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Client: Richmond Public School

Improving Children's School Readiness in the City of Richmond



FRANK BATTEN SCHOOL
of LEADERSHIP *and* PUBLIC POLICY

RPS RICHMOND
PUBLIC SCHOOLS

Acknowledgment

I would first like to offer my sincere appreciation to Professor Raymond Scheppach of UVA Batten School of Leadership & Public Policy, for his incredible knowledge, patience, and support in assisting the completion of this report. I would also like to thank Mr. Matthew Stanley, the Director of Advocacy and Outreach at Richmond Public Schools. Mr. Stanley granted me the opportunity to participate in this project and offered directions for valuable resources. Finally, I want to appreciate the dedicated work of all educators, researchers, and policymakers in Virginia, especially amidst the COVID-19 pandemic. The implementation of this report is not possible without your contribution.

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 judgments 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 other agency.

Honor Pledge

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

Victor Liu

4/9/2021

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Executive Summary

School readiness is an important benchmark for early childhood development. The concept of school readiness entails the basic skill and knowledge possessed by children before they enter the K-12 school system. Overall, the school readiness level of children is correlated with the socio-economic statuses (SES) of their families and the preschool education they received, which includes both family education and classroom-based education. A higher level of school readiness improves the academic outcome and future development of children.

The school readiness level of children in the city of Richmond is low, compared to the state average level. According to the fall 2019 Virginia Kindergarten Readiness Program (VKRP) report, only 41.2% of children in Richmond are school-ready, lower than the state average of 56.2%. This can be attributed to two factors: most children in Richmond are economically disadvantaged, and the existing preschool program has limited coverage and quality. The Richmond Public Schools (RPS) is the provider of public preschool education in the city. Improving the preschool program at RPS not only enhances the school readiness of its students, but also the long-term educational outcome for students after they entered the public school system.

Enhancing preschool education is a complex combination of human, financial, and logistic resources to achieve a better outcome. It also requires necessary political and community support to move forward. After reviewing the existing literature and policy practices, the report evaluates these four following policy alternatives:

- Maintain the current enrollment and spending level for the existing Head Start and VPI program.
- Increasing enrollment in the existing Virginia Preschool Initiatives (VPI) program. This alternative utilizes unused VPI slots by boosting enrollment efforts and local investments to cover more at-risk four-year-old children.
- Expanding the preschool program to all at-risk three-year-old children. This alternative expands the existing VPI program by increasing the enrollment eligibility to all three-year-old. It effectively prolongs the school-based preschool to two years for at-risk children in Richmond.

- Providing voluntary universal preschool for all four-year-old Richmond. This program combines different sources of funding with increased local input into providing a universal preschool experience that is open to voluntary enrollment for all four-year-old children in Richmond.

All four alternatives are analyzed under four criteria: cost-effectiveness, political feasibility, implementation capabilities, and equity. Under these criteria, the report recommends the third alternative, since it has the greatest impact on the long-term improvement of school readiness. In order to implement the policy alternative, the first step is to conduct a more detailed capability study for existing preschool facilities. The city council and the school board can then collaborate in planning for facility and personnel expansion. Meanwhile, RPS can further integrate the administration of different existing programs and work with local partners in discovering diverse delivery options.

Problem Statement

Too many Students in the City of Richmond have a low school readiness level before entering kindergarten. The 2019 VKRP assessment showed that only 41.2% of children are school ready in Richmond city, lower than the state average of 56.2%. This is especially the case for economically disadvantaged students, as only 37.4% of economically disadvantaged students in Richmond are school-ready. This means students in Richmond enter kindergarten with fewer academic skills than their more advanced peers (Magnuson et al., 2004), which negatively impacts their academic performance and long-term development. The school readiness gap is likely to be caused by several factors, including lower socioeconomic statuses and poor preschool education quality. As the main provider of public preschool education in Richmond, RPS can contribute to mending the school readiness gap for children by enhancing its preschool program.

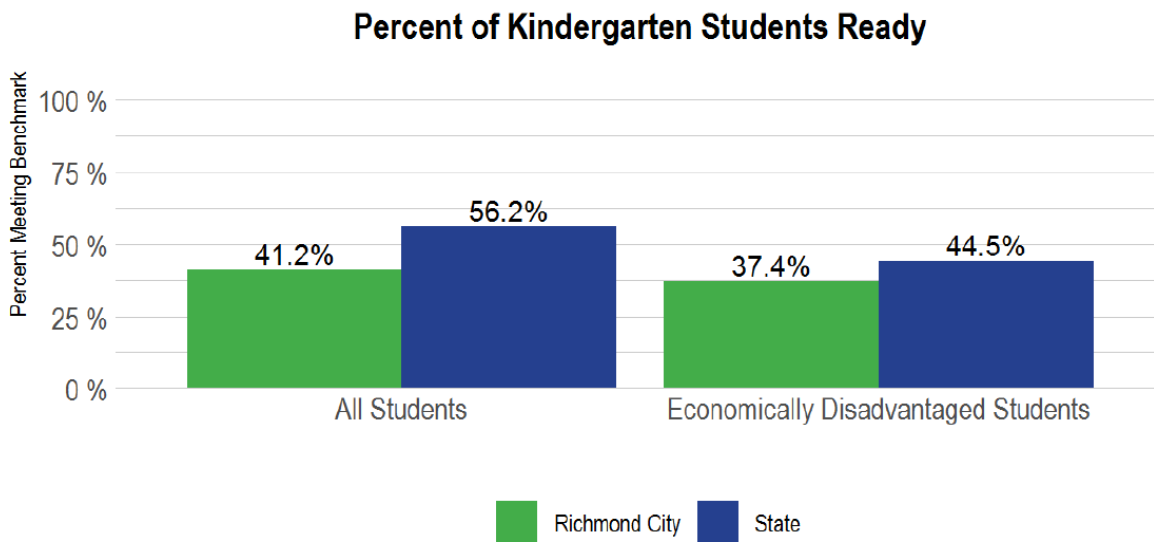


Figure I. School Readiness level in Richmond (VKRP, 2019)

Issue Background

What is school readiness for children?

School readiness is a specific measurement of early childhood development outcomes. Besides specific literacy and math knowledge, the school readiness level of an individual focuses on the more comprehensive development of social, emotional, cognitive, and physical abilities (Magnuson et al., 2004). In the United States, there are some consensuses over what school readiness generally entails, but its definition and assessment are largely determined at the state level. According to the definition of the Virginia Department of Education (VDOE, 2013), school readiness in Virginia includes the following benchmarks:

- Literacy skills
- Mathematics skills and interests
- Early curiosity in Science, history, and social studies
- Physical and motor development
- Personal, social, and communication skill

In Virginia, VKRP measures four benchmarks for school readiness: self-regulation, social skill, math, and literacy. which is organized by the UVA Curry

School of Education. These four benchmarks are assessed by three assessments: Child Behavior Rating Scale (CBRS) for self-regulation and social skill, Early Mathematics Assessment System (EMAS) for math, and Phonological Awareness Literacy Screening (PALS) for literacy. Still, these assessments are inherently limited in what they can effectively measure.

Since school readiness is an outcome measure of early childhood development, it is interconnected with all aspects of development, specifically families and schools. In addition to the children, VDOE also specified the role of families and schools in ensuring sufficient resources for the development of children, so that they can have a smooth transition into kindergarten. As a result, the gap in school readiness reflects the greater pattern of inequities in childhood development across the nation.

Causes of the school readiness gap

Socio-Economic Status

The most significant determinant of school readiness is socioeconomic status, which impacts various aspects of a child's early development. 48% of poor children compared to 75% of children from moderate or high-income households are ready for school at age five (Issac, 2012). There are many studies on the correlation between socioeconomic status and school readiness level. This part will specifically discuss the impact of SES on the cognitive ability of children.

SES impacts the early neural development of children in multiple ways. Children from lower-SES backgrounds are more likely to experience adversity, such as emotional abuse or economic hardships. The adversity triggers the toxic stress response of the children, which changes the brain circuitry of these children (Williams & Lerner, 2019). Children in poverty are also more likely to experience nutritional deficiencies, negatively impacting cognitive and emotional functions. Exposure to toxic substances like lead also affects intelligence and reading ability (Hackman et al, 2010).

In terms of core cognitive and social skills, poverty increases the risk of not acquiring key competencies related to school readiness (Perry et al., 2018), especially social competence and executive functions (EF). Social competence is the necessary skill set for social adaptation, including awareness of others' emotions, collaborating with others, and empathy. Executive functions are

higher-order self-regulatory mechanisms that influence planning and decision-making abilities. Perry (et al., 2018) have utilized longitudinal studies to show strong evidence that poverty causes deficiencies in the development of these skills. In addition to the children themselves, the lower physical and mental health of parents, both prenatal and after birth, negatively impact school readiness level.

