



Pre-K in Montgomery County and in Other Jurisdictions

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Executive Summary of OLO Report Number 2017-7

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Summary: Pre-kindergarten, or pre-k, typically refers to early education programs for four-year-olds that enhance their readiness for kindergarten. The Council tasked OLO to improve its understanding and oversight of pre-k locally by describing the benefits of pre-k, best practices, local programs, estimated costs to expand pre-k, and practices in other jurisdictions. OLO finds that the benefits of high-quality pre-k programs far exceed their costs, but the costs of universal pre-k are high. OLO recommends the Council consider the experiences of other jurisdictions that have expanded their pre-k programs.

Pre-K Benefits and Best Practices

Benefits of high-quality pre-k programs include academic gains of a third of a year in additional learning in average programs to a half and a full year of additional learning for the highest quality programs; increased education and labor force participation among parents if they have child care; and help to close achievement gaps by income, race, and ethnicity. Researchers estimate that every \$1 spent on high-quality pre-k yields a return of investment (ROI) of up to:

- \$8 for children with family incomes below the federal poverty level (FPL);
- \$6 for children with family incomes between 100% and 200% of the FPL; and
- \$4 for children with family incomes above 200% of the FPL.

For the lowest-income children, a year of high-quality pre-k yields a benefit of \$84,000 per child with:

- \$19,000 in reduced K-12 spending on special education, remediation, and school support costs;
- \$19,000 in reduced criminal justice and child welfare costs; and
- \$46,000 in increased future income for pre-k participants in adulthood.

Pre-k also tends to yield greater benefits for Latinos and English language learners. Pre-k programs employing the best practices listed below demonstrate greater benefits. Other best practices noted in the research include student and staff diversity, public school settings, and high-quality K-12 systems that enable children to sustain the academic gains achieved in pre-k through elementary school.

Pre-K Best Practices		NIEER Best Practices	LPI Best Practices
<i>Supports for Educators and Young Learners</i>	Class Size Ratio (1:10)	✓	✓
	Two-Adults per Class	✓	✓
	Early Learning Standards	✓	✓
	Support for Students with Disabilities	✓	✓
	Support for English Language Learners	✓	✓
	Education and Compensation for Staff	✓	
	Effective Curriculum	✓	✓
<i>High Quality Instruction</i>	Use of Pre-K Assessments	✓	✓
	Use of Data for Decision Making	✓	✓
	Quality Rating and Improvement System	✓	✓
	Professional Development	✓	✓
	High-Quality Teaching	✓	✓
	School-Day Length Programs	✓	

Prior Pre-K Policy Efforts

Policy efforts over the last decade aimed at expanding pre-k in Montgomery and across the state include:

- *The State Task Force on Universal Preschool Education* recommending the creation of a voluntary, free universal preschool program for all four-year-olds in Maryland in 2007.
- *The Business Plan for Implementing Preschool for All* by the Maryland State Department of Education (MSDE) recommending the state fund 70% of the costs of universal pre-k in 2008.
- *The Montgomery County Universal Preschool Implementation Work Group* recommending to initially expand universal pre-k to children whose families earn up to 300% of FPL in 2008.
- MSDE receiving \$55 million from two federal *Race to the Top* awards in 2012 and 2014 to develop a new school readiness assessment and a tiered quality rating improvement system.
- MSDE receiving another \$15 million federal grant to fund *State Pre-K Expansion Grants* expanding quality pre-k programs for families earning less than 300% of FPL in 2014.
- *The Montgomery County Early Childhood Coordination Council* and its predecessor recommending the County convert half-day pre-k slots into school-day length slots.
- The 2016 *State Commission Adequacy Study and Analysis of Pre-K in Maryland* report by APA Consulting recommending the state adopt school-day, universal pre-k for all four-year-olds.
- *Montgomery Moving Forward* recently asking business leaders and other key stakeholders to take part in efforts to improve early learning for young children in the County.

Local Pre-K Programs

Because public pre-k programs in Montgomery County are mostly half-day programs and few private pre-k providers participate in Maryland EXCELS, a majority of pre-k slots in the County do not fully align with best practices. Data compiled by APA Consulting and OLO suggest that only 43% of available slots are high-quality and that only 13-14% of current pre-k slots offer high-quality, school-day length settings.

Estimated Demand and Supply of Pre-K	4-Year-Old Enrollment	Any Quality Capacity	High-Quality Capacity*	HQ School Day (SD) Capacity**	OLO Est. HQ SD Capacity***
Four-Year-Old Enrollment and Pre-K Program Capacity (% of Four-Year-Old Population Served)					
Montgomery County (13,010 four-year olds)	8,895 (68%)	9,670 (74%)	4,860 (43%)	1,341 (13%)	1,476 (14%)
Early Childhood Education Slots by Provider					
Public Pre-K	3,311	3,311	3,311	450	585
- Half-Day Slots	2,860	2,860	2,860		
- School-Day Slots	450	450	450		
Child Care Centers	4,983	5,342	1,316	658	658
Family Homes	601	1,017	233	233	233
Additional Pre-K Slots Needed to Enroll 80% of All Four-Year-Olds					
Unmet Need for Pre-K		738	5,548	9,067	8,932

*EXCELS 5, Accredited and Public Pre-K; ** Full School-Day Public Pre-K by Workman, et al. and full-time slots for child care and family homes estimated by OLO; *** OLO estimate of capacity based on data compiled in Table 3-5. Source: Workman, Paliach, and Wool (January 2016). *A Comprehensive Analysis of Prekindergarten in Maryland* (APA Consulting)

School Readiness Gap by Pre-K Experience. Although researchers find that pre-k programs in public school settings tend to demonstrate greater quality than other pre-k programs, local school readiness data suggests that private pre-k programs may achieve better outcomes than public programs. In 2015-16, 69% of children from non-public nurseries and 61% from child care centers met school readiness standards compared to 38% of children from Head Start and 33% from public pre-k programs.

