d.). Retrieved April 8, 2022, from <https://www.bls.gov/eag/eag.ny.htm>

Parilla, L. G. and J. (2021, May 5). How tax incentives can power more equitable, inclusive growth. *Brookings*. <https://www.brookings.edu/blog/the-avenue/2021/05/05/how-tax-incentives-can-power-more-equitable-inclusive-growth/>

Richmond service fees up, taxes stay flat, higher hourly wages in Stoney's 2023 budget proposal. (2022, March 4). *WRIC ABC 8News*. <https://www.wric.com/news/local-news/richmond/richmond-service-fees-up-taxes-stay-flat-higher-hourly-wages-in-stoneys-2023-budget-proposal/>

Virginia's City of Richmond Hopes Tax Cuts Will Sway the Public on Casino Bid. (2022, January 26). *GamblingNews*. <https://www.gamblingnews.com/news/virginias-city-of-richmond-hopes-tax-cuts-will-sway-the-public-on-casino-bid/>