Socioeconomic status also has a complex relationship with parenting. Poverty is correlated with parent distress, limited access to resources, limited knowledge, and limited parental knowledge (Roubinov & Boyce, 2017). Studies (Rouse et al, 2005) also show the difference in culture, discipline, and language use as a result of SES. The difference in language use is significant in a racial context, as black and Hispanic parents talk and read less to their children. In terms of parenting, these relations are more correlative than causal.

Still, Rouse (et al, 2005) offered a word of caution in assuming the link between school readiness and overarching socioeconomic status. SES is a predictor of many adversities that could individually cause the deficiency in school readiness, and these specific causal relationships are yet to be completely established. The confounding nature of these adversities also risks over-stating the effect of any specific factor.

Early Childhood Education (ECE)

Another major factor that impacts school readiness is early childhood education. Early childhood education provides a foundation for a smooth transition into more formal classroom learning. ECE programs in the United States are very diverse in terms of provider, instruction, and funding, yielding varying outcomes.

Experiences in ECE, regardless of programs, have a positive effect on school readiness. A Brookings report shows that the “likelihood of being school ready is 9 percentage points higher for children attending preschool” (Issac, 2012). Another study that analyzed eight state programs has found these programs to produce broad gains in children’s learning at kindergarten entry for literacy, language, and mathematics outcome (Barrett et al., 2018). The National Institute for Early Education Research (NIEER) has concluded that 1) state and local prekindergarten programs, almost without exception, improve academic readiness for school; and 2) there are persistent impacts on

achievement well beyond school entry, even though these are somewhat smaller than short-term impacts (William & Lerner, 2019).

Early childhood education particularly helpful for children from lower-SES or minority backgrounds, particularly in academic skills. Magnuson (et al., 2004) showed that preschool programs can provide a stimulating environment for learning, which students from lower-SES families are less likely to experience. Bassok (2010) also demonstrated that Hispanic and Black children, from both poor and non-poor background, benefits significantly from classroom-based preschool programs. Over the past decades, the enrollment in public preschool programs has increased, many being targeted programs for lower SES children. Still, there is a significant unmet need for 2.5 million kids to enroll in preschools due to eligibility and resource restraints (Dept. of Education, 2015), and the gap is yet to be fully mitigated.

The implemented effect of preschool programs varies, as shown in the eight-state study (Barrett et al., 2018). There are also greater effects generated from smaller, closely monitored model programs than larger programs (William & Lerner, 2019). One determinant is the instruction time. A working UVA paper (Atteberry et al, 2018) compared the efficacy of full-day vs. half-day programs. It shows students in the full-day program outperforms in literacy skills than those in the half-day program by one standard deviation. In a review conducted by Bhise and Sonawat (2016), other key determinants include curriculum and teacher quality.

Recent trends in school readiness

Overall, the school readiness level has improved over the past 50 years. According to a Child Trends analysis, “the percentage of 3- to 6-year-old children able to recognize all letters increased from 21% in 1993 to 38% in 2012, and those able to count to 20 or higher increased from 52% to 68% during that period” (William & Lerner, 2004). This is both the result of increased investment in early childhood education, as well as greater access to mass media. According to the census data, the percentage of three-year-old and four-year-old attending preschool programs increased from 40 percent in 2000 to 50 percent in 2018 (Hussar et al, 2020). Public funding has also significantly increased since 2000.

As for the income-related gap in school readiness, studies have shown its steady reduction since the 2000s. Figure II shows that preschool enrollment

significantly increased for the lowest quintile before 1995, but the gap declined steadily after that. The graph also shows the lowest quintile surpassing the second-lowest quintile in terms of enrollment, which is the result of targeted public programs (Magnuson & Waldfogel, 2016). Using ECLS-K data, Reardon and Portilla (2016) also show the income gap and the racial gap are declining, and the racial gap declined faster than the income gap. Still, they pointed out the income gap in long-term academic achievement was rising.

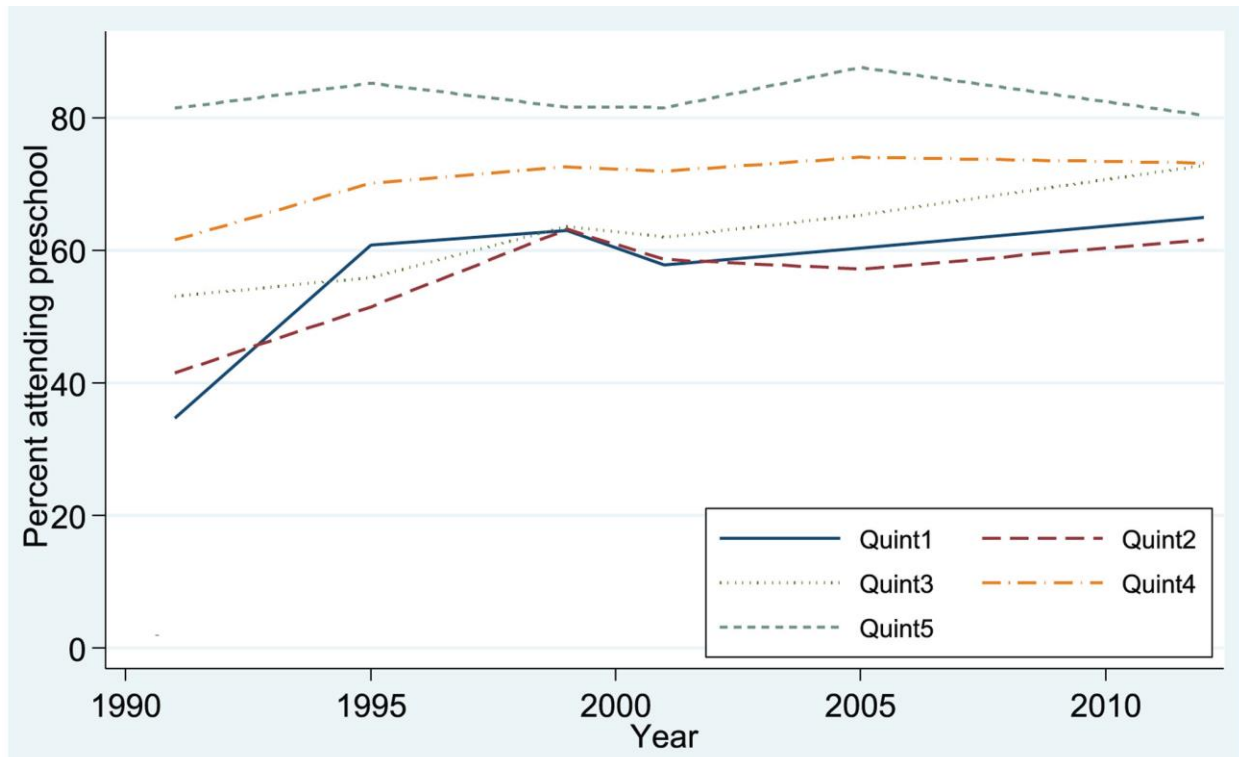


Figure II. Percentage of four-year-old attending preschool by income quintiles (Magnuson & Waldfogel, 2016)

Scope of the issue in Richmond

According to the 2019 American Community Survey, the City of Richmond has 4,497 three-year-old and four-year-old children. The situation for the city of Richmond is not ideal. As a large urban area, the City of Richmond has a higher concentration of economically disadvantaged children. 61.7% of children in Richmond are in families whose income is lower than 200% of the federal poverty line, significantly higher than the state average of 36%. As a result, Richmond also has a higher rate of foster care and children without

health insurance. As shown in figure III, most low-income children are concentrated in the eastern and southeastern end of the city.