The potentially longer duration of private pre-k programs compared to mostly half-day public pre-k programs locally may contribute to the school readiness gap by pre-k setting. The gap in school readiness by pre-k setting may also reflect the gap by student income. In 2015-16, 61% of non-poor students in Montgomery County were school ready compared to 29% of students eligible for FARMS. Nevertheless, it is important to recognize that an achievement gap in school readiness persists by income and pre-k setting despite the current public pre-k opportunities available to low-income children in the County.

Estimated Costs and Benefits of Expanding Pre-K in Montgomery

Per the Council’s request, OLO considered four options to estimate the costs of expanding pre-k locally.

- **Options 1 & 2 - Extend School-Day Pre-K to All Families Earning < 300% FPL (Cost: \$30-\$35 million).** Option 1 converts 2,860 current half-day programs into school-day slots and Option 2 funds 1,100 new school-day slots for families earning less than 300% of the federal poverty level (or less than \$75,000 for a family of four).
- **Option 3 - Provide Half-Day Pre-K to All Families Earning > 300% FPL (Cost: \$30-\$35 million).** Option 3 funds 4,984 half-day slots for families earning more than 300% of the FPL (or more than \$75,000 annually for a family of four).
- **Option 4 - Convert Half-Day to School-Day Pre-K to All Families Earning > 300% FPL (Cost: \$30-\$35 million).** Option 4 converts 4,984 half-day slots under Option 3 into school-day slots.

OLO estimates that the cost of undertaking all four options to implement universal pre-k for all four-year-olds in the County (with a coverage rate of 80%) would range from \$113 - \$128 million a year, or \$90 - \$105 million more than the \$23 million that is currently spent on the County’s pre-k programs in general education. The benefits of increased funding for pre-k under each option far exceed the annual costs, with universal pre-k yielding \$532 to \$598 million in benefits.

Costs & Benefits of Expanding Pre-K	Current Public Pre-K	Option 1: Convert HD to SD Programs	Option 2: Extend SD to 300% FPL	Option 3: Extend HD to All Families	Option 4: Extend SD to All Families
Capacity	3,311	3,311	4,411	9,395	9,395
- Half-Day Slots	2,860	-	-	4,984	-
<i>Marginal Cost</i>		\$17-20 M	\$13-15 M	\$30-35 M	\$30-35 M
Total Costs	\$23 M	\$40-\$43 M	\$53-\$58 M	\$83-\$93 M	\$113-\$128 M
<i>Marginal Benefit</i>		\$102-\$120 M	\$52-\$60 M	\$120-\$140 M	\$120-\$140 M
Total Benefit	\$138 M	\$240-258 M	\$292-\$318 M	\$412-\$458 M	\$532-\$598 M

Notes: HD = Half-Day Pre-K slots (2.5 – 3 hour per day) estimated at \$6,000 and \$7,000 per slot; SD = School-Day Pre-K slots (6+ hours per day) estimated at \$12,000 and \$14,000 per slot.

Pre-K in Other Jurisdictions

Access in Other Jurisdictions. OLO reviewed 13 other jurisdictions recognized as leaders in expanding pre-k: Boston, Denver, New York City, San Antonio, San Francisco, Seattle, the District of Columbia, Georgia, Michigan, North Carolina, Oklahoma, Washington State, and West Virginia. Among these:

- Ten jurisdictions exclusively served four-year-olds and most targeted low-income children or provided additional pre-k services to low-income children within universal programs.
- The range of four-year-olds served in public pre-k programs ranged from a low of 4-6% in Seattle and San Antonio to a high of 75-90% in West Virginia, Oklahoma, and the District of Columbia.
- The value of subsidies offered to families enrolled in pre-k ranged from a low of \$3,600 per child for average tuition credits in Denver to a high of \$17,500 per child for pre-k in Washington, DC.

Phase-In and Implementation in Other Jurisdictions. Most jurisdictions took several years to implement their pre-k expansions. For example, Boston and West Virginia took ten years to phase in their plans. The exceptions among the jurisdictions reviewed were Denver and New York City. There was no phase-in plan in Denver to offer tuition credits to eligible families; within two years, New York City fully implemented its plan, converting half-day slots into school-day slots and adding school-day slots to deliver universal pre-k.

Funding in Other Jurisdictions. Budget set-asides and dedicated revenue from sales and property taxes are the primary approaches used in six of seven local jurisdictions reviewed (Boston, Denver, San Antonio, San Francisco, Seattle, and Washington, DC). Four of seven localities rely on parent fees via sliding scale tuition payments to fund pre-k programs (Denver, San Antonio, San Francisco, and Seattle).

State pre-k programs, however, often rely on lottery revenue and state aid/student formula driven revenue to fund their programs. Three of six states reviewed rely on lottery revenue to help fund state pre-k programs (Georgia, North Carolina, and Washington State) and five rely on general state or school formula funds (Michigan, North Carolina, Oklahoma, Washington State, and West Virginia).

OLO Recommendations for Discussion

As the Council considers expanding high-quality pre-k in the County, OLO recommends that the Council consider the following sets of questions with key stakeholders to develop a common vision and understanding of how the County should move forward to expand pre-k.

1. How interested are current and potential pre-k providers in the idea of expanding pre-k slots in the County to reach more four-year-olds?
2. What agency and/or organization within the County is best suited to lead and manage the expansion of high-quality pre-k in the County?
3. Should the County focus on expanding high-quality pre-k slots in high-poverty neighborhoods for low-income children and/or on promoting socio-economic integration?
4. What dedicated funding sources should the County pursue to expand pre-k programming?
5. Should the County support a public education campaign focused exclusively on promoting pre-k or more broadly on support for expanding children's services?

For a complete copy of OLO-Report 2017-7, go to:
<http://www.montgomerycountymd.gov/OLO/Reports/CurrentOLOReports.html>

Office of Legislative Oversight Report 2017-7

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Chapter 1. Authority, Scope, and Organization

A. Authority

Council Resolution 18-223, FY 2016 Work Program for the Office of Legislative Oversight, adopted July 28, 2015.