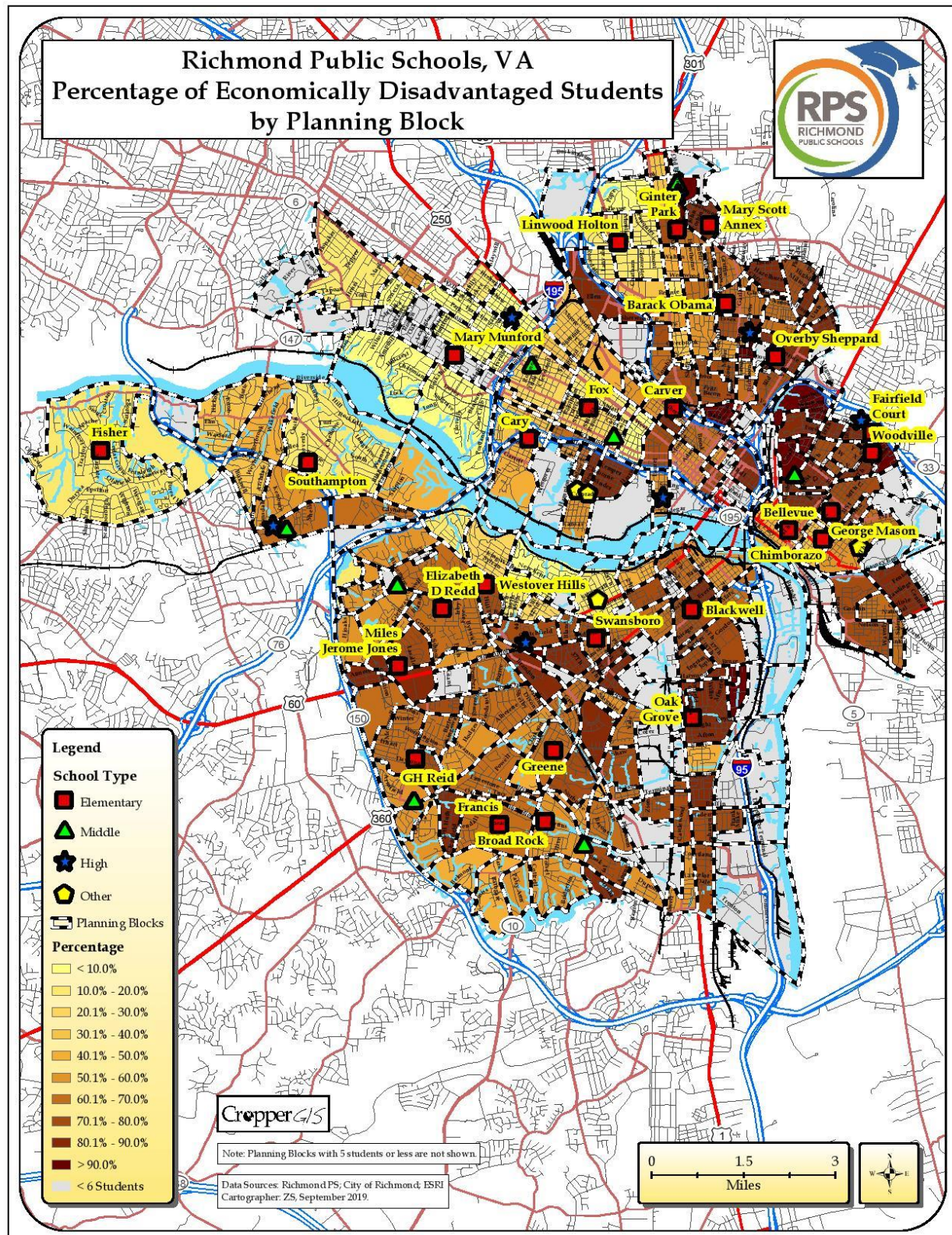


Figure III. Percentage of Economically disadvantaged children in Richmond (Cropper GIS, 2019)

Still, most children in Richmond are eligible to enroll in public pre-K as a result of the targeted federal Head Start and state VPI program. The city of Richmond has a rate of public pre-K enrollment of 45%.

	3-year-old and 4-year-old total	Enrolled in public pre-K	Enrolled in private pre-K	Not enrolled in pre-k
Number	4497	2004	829	1664
Percentage	100%	44.6%	18.4%	37.0%

Figure IV. Percentage of three- and four-year-old in Richmond

Virginia has a rather low rate of public pre-K enrollment, ranked at 31st nationally in funding and access. In 2019, the per-child spending is \$3967, declining from \$5318 in 2002, using the 2019 dollar. Only 18% of children in Virginia are enrolled in public-funded pre-K programs. Virginia Preschool Initiative (VPI) is the main public pre-k program funded by state and local governments, which provides classroom-based pre-K for at-risk 4-year-old children in Virginia.

The consequences of the issue

The most direct consequence of low school readiness level is lower academic performance. Students with a lower level of school readiness perform worse academically and may require more intensive instruction. Lower school readiness level is also a strong indicator of increasing grade repetition (Davoudzadeh et al., 2015) However, researches also show the difference in academic performances generally slowly phase out by the 3rd grade.

In the long-term, participation in preschool is also correlated with less arrest, more high school graduation, and fewer substance abuse issues (Piper, 2019). Overall, public education plays a crucial role in providing equal opportunity in early development. Despite the higher rate of preschool enrollment, the school readiness gap means the socioeconomic inequity is magnified, rather than reduced in the public education process. Given the status

quo of Richmond Public Schools, improving school readiness is a worthy investment for the long-term achievements of all students in Richmond.

Client Overview

The client of this report, Richmond Public Schools is the public school system that currently serves the City of Richmond. It is a school district with 25,211 full-time students by the start of the 2019-2020 school year. Currently, the school system has 25 elementary schools, seven middle schools, five comprehensive high schools, three specialty schools, one charter school, and five preschool centers. It is the 12th largest school district in Virginia, though considerably smaller than the public school system of Henrico County and Chesterfield County.

Richmond Public Schools is the main public provider of pre-K programs in the city of Richmond. Currently, the school system operates 5 full-time preschools: Mary Scott, Martin Luther King Jr., J.H. Blackwell, Maymont, and Summer Hill. A few primary schools at RPS also have smaller preschool classrooms. Figure V shows the current zoning for preschools on the map with purple circles as preschools and preschool classrooms at primary schools. In the 2019-2020 school year, RPS provides 1667 full-time pre-k seats. These seats are all funded by the Federal Head Start program or the State VPI program. In recent years, RPS strived to integrate its preschool services, which boosted transportation service and increased investments.

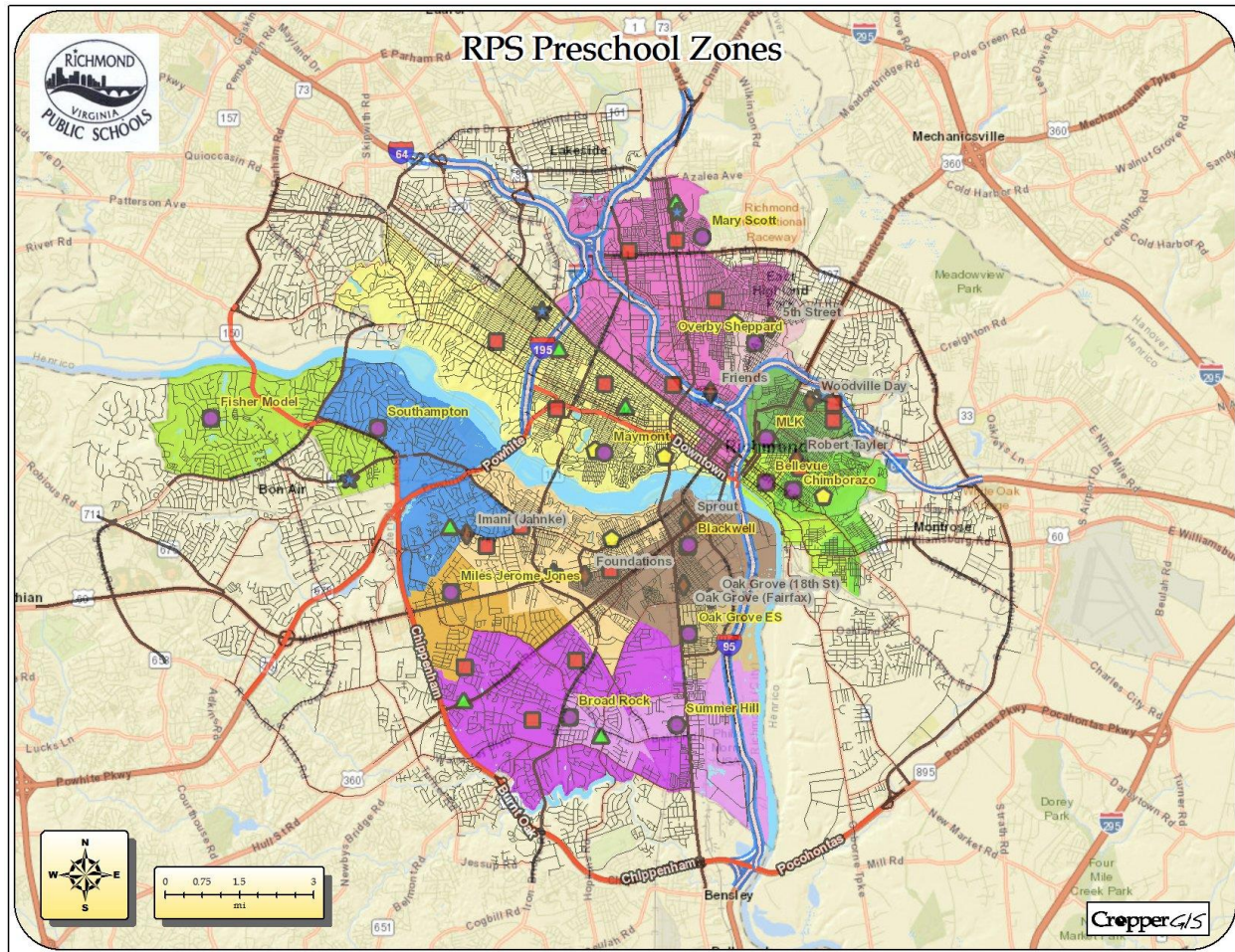


Figure V. – The current RPS preschool zones (Cropper GIS, 2019)

The Richmond Public Schools has a higher percentage of low-income students. Using the VDOE definition of economically disadvantaged students, 55% of students in RPS, and 62% of the preschool student is economically disadvantaged in 19-20 school year. This is higher than the statewide ratio of 40%, as well as neighboring Henrico County and Chesterfield County. Such a percentage is magnified is only considering FRPL as the criteria for low-income students. According to a DoE report, RPS ranked as the 9th highest free and reduced lunch population in the Commonwealth. Richmond Public Schools is also a district with a high racial minority ratio. 86% of all students and 96% of preschool students at RPS are non-white.

RPS is led by superintendent Dr. Jason Kamras and Chief Academic Officer Dr. Tracy Epp. RPS is administered by a nine-person school board. The School Board is elected by nine districts to a four-year term. Similarly, the Richmond

city council also has nine representatives that serve as the legislative for the city. There is also an at-large mayor for the city. The current mayor is Levar Stoney, who expressed his intention to establish universal pre-K in the city of Richmond. The annual budget of RPS is first prepared by the superintendent's office, approved by the school board, then included in the city budget, and finally approved by the city council. In the 2019-2020 school year, the total general operation funds (excluding earmarked grants) for RPS are \$310,656,300, and 55% of the funds are provided through city appropriations.

Existing Policy Practice

The literature review will examine existing policy practices surrounding school readiness. Overall, school readiness programs tackle the two predominant causes introduced in the issue background: socioeconomic statuses and early childhood education. The debate around the efficacy between family support policies and preschool policies is an ongoing and valid one. Given the nature of the client, this report will only focus on policies that aim at improving early childhood education. I will first provide an overview of the federal Head Start program and the Virginia Preschool Initiative program. Then, I will review the key debate of universalism versus targeted response in ECE, and offer some existing policy measures used by other localities.

Head Start

The Head Start program is a targeted program administered by the US Department of Health and Human Services (HHS). It aims to improve the school readiness and development of children in poverty by providing educational, social, health, and nutritional support. It is introduced in 1965, as a part of President Johnson's War on Poverty that required "maximum feasible participation" (Sedgwick, 2016). Originally, Head Start only include 3-year-olds and 4-year-olds. In 1994, Early Head Start (EHS) was introduced to assist children between 0 to 2 years old.

The eligibility to the program is based on the federal poverty line. Children living under 100% federal poverty line (FPL), in foster, or homeless are eligible in receiving support from Head Start. Up to 35% of children served by Head Start can have income between 100% and 130% poverty line. Head Start grant is directly provided to local education agencies (LEAs) through a 5-

year grant. These LEAs are under the administration of the Office of Head Start (OHS) and its regional services. The education program under Head Start is diverse, including center-based, home-based, or childcare, etc, since they are individually developed and provided by the LEA. In FY 2017, the total appropriation to Head Start reached \$9,225,000, serving 731,325 Head Start Recipients and 168,049 Early Head Start recipients. 12,670 HS recipients and 2,452 EHS recipients in Virginia received \$128 million from Head Start.

Studies have shown mixed effects for Head Start. Overall, Head Start has a positive impact on both the academic and social skills of children. One cohort study showed “significant effects of Head Start on improvements in cognitive development and social competence and reductions in attention problems at age 5” (Zhai, 2011). However, the academic advantages start to fade out after children enter primary school and became obscure after the 3rd grade. The 2010 Head Start Impact study shows the Head Start participant being surpassed by their peers in primary schools (Puma et al., 2010). This has invited skepticism over the effect of Head Start. One hypothesis is that poor students enter low-quality public schools that diminished the outcome of Head Start. The varying levels of enrollment, program quality, and instructor qualifications have also yield varying effectiveness for Head Start. In addition, researches have shown significant long-term effect for Head Start in health and social outcomes, as well as the positive effect on labor force participation (Piper, 2018).

In Richmond, 563 3-year-olds and 398 4-year-olds are served by Head Start in center-based programs. 91% of the HS recipients are African Americans. At RPS, Head Start students are instructed using the “Creative Curriculum” and screened through the Brigance system in full-day, 5-day, classroom-based programs. It also dictates a minimum of 2 home visits and 2 parent-teacher meetings annually, as well as full transportation service.

Other federal programs

Two other federal programs offer targeted ECE responses. The Individuals with Disabilities Education Act (IDEA), passed in 1990, is a federal law that provides free public education to students with 13 categories of disabilities. Part B of IDEA provides support for school-aged children between 3 to 21 years old, which includes preschool. In the 17-18 school year, 7 million students, or 14% of all students in the public education system, receive education service from IDEA part B (Dragoo, 2018). The act dictates LEAs to

provide Individualized Education Program (IEP) for special education needs. The number of disabled students is surveyed annually by VDOE in the December 1st report. In the 2018-2019 school year, RPS has 149 disabled pre-K students, mainly at the Maymont pre-K center. These slots are fully funded by the federal grant of IDEA part B.

The other federal program is the Preschool Developmental Grant (PDG). It is a standalone grant included in the 2015 Every Student Success Act (ESSA) with the purpose to increase access to high-quality preschools. The grant was awarded to states and then distributed to LEAs. Virginia received the \$9,900,948 grant in 2015, and used the grant to increase preschool access for at-risk 4-year-olds in the VPI+ program. In four years, 5,566 at-risk students in Virginia enrolled in the VPI+, including 578 students from Richmond City. The VPI+ program depleted in 2019 and was combined with the VPI program.

Virginia Preschool Initiative

State-funded preschool programs started to appear in the United States in the 80s and 90s. Virginia Preschool Initiative is the targeted program in the Commonwealth of Virginia that provides preschool education to at-risk four-year-old free of charge. The policy was introduced in 1996 to provide additional preschool instruction for those who are not covered by Head Start. Comparing with Head Start, VPI is a more focused and defined education program. After 2005, VPI replaced HS as the biggest public preschool program in Virginia.

The eligibility to VPI is economically “at-risk”. As of 2021, the at-risk standard is one of these four risk factors below. The latest regulation in 2020 also allows up to 15% of the VPI seats to adopt local eligibility criteria.

- Family income at or below 200% federal poverty line
- Homelessness
- Parents or guardian being high school dropouts
- Family income between 200% and 350% FPL and students with special need or disabilities

VPI program is funded through state appropriations and local matches. The state appropriation is allocated to each district through a per-pupil grant at a fixed amount. The number of students is calculated through local reporting. Based on the composite index of a specific division, the local school districts provide matches for the rest of the cost. The composite index is calculated

based on the average income of a district. In the 2018-2019 school year, the VPI program serves 17,122 full-time students and 535 part-time students. Additionally, over 7000 slots were funded but not filled. For FY2022, the VPI program is projected to fund 28,237 seats with \$133,857,554 of state contribution and \$82,296,691 of local match.

The administration and implementation VPI program are also co-dependent on both the state and local levels. At the state level, VDOE is in charge of establishing minimum standards of both provision and outcome. It also monitors the LEAs through curriculum review and CLASS observation for quality control. At the division level, school divisions develop and execute the instruction program. Statewide tests used to assess the school readiness of students, such as PALS-K, is administered by CASTL at UVA that partnered with VDOE.

In the past 10 years, per-student funding from the VPI program seems to be reduced from \$5,400 in 2007 to \$3,997 in 2018. The gap is greater if considering inflation. This is the result of the disinvestment in public education since the 2008 financial crisis. In recent years, the State government has ambitious plan to expand the VPI program, which includes a 10% rise in quality annually, the establishment of a pilot program for at-risk 3-year-old, and the removal of the waitlist. The state government is also seeking to increase financial incentives in community-based delivery and mixed delivery of preschool programs. In FY22, Governor Northam included a 94.8 additional million investment in the annual budget. Still, Virginia ranked the 31st in 4-year-old preschool access and state funding in the 2019 NIEER yearbook (Friedman-Krauss et al., 2020).