B. Scope, Purpose, and Methodology

The terms pre-kindergarten (pre-k), child care, and nursery school are often used interchangeably. Universal pre-k, however, has a specific meaning: they are state-funded preschool programs that offer early childhood education to all qualified children during the year or years before K.¹ Universal pre-k means that a program's only eligibility criteria are age and residence – no requirements based on income, disability, or other risk-factors. In practice, many universal pre-k programs begin as targeted programs for low-income children until there is sufficient funding and available slots to serve all interested families. Some universal pre-k programs are also means-tested, providing a greater subsidy for low-income families for pre-k programs than for more affluent families.

High-quality pre-k programs are one of the few social programs uniformly recognized by researchers, policy makers, and advocates as yielding significant individual, community, and societal benefits that far exceed their program costs. Every dollar investment in high quality early pre-k dollars yields a \$2 to \$8 return to government in reduced costs for remediation, special education and incarceration, and increased tax revenues on participants' earnings in adulthood. Researchers estimate that the costs of providing universal pre-k to all four-year-olds pays for themselves within ten years in reduced government costs. Yet, without a dedicated source of federal funding, many states and localities are hard pressed to provide universal pre-k programming that can reap such benefits.

The County Council tasked OLO to undertake this project to improve their understanding of pre-k programs locally and in other jurisdictions. Toward this end, this report describes the estimated impact of pre-k programs, best practices for pre-k, public pre-k programs locally, estimated funding needed to expand pre-k slots in the County, and practices in other jurisdictions.

OLO staffer Elaine Bonner-Tompkins prepared this report with production assistance from Kelli Robinson and Carl Scruggs. OLO conducted this study by compiling and analyzing information from a variety of sources including agency budget documents, reviews of best practices, enrollment and census data, and published articles and studies. OLO also worked with County Council, County Government and Montgomery County Public Schools staff to improve the accuracy of the local data presented.

¹ For The Century Foundation, Issue Brief: Lessons from New York City's Universal Pre-k Expansion https://tcf.org/assets/downloads/TCF_LessonsFromNYCUniversalPreK.pdf

Several findings emerge from the information reviewed in this report. First, research consistently demonstrates that high-quality pre-k programs generate significant benefits to pre-k participants and society at large. The highest quality pre-k programs employ low student-to-staff ratios, credentialed teachers, effective curriculums, and school-day length programs; they also yield benefits for both low-income and non-poor children. Yet, public pre-k programs locally are generally only half-day programs and most private pre-k programs have not been recognized as high quality programs.

The potential costs of providing universal pre-k within the County are substantial, but the anticipated benefits are four to six times greater. Other jurisdictions that have funded preschool initiatives have typically created systems to serve four-year olds, focused on serving low- to moderate-income children first, created dedicated funding streams for pre-k with new taxes or revenue set-asides, and have taken several years to implement. Washington, DC and New York City are the exceptions to this trend.

As the County Council considers efforts to expand high-quality pre-k in Montgomery County, OLO recommends that it consider the following questions:

- What is the capacity of existing pre-k providers among public schools, child care centers, and licensed family child care homes to offer high-quality, school-day length pre-k slots?
- What agency or organization within the County is best suited to lead and manage the expansion of high-quality pre-k in the County?
- Should the County focus on expanding high quality pre-k slots for low-income children in high-poverty areas and/or on promoting socio-economic integration?
- What dedicated funding sources should the County pursue to expand pre-k programming?
- Should the County support a public education campaign focused exclusively on promoting pre-k or more broadly on support for expanding children's services?

C. Organization of the Report

This report is organized into the following chapters:

Chapter 2, Background, describes the value and benefits of universal pre-k programs, best practices, and the per student costs of high-quality programs.

Chapter 3, Local Pre-K Programs, describes publicly-funded programs in the County, pre-k enrollment, data on school readiness, estimated costs to expand pre-k, and the estimated benefits of expansion.

Chapter 4, Pre-K in Other Jurisdictions, describes the efforts of select states and cities that have been recognized as leaders in pre-k access and quality.

Chapter 5, Findings and Recommendations, describes findings and recommended discussion issues based on lessons learned in other jurisdictions.

Chapter 6, Agency Comments, describes comments offered by MCPS to an earlier version of the report. The CAO's comments will be added to the report online when they are received.

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- Ms. Vivian Yao, Legislative Analyst, Montgomery County Council

Chapter 2. Background

Early evaluations of pre-k have considered the short and long-term benefits of early childhood programs for low-income children. More recent research has also considered the impact of pre-k on non-poor, middle-income children. Both early and more recent evaluations of pre-k programs demonstrate the effectiveness of these programs on both short- and long-term outcomes. The evaluation literature also describes program best practices that maximize the benefits of pre-k for students.

Although there have been occasional studies questioning the long-term impact of pre-k programs on student achievement, the general consensus among researchers and policymakers is that high-quality pre-k programs are one of the wisest public investments that governments can make because the long-term impacts far exceed the immediate costs of delivering high-quality pre-k programs (Yoshikawa¹, RAND). Current funding challenges, however, have hampered the expansion of pre-k programs, and universal pre-k programs in particular.

This chapter synthesizes the pre-k research literature in two parts and also describes the estimated costs of high-quality pre-k slots as follows:

- A. Pre-K Benefits** describes the short- and long-term impacts of pre-k programs on students, parents, and the community. This section also describes the return on investment estimated by researchers for every dollar spent on high-quality pre-k programs.
- B. Pre-K Best Practices** describes the features of high-quality pre-k programs.
- C. Pre-K per Student Costs** describes the range in per student pre-k costs across the country and recommended per student costs for full-day pre-k programs in Maryland.

Overall, this chapter shows that high-quality pre-k programs yield extensive benefits for students, families, and communities in terms of academic achievement, future employment, and earnings. The estimated return on investment for every dollar spent on pre-k ranges from a low of \$2 to \$3 dollars within a state economy to a high of \$7 dollars for intensive, high-quality pre-k programs. Features of high-quality pre-k programs include low student-to-staff ratios, early learning standards, high-quality teachers, and effective curriculums. Costs remain a significant challenge to expanding pre-k programs locally as the estimated cost of high-quality pre-k programs in Maryland is about \$14,000 per student.