VPI has a positive effect on school readiness. The 2019 VKRP results show that at-risk students are 1.5 times more likely to be school-ready if they are enrolled in the VPI program. The positive effect is spread out in all aspects like literacy, math, and social skills (Rotz et al., 2007). At-risk students who participated in VPI also have a higher pass rate in 3rd grade SOL exams. Given its relatively short history, there is a limited result on the long-term effect of VPI.

Richmond is a major division for VPI. In the 18-19 school year, Richmond was allocated 1,126 seats, but only utilized 681 seats. This was a significant overestimation in enrollment, which can be attributed to the cut in bus service and insufficiency in local fund matching. In FY22, RPS has proposed 1,153 full-time slots for the RPS, \$4,688,485 in state funding, and \$4,137,729 in local

matches. The VPI program at RPS is a classroom-based, full-day, 5-day program. In 2019, the school board also restarted the bus service for VPI, using a cheaper hub model.

Moving forward: universalism versus targeted response

The existing programs, at both the federal and state level, have a positive outcome in terms of school readiness. However, these programs also have several drawbacks (Barnett et al., 2004). Targeted nature means families just above the cut-off and middle-class families are not able to enroll in these programs. The existence of different fund streams and programs increases administrative difficulties. For instance, Sedgwick (2016) has shown that a constant “coordination paradox” exists between the administrator of HS and VPI, due to the differences between the funding stream and the regulatory requirements. The different requirements in these programs also mean the varying level of education outcomes.

With that issue, there has been increasing calls to establish a more universal preschool system in the United States. The proponents of a universal program claim the overwhelming benefits of preschool programs in both immediate school readiness and long-term social benefit surpasses the early investment. In addition to education benefits, the universal program also offers greater economic benefit in the saved cost for quality preschool and increased labor force participation. They also believe the uniformity are able to save administrative cost and benefit the overall quality of the program. Rotz (et al., 2007) has shown a 3.15:1 return rate in a universal program.

The critics of the universal approach have three major arguments. Firstly, they question the effect of universal preschool programs, especially for students from a middle-class or upper-class background. Meanwhile, they pointed the steep cost universal programs usually bear, as expanding pre-K access also requires expansion in facilities, which can be extremely costly for local government. Private providers could also be crowded out as public programs advance, reducing the outcome in school readiness. Instead, they argued that there is room for more cost-effective improvement in the existing targeted policy practices through expanding access and increasing investments.

A universal program has the definition that there are no other eligibility criteria other than age. However, due to financial constraints, the main states have “near-universal” programs which cap the total enrollment number.

Currently, Florida, Vermont, and the District of Columbia have a universal program without any cap, while Georgia, Illinois, Iowa, New York, Oklahoma, Wisconsin, and West Virginia have “near-universal” programs that have some form of caps for total enrollment. In reality, these programs significantly boosted enrollment, but their quality still varies. For instance, DC has the highest per-pupil funding while Wisconsin ranks at the 33rd in per-pupil funding in 2019 (Friedman-Krauss et al., 2020). Universal programs were able to improve school readiness, but the improvement in preschool program quality remains. Generally speaking, the varying qualities in existing universal pre-k programs are not sufficient in ending this debate.

Case studies: universal pre-K at the urban level

Many large urban areas have adopted their own version of universal or near-universal programs. Overall, large urban areas simultaneously face advantages and challenges when adopting a universal program. Universal preschool programs in urban regions are more likely to receive voter support, and these programs could better serve the more concentrated poor population. However, these programs may also face the issue of low quality given the size of the student body.

A 2019 report (NIEER, 2019) studied 40 large urban areas in the US. Cities with high enrollment programs were awarded “bronze medals”, and cities with high-quality programs were awarded “silver medals”. Cities that satisfied both benchmarks received “gold medals”. Among the 40 cities, five cities received “golden medals”: Boston, Charlotte, Nashville, New York City, and San Antonio. These five cities can be seen as the overall best practices across the United States. This report will focus on Boston and NYC, as these two cities are representative to the the greater policy environments.

The approach Boston the pre-K program in Boston started in 2013 with mixed delivery, as the city government cooperated with community organizations in addition to public school provision. The slot roll-out is also relatively slow, at the rate of 150 seats added annually, as the city projected the program to reach true universality in 2024. In FY 2020, the program received a \$15 million fund from the city government to further expand access. Mayor Walsh has cited obstacles in state-level funding as the reason for the slow expansion of the program.

This approach is vastly different from NYC, which stressed uniformity within the public school system. The program also expanded from 20,000 slots in 2014 to more than 70,000 slots in 2016, enrolling more than 70% of 4-year-olds in NYC. Naturally, the rapid expansion of the program in NYC came with higher costs, covered by a new state funding stream. In FY16, the total projected cost is \$565 million. The difference in these two programs showed the policy choices given varying political and financial support.

In term of program quality, all of these programs have set quality benchmarks from the get-go and expanded with these benchmarks, such as class sizes and teacher qualifications. This has ensured the overall program quality, even after the expansion. NIEER (2019) also recognized these programs for quickly building the universal program upon the existing program.

Other than the instructions, these programs have shown commonality in overall administrative and financing practices. For instance, all of these programs utilized a combination of different sources of funding to provide a more universal service. They also provided targeted local funding for the improvement of these programs, either on access or quality.

In conclusion, the best practice of any universal program depends on the overall political support and financial commitment of the localities. Policymakers need to balance between access and quality with all the available resources. Still, establishing quality benchmark, continuous improvement, and targeted funding are commonalities of all the successful programs.

Criteria

These are the four benchmarks that I will use to analyze the policy alternatives: cost-effectiveness, political feasibility, administrative capability, and equity. I will analyze and compare each with existing baseline data, and present them in the output matrix. Due to the COVID pandemic and the availability of data, there will be different baselines used for different benchmarks.

Cost-Effectiveness

Cost-effectiveness measures the per-unit cost of improving the designated outcome. In this case, the designated outcome is the number of students determined to be ready for kindergarten. The sum of these outcome measures over the future ten years will be the denominator for cost-effectiveness. Total costs will include costs for all the staff, capital equipment, buildings, and other costs associated with readiness programs. The future ten-year costs will be discounted with an assumed 3 percent discount rate and will become the numerator for the calculation of cost-effectiveness. Improved school readiness of students, and the cost-effectiveness benchmark is the total increased cost of the program divided by the increased number of students that is school ready. It is the major issue this report discusses.

For this benchmark, I will use the VKRP report as the measurement of school readiness, which measures all four sub-aspects. The baseline will be the 18-19 school year, which is available on the VKRP website. I will provide a comparison of projected increased school readiness with the baseline. The cost-effectiveness will be calculated by the increased number of 4-year-olds that are school ready. The discussion of cost is based on the current level of program quality and per-student funding, specified in the Standard of Quality (SOQ). To control for inflation, I will use the 2021 dollar as the unit of measurement.

Political Feasibility

The political feasibility measures whether the policy alternative is able to be adopted and enacted by the authority, based on political supports and impacts over the policy. In the case of RPS, the Mayor's office, the Richmond City Council, and the school board have the authority to enact policy changes. I will measure the support to a specific alternative based on the stated position of the institution, and other considerations based on the cost and complexity of the program. It will be presented in a relative ranking of the policy alternatives from low to high.

Implementation Capability

The implementation capability measures the difficulty within the institution to implement the policy alternative. This benchmark measures the complexity of each policy alternatives, given the existing capacity of RPS. The capability would include three aspects: organization, personnel, and facility.

Organization capability measures whether RPS has the appropriate organizations in processing the alternatives; personnel capability measures the quantity, qualification, and overall support of RPS teachers and staff; facility capability measures the capacity of existing RPS pre-schools. It will be presented in a relative ranking of the policy alternatives from low to high, according to these three aspects.

Equity

Equity measures whether the policy alternative is equitable in its implementation and its outcome. Since the existing programs are all means-tested and the policy alternatives aim to expand pre-K to the general public, the measurement of equity should be that the readiness of students who are previously eligible and enrolled in the pre-K program, and students who become eligible after the implementation of the policy option. The equity criteria also include the equity between 3-year-olds and 4-year-old, give the eligibility requirement of the program. The benchmark administrative feasibility will be presented in low, medium, and high, according to a relative ranking of their equity level.

Policy Alternatives and Findings

This report provides the following three alternatives to address the underlying issue. In all of the policy alternatives, the proposed increase in pre-K slots is all in the form of 5-days, full-day (8 hours) slots. This is due to the following reasons: 1) the newly-added slots are on par with existing slots in terms of quality, 2) the uniformity in the program allows for less administrative complexity, and 3) the simplicity for cost projection. I will then analyze the policy alternative based on the four benchmarks in the criteria section.

In analyzing the policy options, I will hold the following assumptions.

- 1) No major shift in federal Head Start or state VPI program funding or guidelines.
- 2) The lockdown caused by the COVID-19 pandemic will end by June 2022, and preschool enrollment will return to the baseline level in the 2021/2022.

- 3) The willingness to enroll in private schools is constant among the population, and the enrollment is equal between 3-year-olds and 4-year-olds.
- 4) The economic growth rate and inflation rate remain overall constant for the next 10 years. The baseline for the inflation rate is 2%.
- 5) Parents of 4-year-olds are willing to enroll in public programs at the current rate if the appropriate opportunity is presented.
- 6) Half of the current and prospective students in RPS preschools require bus transportation, which is proportional to the current scale.

Given the data of the past school years, figure VI is the baseline of program enrollment. The numbers are predominantly based on the 18-19 school year. However, this number is also higher than the actual school year number: the number for VPI increased in fall 2019 as a result of transportation services, and the VPI plus program terminated in 2019. The number hence reflects the potential level after the policy changes. The numbers are also rounded for simplicity. My analysis will be based on this revised baseline in 2022.

According to the population projection in the city of Richmond by the Weldon Cooper Center at UVA (2019), the number of 3-year-olds and 4-year-olds will respectively increase by 12 annually in the next 10 years. Holding economic status constant, the report projects that roughly 7 students will be economically at-risk and enrolls in the public preschool.

Program Category	Baseline Number
3-year-olds/at-risk	2,250/1,450
4-year-olds/at-risk	2,250/1,450
VPI (4-year-old)	800
Head Start (4-year-old)	400
Head Start (3-year-old)	500
Special Education – Separate Class	100
Private Preschools	400
No Enrollment (4-year-old)/at-risk	800/250
No Enrollment (3-year-old)/at-risk	1,500/950

Figure VI. Student Enrollment Baseline

The framework used in this report to project cost is developed by the Institute for Women's Policy Research. It is simplified as the original framework is developed for state-level programs. In the 2018-19 school year, the total outlay in RPS preschool programs is \$7,685,790 for 1,570 students or \$4,890 per pupil. Adjusting for the inflation, it became \$5,090 per student in 2021 dollars. This includes \$4,880 for salaries and benefits and \$210 for materials and transportations. This will be the estimate for the variable cost for a program. In addition to that, the projection includes indirect cost, which predominantly includes new infrastructures and facility renewals.

The source of revenue is interlocked with the outlays, which are also under significant changes over the past years. As a result, this report will not discuss programs that are already funded by earmarked revenue. This includes the federal head start funding and the IDEA Act Part B funding, which will continue at the existing level with minor fluctuation. The key discussion would be the general operating fund, where the cost of the policy alternatives will occur. According to the 2019 RPS budget, the actual revenue from the state for the VPI program is \$2,186,313. The rest of the funding is contributed by the city government. For all the policy alternatives below, they will be funded by the state government and the city government.

There are two key limitations in the method used for policy finding. The first limitation is the extensive use of simplified or assumed data in the school readiness projection, which limited the accuracy of these projections. This is due to the constraint in time and data availability for further researches, as well as the binary notion of "school readiness" this report has to adopt to quantify the outcome. The second limitation is that the cost projection could have missed some indirect cost for additional programs, which exists place outside the budget category of early childhood educations in the RPS budget. Accounting for these additional hidden costs requires insights from school administrators with greater knowledge in the functioning of RPS.

Status Quo: Maintain existing student enrollment and spending level.

The status quo maintains the existing student enrollment and spending level for RPS, without any changes to the existing enrollment structure or instruction structure. At-risk students eligible will continue to enroll in RPS preschool programs at the baseline level. The status quo assumes that no new

population became eligible, and assumes no improvement in qualities over the existing programs. Accounting for population growth, the projected enrollment and school readiness under the status quo is shown below in Figure VII. The projection only includes students enrolled in public preschools, but the school readiness measures all the students in Richmond.

Year	RPS-Enrolled 3-year-olds	RPS-Enrolled 4-year-olds	School-Ready Student	Total Cost
21/22	550	1,250	913	\$ 9,162,000
22/23	557	1,257	918	\$ 9,417,925
23/24	564	1,264	923	\$ 9,680,423
24/25	571	1,271	928	\$ 9,949,653
25/26	578	1,278	933	\$ 10,225,780
26/27	585	1,285	938	\$ 10,508,972
27/28	592	1,292	943	\$ 10,799,402
28/29	599	1,299	949	\$ 11,097,245
29/30	606	1,306	954	\$ 11,402,683
30/31	613	1,313	959	\$ 11,715,899
Total	5815	12,815	9358	\$ 103,959,982

Figure VII. Enrollment, Readiness, and Cost Projection under Status Quo

The baseline readiness for the status quo would be the 2019 VKRP result, which only measures four-year-old students. According to the data, the school readiness rate for all children is 41.2%, or 930 4-year-olds that are school ready. The economically disadvantaged readiness rate is 37.4%, or 540 at-risk 4-year-olds that are school ready. Additionally, the statewide VKRP data also shows that at-risk students enrolled in public schools are 1.5 times more likely to be school-ready. Based on these two facts, the baseline for calculating school readiness is 37.9% for the VPI program, 25.2% for not-enrolled at-risk four-year-old children, and 48.6% for the rest of the four-year-old. The calculation for school readiness changes as effects of alternatives differ.

Cost-effectiveness: The program does not incur any new investments, other than a two-percent inflation rate and the increased direct cost for the new students. The report assumes no need for any additional facilities. As a result, the variable cost is the only cost included in this projection. All other policy alternatives will compare themselves with the total cost of the program. Comparing with the 21/22 baseline, the additional cost of the existing program is \$12,339,982, and the school-ready students increase by 228. The cost-effectiveness of expanding the status quo is $\$12,339,982 / 228 = \$54,123$ per-person.

Other criteria: As the existing policy, the status quo has high political feasibility and high implementation capability, since the policy is supported by existing political institutions and RPS departments. The equity is low for the status quo, as the status quo does not expand the eligibility for the program. As a result, the existing gap between those who are enrolled and not enrolled will remain over the next 10 years. The gap between 4-year-old and 3-year-old enrollment also persists.

Alternative #1: Increasing enrollment in the existing VPI program

As mentioned in the background review, due to the financial restraints and low enrollment, funded VPI slots are often left unused. The first alternative is to utilize these unused slots by providing local funding matches, improve transportation operation, utilizing waivers to some local seats, and increase enrollment efforts. This alternative intends to provide as many funded slots for at-risk children to enroll. If fully utilized, this could potentially increase VPI enrollment annually over the next three years by 80 seats in addition to population changes, and the enrollment level remains steady for the rest of the decade. The projected enrollment data is shown in figure VIII.

This alternative does not require any major modification to the existing funding and enrollment procedures. However, this alternative includes expanding the transportation service for VPI from the hub-based service to door-to-door service, which will increase the transportation cost for half of the students who require transportation. This alternative also utilizes new state funding by potentially applying local eligibility standards for 15% of the seats, which does not require new investment but adds to the complexity of the program. Besides, RPS has engaged in programs and advertising efforts to boost enrollment.

Year	RPS-Enrolled 3-year-olds	Change from baseline	RPS-Enrolled 4-year-olds	Change from baseline	School-Ready Student	Change from baseline	Total Cost	Change from baseline
21/22	550	0	1,250	0	913	0	\$ 9,762,000	\$ 600,000
22/23	557	0	1,337	80	928	10	\$ 9,933,269	\$ 515,344
23/24	564	0	1,424	160	943	20	\$ 10,627,724	\$ 947,301
24/25	571	0	1,511	240	959	31	\$ 11,246,024	\$ 1,296,371
25/26	578	0	1,518	240	964	31	\$ 11,548,079	\$ 1,322,299
26/27	585	0	1,525	240	969	31	\$ 11,857,717	\$ 1,348,745
27/28	592	0	1,532	240	974	31	\$ 12,175,122	\$ 1,375,720
28/29	599	0	1,539	240	979	30	\$ 12,500,480	\$ 1,403,235
29/30	606	0	1,546	240	984	30	\$ 12,833,982	\$ 1,431,299
30/31	613	0	1,553	240	989	30	\$ 13,175,824	\$ 1,459,925
Total	5815	0	14,735	1,920	9602	244	\$ 115,660,221	\$ 11,700,239

Figure VIII. Projection Under Alternative #1

Cost-effectiveness: In the first 3 years of implementation, I project VPI to enroll 87 more students in the program annually, due to the program intervention and population increase until it reaches 1511. Then the program will reach its stated level, and enrollment will increase by 7 annually. Overall, this policy alternative will enroll 1920 additional at-risk students in the VPI program over the next 10 years. Given the 2019 VKRP result, the public preschool program in Virginia is correlated with the increase in school readiness from 25.2% to 37.9%, a 12.5-percentage point increase in school readiness. Using this as the estimate of VPI's effect, this report projects that 244 additional children will be school readiness over the next 10 years.