A. Pre-K Benefits

Researchers have identified a range of benefits associated with high-quality pre-k programs that include benefits for pre-k participants and the communities that offer pre-k programs. Table 2-1 on the next page describes these benefits, including estimates of the return of investment for pre-k programs. Specific benefits of high-quality pre-k programs cited in the research literature include the following:

- Academic gains of a third of a year in additional learning for participants in average programs and a half to a full year of additional learning for the highest quality programs. (Yoshikawa)

¹ Yoshikawa, Hirokazu et al., Society for Research and Child Development and Foundation for Child Development – Investing in Our Future: The Evidence Base on Preschool Education by Hirokazu Yoshikawa et al. October 2013 <https://www.fcd-us.org/assets/2016/04/Evidence-Base-on-Preschool-Education-FINAL.pdf>

- Help to close the achievement and educational gaps between children of different socio-economic and racial and ethnic backgrounds (Karoly and Bieglow)
- Attracting parents to local areas and raising property values because of improved school readiness and elementary test scores associated with universal Pre-k. (Bartik)²
- Reduced need and costs for K-12 special education and remediation services that after ten years may be able to cover 50% to 150% of the annual costs of Pre-k programs. (Bartik)
- Increased education and labor supply of parents who can do more in the labor market if they have high-quality child care. (Karoly and Bigelow)
- Most of the long-term economic impacts of Pre-k are achieved twenty or more years after program participation when participants are adults. (Bartik)

Table 2-1: Summary of Benefits of Pre-K Programs

	Student Participants	Parents and Families	Service Providers	Governments and Communities
Short-Term Benefits	Increased: <ul style="list-style-type: none"> • Academic achievement • Positive behavior • Grade level performance • Narrowing of gaps 	Increased time for parents to work and do other activities while child(ren) participate in pre-k	Increased: <ul style="list-style-type: none"> • Enrollment of younger children • Teacher quality • Teacher salaries • Use of best practices • Services for students with special needs 	<ul style="list-style-type: none"> • Diminished costs for remediation and special education • Increased labor force supply • Increased workforce productivity • Stimulation of the local economy • Real estate valuation
Long-Term Benefits	Increased: <ul style="list-style-type: none"> • School completion • Employment • Earnings 			Diminished costs for <ul style="list-style-type: none"> • Child welfare • Social services • Criminal justice Increased salaries and taxes from pre-k participants
Long-Term Return on Investment	For every \$1 spent on pre-k, researchers estimate a benefit of: <ul style="list-style-type: none"> • \$2 to \$3 on the state economy (Bartik) • \$2 to \$4 overall if pre-k programs reflect five best practices (RAND)³: <ul style="list-style-type: none"> ○ Quality teacher-student interactions ○ Quality instructional support ○ Quality improvements for teachers ○ Systematic approach to monitoring ○ Use of a proven curriculum • \$3 to \$7 for both older, intensive interventions that also offer comprehensive services as well as contemporary programs (Yoshikawa, et.al) • \$4 to \$8 for high-quality pre-k programs (APA Consulting)⁴ 			

² For example, “I estimate that for each \$1 in annual spending on high-quality pre-k, local property values will go up by \$13. Property value effects would be even greater, up to \$80 per \$1 invested, if parents’ fully understood how much early childhood education increased their child’s future earnings.” From Timothy Bartik, Early Childhood Programs as an Economic Development Tool, W.E. Upjohn Institute for Employment Research.

³ High Quality, Full Scale Preschool Programs Boost School Readiness and Produce Sustained Benefits, Lynn Karoly, RAND Corporation – March 11, 2016

⁴ <http://marylandpublicschools.org/Documents/adequacystudy/MDPreKComprehensiveAnalysis011316.pdf>

Researchers (Yoshikawa, RAND, APA Consulting) also find that the benefits of Pre-k tend to vary according to three factors:

- The quality of the pre-k program,
- The length of time a child attends a pre-k program, and
- The demographics of children enrolled in pre-k.

In general, higher quality programs that align with best practices yield higher rates of return; school-day length programs (6 or more hours) yield greater benefits than half-day programs (2.5 to 3 hours); and low-income students, Latinos, and English language learners generally receive more benefits from pre-k programs than their non-poor, non-Hispanic, and English proficient peers. Yet, it's important to note that half-time pre-k programs also yield benefits, just not typically to the same magnitude as school-day pre-k programs. Emerging research also demonstrates a favorable impact of high quality pre-k programs on non-poor children, although the benefit of pre-k is greater for low-income children.

Finally, researchers have also found that both one-year pre-k programs for four-year olds, and two-year pre-k programs for three- and four-year-olds also yield benefits to participants and society. (APA Consulting)⁵ However, the second year generally generates smaller benefits than what is gained from the first year. This suggests that when resources are limited, it is more beneficial to serve a greater number of children in a high-quality one-year program rather than serving a smaller number of children for two years (Karoly and Bigelow, 2005 p. xxxviii).

B. Pre-K Best Practices

High-quality pre-k programs that use best practices offer greater benefits to participants and the public than low-quality pre-k programs not aligned with best practices. In fact, the determinant of whether pre-k programs achieve long-term academic impacts is their quality reflected in the use of best practices such as small class sizes, student-directed learning, and open-ended play.⁶ Table 2-2 on the next page summarizes best practices for pre-k programs cited by researchers.

Pre-k best practices noted by the National Institute for Early Education Research (NIEER) and the Learning Policy Institute (LPI) include small teacher-to-student ratios, early learning standards, supports for students with special needs, effective curriculums, use of pre-k assessments and other data for decision making, professional development for staff, and high quality teaching reflected by stimulating and supportive interactions between teachers and children.