In terms of cost, the report projects the total cost at \$115,660,221. This cost calculation is based on the per-pupil cost, which includes both instruction and material costs. Additionally, there will be two start-up expenditures in transportation and enrollment programming. The additional cost in transportation would be a 1-time investment of \$500,000. The other additional cost is the annual fee for increasing enrollment programming. I project the payment will continue for the next three years during the expansion of the program. Hence, the total additional cost for this alternative is \$11,700,239.

Using this analysis, the result shows that policy alternative has the cost-effectiveness of $\$11,700,239/244 = \$49,751$ per school-ready 4-year-old. This does not necessarily mean that this is the amount required for one student to be school-ready. Although other students enrolled in VPI may not be fully school-ready, the instruction nevertheless had individualized effects on their school readiness, which is not captured by the existing benchmark.

Political Feasibility: The political feasibility of the alternative is high. The program is simply the continuation and the expansion of the existing policy, which is also fully supported by the school board and the city government. The cost of the program is relatively low and spread out in the 10 years. According to the composite index, the city government matches 45% of the total cost calculated above. The plan also increases the enrollment of the existing VPI programs, which is supported by all stakeholders involved.

Implementation Capability: The implementation capability of this alternative is high. The program does not require a change to the existing enrollment schedule. Some local criteria will be relaxed, but the vetting process

remained similar in terms of process and workload. As for the personnel and facilities, the level of expansion does not require any expansion in both personnel or facilities, and the alternative does not surpass the current capacity of RPS.

Equity: The equity of this alternative is medium. This alternative can significantly improve the school readiness of at-risk children who were not able to enroll previously, increasing equity within the at-risk children. The local criteria waiver also allows for broader enrollment from families just above the cut-off for VPI eligibility. Still, the expansion is not applicable for those children that are not eligible to the VPI standards, which limits its effect in equalizing between the two groups. There is also no improvement for 3-year-olds.

Alternative #2: Extend enrollment for at-risk 3-year-old children

Currently, the VPI program only provides funding for classroom-based preschool for at-risk 4-year-old children, with a new pilot program for 3-year-old children in 2020. At-risk 3-year-old children are served by the federal Head Start program, which only enrolls 1/3 of total at-risk 3-year-old children. This policy alternative suggests the City of Richmond provide preschool slots for these at-risk 3-year-olds under the same full-day setting as the VPI program.

Given the eligibility criteria for VPI, the result of this program is likely to extend the preschool enrollment time from one year to two years for some VPI students. To an extent, this alternative improves the quality, rather than extending the coverage of the existing program. Similar to #1, the program will generate costs in additional instructors, materials, and transportation. However, this alternative is likely to generate greater administrative complexity that processes the funding and enrollment for the additional students.

Given the development of the state-level VPI program, this alternative is likely to be an interim solution until the VDOE expands eligibility and funding for at-risk 3-year-olds for the state. Families are in general less willing to enroll 3-year-olds in preschools than enrolling 4-year-olds. As a result, I project that the peak participation rate of the program being around 60% of the 4-year-old enrollment.

Year	RPS-Enrolled 3-year-olds	Change from baseline	RPS-Enrolled 4-year-olds	Change from baseline	School-Ready Student	Change from baseline	Total Cost	Change from baseline
21/22	550	0	1,250	0	913	0	\$ 9,262,000	\$ 100,000
22/23	607	50	1,257	0	927	9	\$ 9,933,269	\$ 515,344
23/24	664	100	1,264	0	941	18	\$ 10,627,724	\$ 947,301
24/25	721	150	1,271	0	955	27	\$ 10,759,885	\$ 810,232
25/26	728	150	1,278	0	960	27	\$ 11,052,217	\$ 826,437
26/27	735	150	1,285	0	965	27	\$ 11,351,938	\$ 842,966
27/28	742	150	1,292	0	970	27	\$ 11,659,227	\$ 859,825
28/29	749	150	1,299	0	975	26	\$ 11,974,267	\$ 877,022
29/30	756	150	1,306	0	980	26	\$ 12,297,245	\$ 894,562
30/31	763	150	1,313	0	985	26	\$ 12,628,352	\$ 912,453
Total	7015	1200	12,815	0	9571	213	\$ 111,546,124	\$ 7,586,142

Figure IX. Projection Under Alternative #2

Cost-effectiveness: I based the projection of school readiness effects on the study of Wen et al. (2012), who compared the effect of one-year and two-year participation in the Head Start program and Chicago City program. Averaging different effects in the study, I project the school readiness level is 5 percentage point higher for those who enrolled in the 2-year program at 42.9%. I also assumed three years for the policy to fully take effect at 721 students. After that, the program enrollment only increases as the result of population increase, as shown in figure IX. In total, 1200 more 3-year-old will enroll in the RPS, with 213 additional 4-year-olds ready for schools

The variable cost generated by the program will be the additional salary for the instructors and administrator, as well as the transportation and material cost incurred in the month, which will be covered by the local budget as of now. This source of this cost could be shared by the state government as the VPI pilot program for 3-year-old rolls out. This estimate includes the transportation cost at the existing level of VPI's hub model for half of the participants with no additional investment. The cost also included the \$100,000 annual spending for increasing enrollments in the first three years. As projected, the total cost will be \$111,546,124 and the additional cost will be \$7,586,142. For this alternative, I also assumed no need for any additional facilities, as the existing RPS capacity is sufficient for the increase in enrollment.

As a result, the over cost-effectiveness is $\$7,586,142/213 = \$35,615$ per school-ready 4-year-old kid. Like other options, the VKRP result, as a binary measurement, cannot fully capture the individual improvements in academic performances and social skills. Arteaga et al. (2014) also show the long-term benefit of a two-year preschool program in reduced criminal activities and improved education attainments.

Political feasibility: The political feasibility of this alternative is medium. On one hand, the alternative increases overall school readiness outcomes, especially for parents who are already eligible for the VPI program. On the other hand, the state government may share a part of the program cost, which reduced the burden for the program. One limitation of the program is the limited stakeholder impacted given the relatively small size of the program, which may negatively impact the broader community support for this program.

Implementation capability: The capability of this alternative is high. The program is small in size and widely adopted. RPS also runs existing Head Start programs, so the instructors have a sufficient skillset in instructing 3-year-olds. This program could require an additional workload for RPS administrators in the process of enrollment, but since the eligibility requirement remains the same, the administrators are well-equipped for the additional enrollment. The program has no requirement for additional facilities either.

Equity: The equity of this alternative is low. This alternative mainly tackles the gap in enrollment between 3-year-olds and 4-year-olds, and it does improve the overall school readiness outcome. Still, there is no change at all in the eligibility requirement. It simply allowed children who are previously eligible to enroll in one more year of preschool, with no effect for the rest. This is a major improvement in the equity in school readiness. The program is also smaller and has a limited spillover effect.

Alternative #3: Establish a locally-funded universal pre-school for all 4-year-old in Virginia

This alternative establishes a voluntary “universal preschool” for all 4-year-olds to enroll in a classroom-based preschool program at RPS. In addition to Head Start and VPI, all of the slots in this program will be funded by the local government. This program would have the same quality as VPI slots, with 5-days a week, full-day programs. In order to achieve the universality in program quality and enrollment, it requires the RPS to “reverse-mainstream” the funding from different sources. This alternative includes alternative #1 as a part of expanding enrollment, prioritizing at-risk students. After the construction of the new school, RPS could further expand its enrollment into a truly universal program.

To implement this system, the RPS needs to significantly improve the capabilities of enrollment. Based on the actual willingness of participation and

available slots, it may also require a waitlist system. Other than the variable cost for increased students, this alternative does require expansion in facilities. I project one more preschool being constructed, likely in southeastern Richmond, in five years. RPS could roll out public enrollment in its preschool system over the next seven years. I assume the enrollment rise to the level specified in policy alternative #1 in three years and maintain the level for two more years. Then after the new school is constructed, I assume two more years to reach the projected peak enrollment. The projection of enrollment is shown below in figure X.