Moreover, Workman, et al. in their review of pre-k best practices for the State of Maryland find that higher-quality programs typically provide “children with more individualized attention from more responsive and highly educated and credential staff.” Higher-quality programs also tend to be “more attractive to potential teachers who may receive more professional development, compensation, and support than they would in a lower-quality program.”

⁵ From Workman, S., Palaich, R, and Wool, S. (January 2016). A Comprehensive Analysis of Prekindergarten in Maryland. Denver, CO: APA Consulting

⁶ <http://www.npr.org/sections/ed/2016/11/17/502299963/a-lesson-for-preschools-when-its-done-right-the-benefits-last>

Table 2-2: Summary of Best Practices for Pre-K Programs

Pre-K Best Practices		NIEER Best Practices ⁷ (Minervino, 2014)	LPI Best Practices ⁸ (Weschler, et al., 2016)
<i>Supports for Educators and Young Learners</i>	Class Size Ratio (1:10)	✓	✓
	Two-Adults per Class	✓	✓
	Early Learning Standards	✓	✓
	Support for Students with Disabilities	✓	✓
	Support for English Language Learners	✓	✓
	Education and Compensation for Staff	✓	
	Effective Curriculum	✓	✓
<i>High Quality Instruction</i>	Use of Pre-k Assessments	✓	✓
	Use of Data for Decision Making	✓	✓
	Quality Rating and Improvement System	✓	✓
	Professional Development	✓	✓
	High Quality Teaching	✓	✓
	School-Day Length Programs	✓	

Five additional pre-k best practices have been cited by researchers as drivers of program performance:

- **Student Diversity:** The Century Foundation cites research from a 2015 study of pre-k programs in eleven states to show that children in classes with higher family incomes and education levels learned more on average than children in classes with less affluent or educated parents, regardless of their own background.
- **Staff Diversity:** Villegas and Irvine⁹ find that teachers of color improve the academic outcomes and school experiences of students of color and are more likely to work in high-poverty and high-minority environments compared to their white peers. Fortunately pre-k teachers are, to a great extent, reflective of the children they serve.¹⁰
- **Public School-Based Programs:** High-quality, well-defined education programs provided by public schools have been found to produce the largest effects on child development among typical large scale programs for 3 and 4-year-olds.¹¹

⁷ NIEER – The State of Preschool 2015

⁸ Learning Policy Institute, The Road to High-Quality Early Learning – Lessons from the States (Marjorie Wechsler, et al., June 2016).

⁹ Diversifying the Teaching Force: An Examination of Major Arguments. Anna Villegas and Jacqueline Irvine, Urban Review, 2010 (42:175-192).

¹⁰ According to On Preschool Staff Diversity from Reading Rockets – Pre-k Across the Country (taken from Pre-k Now (2008) National Snapshot: Pre-k Across the Country FACT SHEET), 71 percent of classrooms where a majority of the children are African American have Pre-k teacher who are also African American, and 46 percent of Pre-k classrooms with a majority of Latino children have Latino teachers.

¹¹ Workman, S., Palaich, R, and Wool, S. (January 2016). A Comprehensive Analysis of Prekindergarten in Maryland. Denver, CO: APA Consulting, p. 13

- **Comprehensive Services:** Comprehensive services, when carefully chosen and targeted, can improve student outcomes as well.¹² Of note, a parenting focus can augment the effects of preschool on children’s development, but only if it provides parents with modeling of positive interactions and opportunities for practice with feedback. Simply providing information through classes or workshops is not associated with further improvement in children’s skills.
- **High Quality K-12 School Systems:** Finally, as noted by Yoshikawa et al., any benefits of early education can fade without proper upkeep. “Early investments not followed up with high-quality subsequent investments may produce only ephemeral impacts.” (Leak et al., 2010, p. 3). As such, high quality elementary school programs that extend the benefits of pre-k into the longer term should also be considered a pre-k best practice.

C. Pre-K per Student Costs

Although the long-term benefits of high quality pre-k programs are significant, the short-term costs of expanding pre-k programs to actualize these benefits are significant as well. In turn, most states and local jurisdictions do not invest sufficient resources into pre-k programs to actualize the benefits of high-quality pre-k programs that reflect best practices.

NIEER in their annual State of Preschool report¹³ notes a wide range in per student costs among the 42 states that offer pre-k that often reflect the underlying quality of these programs. At the low end, pre-k costs averaged about \$2,000 per child in South Carolina, Kansas, and Florida. This level of support funded 2.5 to three hours per day programs. Florida lead teachers are not required to have BA’s although bachelor’s degrees were required for lead teachers in Kansas and in South Carolina for public Pre-k settings, but not in non-public settings.

At the high end, pre-k costs averaged \$10,000 or more per child in Rhode Island, West Virginia, Connecticut, New Jersey, and the District of Columbia. These jurisdictions generally funded school-day length programs (6 hours); and except for Connecticut, lead teachers were required to have a BA degree in both public and non-public settings.

On average, states expended \$4,521 per child on pre-k programs in 2014. Most state funded pre-k programs were half-day programs. Although a majority of states require lead teachers to have a bachelor’s degree with a certificate or credential in early childhood education, many states do not. Moreover, most states do not require assistant teachers to have more than a high school diploma or a child development associate credential.

Half-day programs and the use of minimal degree requirements for pre-k personnel result in lower per student costs than K-12 per student costs nationally (\$4,521 v. \$10,700 per student).¹⁴ Yet, two recent reviews of best practices and program costs in Maryland suggests that pre-k programs should be school-day programs and that public funding for pre-k should exceed per student allocations for K-12.

¹² <https://www.fcd-us.org/assets/2016/04/Evidence-Base-on-Preschool-Education-FINAL.pdf>

¹³ <http://nieer.org/state-preschool-yearbooks/the-state-of-preschool-2015>

¹⁴ <http://www2.census.gov/govs/school/13f33pub.pdf>

APA Consulting’s analysis of pre-k in Maryland commissioned by the state legislature and prepared for the Maryland State Department of Education estimates that the cost of high-quality, school-day programs ranges from a low of \$10,063 per slot in family homes to \$12,111 per slot in public schools.¹⁵ This is significantly more than Maryland currently spends per public pre-k slot that was \$3,572 in 2015 and also significantly higher than what Montgomery County spends. As described in Chapter 3, most public pre-k slots in Montgomery County are half-day slots costing on average \$6,000 per slot.

Further, APA’s Adequacy Report for Maryland¹⁶ finds that the average cost of high-quality pre-k programs should be budgeted at \$14,035 per slot. This higher estimate of per public pre-k costs per slot likely reflects their recommendation for 15:2 student-to-staff ratios for school-day, pre-k programs. More specifically, the Maryland Draft Study estimates that the base cost of an adequate education in Maryland to be \$10,880 per student with an additional weight of 0.29 for pre-k students. Table 2-3 provides a summary of their findings compared to how the Maryland State Department of Education (MSDE) currently allocates funding to local school systems.

Table 2-3: Current and Recommended Per Student Funding Base and Weights for Maryland

	Current – Maryland 2014-15	Adequacy Study Recommendation
Base Cost	\$6,860	\$10,880
Weights		
Compensatory Education	0.97	0.35
Limited English Proficient	0.99	0.35
Special Education	0.74	0.91
Prekindergarten		0.29

Source: APA Consulting, 2016

¹⁵ <http://marylandpublicschools.org/Documents/adequacystudy/MDPreKComprehensiveAnalysis011316.pdf>

¹⁶ <http://mgaleg.maryland.gov/Pubs/CommTFWorkgrp/2016-Innovation-Excellence-in-Education-Commission-2016-12-08.pdf>

Chapter 3. Local Pre-k Programs

This section describes local publicly-funded pre-k programs, the numbers of children served, data on kindergarten readiness, estimated costs to expand targeted and universal pre-k slots locally, and prior efforts to expand pre-k across the State and in Montgomery County. It is presented in four parts:

- A. Public Pre-K Programs** provides an overview of public pre-k programs operating in the County that are funded with federal, state, and local sources.
- B. Pre-K Demand, Quality, Supply, and Costs** compares the number of four-year-olds in the County to the number of publicly-funded pre-k slots, describes differences in school readiness by early care setting and program quality, and estimates the additional pre-k slots and funding needed to support universal pre-k in Montgomery County.
- C. Estimated Return on Investment** describes the anticipated return on investment (ROI) of expanding pre-k locally and for creating a universal system for pre-k.
- D. State and Local Efforts to Expand Pre-K** describes both prior and current efforts aimed at expanding pre-k and other early learning opportunities in the County.

Several findings emerge from the information compiled and reviewed for this section:

- Most low-income children in Montgomery County are served in half-day rather than in school-day length pre-k programs, even the lowest income children eligible for Head Start.
- The need for pre-k slots is highest among three areas within the County: Gaithersburg and Montgomery Village, Silver Spring and Wheaton/Glenmont, and Burtonsville and White Oak. Both the number of four-year-olds and number living in poverty are highest in these areas.
- Graduates from the County's Head Start and public pre-k programs were less likely to demonstrate school readiness than children from private (non-public) pre-k programs. Moreover, Head Start and public pre-k graduates were as likely as children cared for in informal arrangements and in licensed family child care homes to demonstrate school readiness.
- High quality pre-k programs in the County – defined as public pre-k, accredited and EXCEL 5 rated providers - have the capacity to serve 43 percent of all four-year-olds in the County.
- The marginal costs of increasing the quality of pre-k slots for low to moderate could cost up to \$35 million annually, while the marginal costs of developing universal access for all families could cost up to another \$35 million for half-day pre-k and up to another \$70 million for school-day pre-k. The marginal and combined costs of these options far exceed the \$23 million in public funds allocated to the County's general education pre-k programs in currently.
- The benefits derived from expanding high-quality pre-k programs, however, yield returns of investment in excess of one to four, depending on the incomes of pre-k participants. APA estimates that \$111 million spent on pre-k in Montgomery County would yield almost \$600 million in benefits. Similarly, OLO estimates that \$113 million to \$128 million for universal pre-k in the County would eventually achieve \$532 million to \$598 million in benefits.

A. Public Pre-K Programs

State Funded Pre-k. The 2002 Bridge to Excellence in Public Schools Act mandates that local school systems provide pre-k services to all “four-year old applicants who are from families with economically disadvantaged backgrounds or who are homeless.” (MD Code, 13A.06.02).¹ MSDE defines economic disadvantage as eligibility for free and reduced priced meals, which is set at 185% of the federal poverty level.² MSDE, however, does not mandate school-day length pre-k: many are half-day pre-k programs.

The Bridge to Excellence Act significantly increased state funding for education, in part, to cover the mandated public pre-k program for low-income students. However, the state does not provide a dedicated pre-k funding source: local school systems can use the additional state aid based on their FARMS enrollment to fund required pre-k programs, but they are not required to do so.

In 2014, MSDE was also awarded a \$15 million federal grant award to expand and improve the quality of pre-k programs for four-year-olds from families earning less than 300% of the federal poverty level.³ In FY16, MSDE allocated State Pre-K Expansion Grants to local school systems and community-based child care providers. Eligible applicants can be community-based providers that have reached Level 5 on the state’s quality rating and improvement systems (Maryland EXCELS) as well as local school systems that convert half-day programs into school-day programs or establish Judy Centers. Eight community-based programs in Montgomery County received \$1.3 million in grants to serve 163 children; and five MCPS elementary schools received \$734,000 in grants to serve 100 students.

Table 3-1 provides an overview of Maryland’s two state pre-k programs.