Year	RPS-Enrolled 3-year-olds	Change from baseline	RPS-Enrolled 4-year-olds	Change from baseline	School-Ready Student	Change from baseline	Total Cost	Change from baseline
21/22	550	0	1,250	0	913	0	\$ 11,633,000	\$ 2,471,000
22/23	557	0	1,337	80	928	10	\$ 11,704,269	\$ 2,286,344
23/24	564	0	1,424	160	943	20	\$ 12,398,724	\$ 2,718,301
24/25	571	0	1,511	240	959	31	\$ 13,017,024	\$ 3,067,371
25/26	578	0	1,518	240	964	31	\$ 13,319,079	\$ 3,093,299
26/27	585	0	1,525	240	969	31	\$ 11,957,717	\$ 1,448,745
27/28	592	0	1,652	360	1046	103	\$ 12,962,982	\$ 2,163,580
28/29	599	0	1,779	480	1052	103	\$ 13,903,714	\$ 2,806,469
29/30	606	0	1,786	480	1058	104	\$ 14,265,281	\$ 2,862,598
30/31	613	0	1,793	480	1070	111	\$ 14,635,749	\$ 2,919,850
Total	5815	0	15,575	2760	9902	544	\$ 129,797,539	\$ 25,837,557

Figure X. Projection Under Alternative #3

Cost-effectiveness: The effectiveness of the alternative is influenced by two factors. On one hand, studies have shown a smaller effect on school readiness for students from upper-middle-class and upper-class families, since they already have a relatively higher school-readiness rate. On the other hand, another study showed that school-readiness level improves for students from both lower-class and middle-class families in a socio-economically diverse setting (Reid, 2012). An RDD study on the universal pre-K program in Georgia (Peisner-Feinberg, 2014) also shows a clear impact in school readiness assessments after the adoption of universal pre-K. With the confounding effect of these factors, the report assumes the effect of a 5-percentage point increase in school readiness from the previous school readiness ratio, 42.9% for enrolled at-risk children and 53.6% enrolled not-at-risk children after the 5th year into implementation. This is based on the assumption that most participants enrolled in the program are more likely to come from a lower socioeconomic status, even though they do not meet the criteria for being economically “at-risk”. I then project that 544 additional 4-year-old students will be school-ready.

In addition to the variable cost, it contained larger early investments for the new facility. The report assumes one additional preschool to be built. In 2015, the MLK school was built, which costs the RPS \$8,050,000. Controlling for inflation with a 10% inflation rate over 5 years, a new preschool with a similar capacity of 240 students is going to cost around \$8,855,000. The construction cost is spread across the first five years. Additionally, similar to alternative #1, the report assumes \$100,000 annually in expanding the enrollment efforts in the 7 years, as well as a 1-time 500,000 investment in bus transportation. As a result, the total cost for the program is \$129,797,539 and the additional cost is \$25,837,577. The total cost-effectiveness of the program is \$47,475 per school-ready 4-year-old.

Political Feasibility: The political feasibility of this alternative is medium. The alternative has the greatest impact in increasing public enrollment and school readiness in Richmond, which is supported by the city government and the school board. The universality of the program is also widely supported. However, the program does have a relatively steep cost on the city government, especially the starting cost. This means either the RPS may need to divert resources to this alternative, or the city government may have to raise taxes in funding the program.

Implementation Capability: The implementation capability of this alternative is medium. Under this alternative, the operational structure will not likely undergo a major change, in terms of how enrollment and instructions are organized. However, the large expansion in the scale of the program means a significant increase in personnel, which adds to the complexity in implementing the policy. The workload of administrative and logistical support is also likely to increase. Additionally, the construction of a new school requires a significant input of financial and administrative resources.

Equity: The equity of this alternative is high. Comparatively, this is the program that has the greatest effect in alleviating the school readiness for those who are ineligible for Head Start or VPI, as the universal pre-school offers instruction of the same quality. It offers a considerable increase in preschool coverage and school readiness level for both groups. This program also has the greatest multiplier effect, both in improving school readiness individually, and in labor force participation for younger parents. A CAP study of the universal preschool at DC shows a 10-percent-point increase in maternal labor effect (Malik, 2018).

Recommendation

Based on the findings, this report recommends policy alternative #3: establishing voluntary universal pre-K in the city of Richmond. Given the analysis above, figure XI below presents the output matrix of the status quo and the three policy alternatives. As shown on the matrix, the third alternative is the alternative with solid cost-effectiveness, but a significant impact and stronger equity, comparing with the other two options. The steep early investments are also able to be recovered by the long-term benefits of the alternative, as it progresses. The literature review also shows that universalism in preschool education is a sound policy practice in improving school readiness, as well as long-term achievements and labor force participation with increasing buy-ins from policymakers. In addition, the mayor of Richmond, Levar Stoney, announced his intention to establish a universal preschool option in Richmond in 2020, which could be a good window of policy operation.

	Cost-Effectiveness	Political Feasibility	Implementation Capabilities	Equity
Status Quo	\$54,123	High	High	Low
Alternative #1: Boost VPI enrollment	\$49,751	High	High	Medium
Alternative #2: Enroll 3-year-olds	\$35,615	Medium	High	Low
Alternative #3: Universal Preschool	\$47,475	Medium	Medium	High

Figure XI. Output Matrix

Implementations

Stakeholder Analysis

This report identified four sets of stakeholders. The main stakeholder, in this case, is RPS, as the provider of the service. Key actors include Chief Academic Officer Dr. Epp, as well as the administrator of the five preschools. The second set of stakeholders are policymakers and regulators, who have the

authority to change policy, fund programs, and regulate implementation standards. The key actors are the mayor, the city council, the school board, and VDOE. The third set of stakeholders are local partners, who contribute direct service or expertise to the provision of public pre-L. This set of stakeholders include private preschools, community preschool providers, and ECE-related NGOs. Finally, children and their families, reflect the broad community clients the policy seeks to serve.

Taking actions

This report recommends four steps before the formal implementation. The first step in implementation is gathering more information. The most recent capacity and utilization studies include some information on preschool yet considerably lack detail for preschool. In 2015, a study is recommended for RPS preschool, but it was never conducted. A study like this would provide a better picture of the state of existing preschool facilities. This study is necessary for evaluating any preschool expansion, and RPS should conduct the study as the first step of action.

The second step is close communication with the city government and school board. RPS is the provider of education service, but a policy change requires political consensus. The implementation of the policy also requires quality monitoring and assessments organized by VDOE. In this process, RPS should closely coordinate with the city government, the school board, and the VDOE to develop the details of the policy before its launch.

The third step is coordination with community organizations and partners. The provision of preschool cannot solely rely on the RPS. RPS can cooperate such as Smart Beginning at Greater Richmond Area and other community providers in diverse preschool options, both classroom-based and community-based programs. RPS should also ensure clear channels of public engagement to boost community support and public input.

The fourth step is the integration of the administrative process. One advantage of universal program lies in its universality, which can only be achieved with an integrated process that combines instruction, sources of funding, and enrollment effort. RPS has already started, and shall continue, its effort to integrated these departments for a truly uniform preschool experience.

Risk Analysis

A universal pre-K program faces three potential risks. The first risk factor is the low program quality of the program. A steady quality may not be attainable if the city government faces budgetary pressure, or when the enrollment surpasses RPS capabilities. The program may not maintain a high quality in those scenarios, which will reduce the impact on school readiness. For instance, Virginia disinvested in public education after the 2008 financial crisis. Potential solutions include quality assurance measures such as classroom observation to ensure quality. RPS could also adjust available slots to ensure program quality. The second risk factor is low enrollment. Low enrollment reduces participation in public preschool and defeats the purpose of the program. Other than promotion efforts, the main reason for low-willingness in enrollment is the inconveniences within the program setting, such as transportation availability. Ensuring a high-quality service surrounding the provision of universal pre-K is key to steady enrollment.

The third risk factor is crowding out private and community pre-K options. This is seen in many states after the adoption of universal preschool, as children previously enrolled in the private or community-based preschool shift into public preschool. As a result, the effect on overall enrollment is smaller than the projected outcome. A sensible option is for RPS to conduct market research of private preschool providers in Richmond. RPS should improve coordination and cooperation with local providers, especially community providers, in delivering a solution that maximizes enrollment. This is also more viable after the expansion in state level mixed delivery grants (MDG) and the community provider add-on (CPAO) grants. The RPS could also consider a fee-based service with a fee schedule based on income. Montessori program in Arlington, VA has a similar. This will an extent protect other private options and reduce cost pressure for RPS, but it also reduces the overall enrollment level at RPS. This will be a decision based on the willingness to enroll and available RPS slots.

Conclusion

The provision of public preschool, especially high-quality universal preschool, is a distinct challenge. It requires policymakers to integrate and prioritize political, financial, and administrative resources to maximize the effectiveness of the program. Expertise in the field is necessary, as well as broad

community support. Universal pre-K is also the first step in improving school readiness, as long-term improvement of school readiness level entails enduring engagement and investment in early child development.

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