Table 3-1: State Funded Pre-K Program Overview

Programs	Administrative Agencies	Source of Funds	Primary Service	Eligibility Requirements	Local Providers
BTE Pre-K – Mostly half-day program	State: MSDE Local: MCPS	State aid for compensatory education	Public preschool program for income eligible children	Four-year old children whose family requests Pre-k and has an income at or below 185% of the federal poverty level	MCPS
State Pre-K Expansion Grant – School-day program	State: MSDE	Federal funding	Publicly funded preschool slots in community based centers and public schools	Preschool services for children in families whose incomes are up to 300% of the federal poverty level	Eight community-based pre-k providers ⁴
				Family incomes between 185% and 200% FPL for school-based sites	Five MCPS elementary schools ⁵

¹ From APA Consulting (January 2016)

² If capacity is available after serving all FARMS eligible children, districts can enroll four-year olds who do not meet the income requirements but who represent student populations with low levels of school readiness

³ <https://www2.ed.gov/programs/preschooldevelopmentgrants/abstracts/mdabstractpdg2014.pdf>

⁴ Academy Child Development Center, Alec Bet Montessori, the Arc Montgomery County, Centro Nia, Crossway Community Montessori, Optimal Learning School, Peppertree Children’s Center, & St. Francis International School

⁵ Bel Pre, JoAnn Leleck at Broad Acres, Clopper Mill, Washington Grove, and Weller Road.

For FY16, the County budgeted to:

- Operate 114 BTE Pre-K classes in MCPS schools at a cost of \$12.4 million⁶
- Serve 2,183 children in half-day pre-k programs at MCPS and another 100 children enrolled in Title I schools in school-day pre-k programs
- Fund 163 school-day pre-k slots at community-based programs at a cost of \$1.3 million⁷
- Spend on average \$5,351 per student in half-day pre-k programs at MCPS campuses and \$8,900 per student in school-day pre-k programs in community-based programs

Overall, the County relies on state funding to support BTE Pre-K programs and on federal funding to support community-based pre-k programs funded by the State’s Pre-k Expansion Grant.

Head Start/Title I Preschool. Head Start is the nation’s oldest large-scale public preschool program. Administered by the U.S. Department of Health and Human Services, it serves preschoolers from low-income families with a comprehensive approach that combines preschool education with health, nutritional, and social services. Funding for Head Start programs goes directly from the federal government to service providers that must follow federal program standards.

Title I of the Elementary and Secondary Education Act provides federal funds to schools that can be used to provide early childhood education to disadvantaged children and other compensatory education services. Title I funds can also be used to supplement existing programs such as Head Start and state-funded pre-k programs. Table 3-2 provides an overview of Head Start and Title I.

Table 3-2: Head Start and Title I Preschool Program Overview

Programs	Administrative Agencies	Source of Funds	Primary Service	Federal Eligibility Requirements	Local Providers
Head Start – Half-day program	Local: Montgomery County DHHS Community Action Agency	Local and Federal funds distributed to local grantees	Comprehensive child development program for children and their low-income families	Available to families with incomes up to 100% of federal poverty level or 130% FPL if all children at 100% FPL are serviced; children ages 3-5	MCPS is the delegate
Full-Day Head Start in Title I Schools				Available to families whose children qualify for Head Start and attend Title I schools.	

MCPS combines its Head Start and Title I resources to offer early education programs for low-income students in the County. MCPS administers both half-day and school-day length Head Start programs during the school year to income eligible students.⁸ Federal Title I funding is used to create school-day length Head Start programs in Title I schools.

⁶ According to APA, in FY 2015, MCPS expended \$8.7 million in state funds on half-day programs and \$2.7 million on full-day programs for a total of \$11.4 million.

⁷ According to APA, in FY 2015, Montgomery County received \$336,000 in federal Pre-k Expansion Grant funding.

⁸ Sources: April 21 and 28, 2016 packets; FY17 MCPS Program Budget

Blending its Head Start and Title I funding in early education, MCPS:

- Operates 17 half-day classes for 3.15 hours and 17 school-day classes that add 2.85 hours of programming with Title I funding
- Serves 308 children in half-day Head Start programs and 340 children in school-day programs
- Budgets \$7 million in FY17 with \$5 million in federal and \$2 million in local dollars⁹
- Budgets \$8,900 per student for half-day and \$12,900 per student for school-day programs

Special Education Preschool. The Individuals with Disabilities Education Act (IDEA) provides federal funding for services to children with disabilities ages birth to 5.¹⁰ Consistent with IDEA Part B, every state guarantees a free and appropriate education to all children with disabilities ages 3 to 5. Nationally, about six-percent of four-year-olds and five percent of three-year-olds are served by IDEA, Part B. Table 3-3 provides an overview of Special Education Preschool Programs.

Table 3-3: Early Childhood Special Education Program Overview

Administrative Agencies	Source of Funds	Primary Service	Federal Eligibility Requirements	Local Providers
State: MSDE Local: MCPS	Federal, state and local funds	Special education services for children	Available to all preschool-age children with identified disabilities, or, at state’s discretion, developmental delays	MCPS

Source: NIEER Preschool Policy Brief, 2011 and MCPS

MCPS meets the federal mandate to provide preschool aged children with disabilities with a free and appropriate education by providing special education preschool classes for children with disabilities as well as other special education and related services. Generally, preschoolers with disabilities enrolled in MCPS are served in one of three preschool programs:¹¹

- **Preschool Special Education Program (PEP)** that for FY17 is budgeted for \$28 million to provide preschool for 1,384 children with educational disabilities and mild to moderate learning delays.
- **Pre-k Language Classes** that are budgeted to provide 162 children with instruction on communication development and articulation for half-days for two or five days per week.
- **Comprehensive Autism Preschool Program (CAPP)** that is budgeted to provide 93 children on the autism spectrum with a school-day length preschool program inclusive of four hours of Applied Behavioral Analysis a day.

MCPS also provides infants and toddlers early intervention services for children with disabilities between the ages of 0-3, consistent with IDEA Part C.¹² Specific services available include itinerant speech and language resources, occupational therapy, physical therapy, and other special education and related services depending on an individual family’s service plan.

⁹ According to APA, in FY 2015, MCPS received \$131,000 million in Federal Head Start funding

¹⁰ NIEER, Improving Public Financing for Early Learning Programs

¹¹ MCPS also provides disability-specific services including a preschool vision class, a preschool class for students with hearing disabilities, and for students with significant physical disabilities. MCPS also provides itinerant special education and related services to children with disabilities served in public and private pre-k settings.

¹² MCPS staff members deliver infants and toddlers services under the lead of Montgomery County’s Department of Health and Human Services that administers the County’s Infants and Toddlers Program.

Blending federal, state, and local funds for special education pre-k, MCPS is budgeted in FY17 to:

- Operate 138 full- and half-day special education preschool classes
- Serve 1,493 to 1,639 children with disabilities between the ages of 3 and 5 in its special education preschool programs¹³
- Spend \$40 million on special education preschool programs with \$1 million in federal funds and \$39 million in state and local dollars
- Spend \$24,000 – \$27,000 per preschooler in special education with \$20,000 per student budgeted for PEP and a combined \$47,000 per student budgeted for CAPP and Pre-K Language Classes

County Funded Pre-K. Montgomery County provides direct support to one early childhood education provider for pre-k services to low-income children: Centro Nia in Takoma Park. For FY17, Centro Nia is budgeted to receive \$671,351 from the County to support a comprehensive, community-based, year round pre-k program. This program operates for 8 hours daily to serve 70 children (20 three-year-olds and 50 four-year olds). Wrap around child care is available through additional child care subsidy funding. Overall, the County expended \$9,600 per child enrolled in the pre-k program at Centro Nia.

Child Care Subsidies. Three sources of funding operate in the County to subsidize the cost of child care and to a lesser extent pre-kindergarten programs, for low-income families:

- The State Child Care Subsidy Program (CCS) primarily serves families receiving or transitioning from receiving cash assistance from Temporary Assistance to Needy Families (TANF);
- The Local Supplement to CCS which makes the parent co-pay for state subsidies for child care for 2-5 year olds affordable for CCS eligible families in the County; and
- The Working Parent Assistance Program (WPA) that offers a subsidy to families earning more than CCS eligible families, but in need of affordable child care.

Table 3-4: Child Care Subsidy Program Overview

Subsidy Source	Administrative Agencies	Source of Funds	Primary Service	Eligibility Requirements
State Child Care Subsidy (CCS)	State: MSDE	Federal and State	Vouchers for child care for children 13 and under from licensed centers, homes, or informal providers	Families with incomes < \$40,600
Local Supplement to CCS	Local: DHHS	Local	Vouchers to supplement CCS voucher for children between the ages of 2 and 5	Families with incomes < \$40,600
Working Parents Assistance (WPA)	Local: DHHS	Local	Vouchers for child care for children 14 and under from licensed centers, homes, or informal providers	Families earning \$40,600 to \$74,520

¹³ A range is offered because MCPS' budget documents offer two estimates of Pre-k enrollment. The FY17 MCPS Operating Budget describes a Pre-k special education enrollment of 1,493. MCPS' FY17 Program Budget, however, describes 1,639 children among three Pre-k special education programs: 1,384 children for PEP, 162 children for Pre-k Language Classes, and 93 children for CAPP.

According to OLO's Child Care Report (OLO Report 2016-3)¹⁴, the CCS and WPA programs served 1,782 children in 2014/FY15. For each of these programs, eligible families receive a voucher that can be used to purchase child care from a registered family child care home, a licensed child care center, or an informal provider. CCS serves eligible children age 13 or under, the CCS supplement serves eligible children between the ages of 2 and 5, and the WPA serves eligible children age 14 or under.

Funding for the CCS is a combination of federal (CDBG and TANF) and state funds. According to APA Consulting, in FY14, approximately \$37.2 million in state funds and \$44.4 million in federal funds were expended in Maryland; about 40% of subsidy payments were for pre-k aged children.¹⁵ Locally, \$7.2 million was expended on child care subsidies in FY14 with \$3.1 million allocated as pre-k payments.¹⁶ Funding for the WPA and the CCS supplement comes from local dollars. In FY17, the County budgeted \$551,000 for the CCS Supplement and \$2.6 million for the WPA.¹⁷

Using available data, OLO estimates per student child care subsidy costs as follows:

- \$5,200 per CCS voucher (\$7.2 million in 2014/1,375 children receiving CCS voucher)
- \$1,000 per CCS supplement (\$551,000 in FY17/550 children between the ages of 2 and 5)
- \$6,000 per WPA voucher (estimated as \$3 million/500 current children currently served in WPA)

OLO Estimate of Pre-k Slots funded with Child Care Subsidies: If half of the children receiving the CCS supplement (275 children) and 40 percent receiving WPA subsidies (200 children) are four year-olds, then child care subsidies in the County potentially fund 475 pre-k slots. However, since children eligible for child care subsidies are often also eligible for publicly-funded pre-k programs such as Head Start, the number of CSS/WPA subsidized pre-k slots may be lower than 475 with families using their vouchers for extended and/or summer care expenses, rather than for the costs of pre-k programs themselves.

OLO Summary of Pre-K Program Data for Four-Year Olds. Combining data on local pre-k programs, OLO finds that the publicly supported pre-k programs in FY16 funded:

- 3,389 general education slots for four year-olds at a cost of \$23.0 million¹⁸ and
- 800 special education slots for four-year-olds at \$19.6 million¹⁹.

The vast majority of both general and special education programs offered part-time rather than school-day slots (86% and 94% respectively). In total, nearly 4,200 publicly-funded and subsidized pre-k slots were utilized by four-year-olds in the County at a cost of \$42.6 million.

¹⁴ See Table 14 of OLO Report 2016-3

¹⁵ APA Consulting, January 2016

¹⁶ Ibid

¹⁷ http://montgomerycountymd.granicus.com/MetaViewer.php?view_id=136&clip_id=11676&meta_id=112616

¹⁸ Calculated as the sum of Half-Day and Full-Day General Education Pre-K Programs allocated to four-year olds: \$2.2 million for Head Start, \$11.7 million for State Pre-k, \$2.3 million for CCS and Supplement, \$0.6 million for Working Parents Assistance, \$3.5 million for Head Start/Title I Preschool, \$1.3 million for State Pre-K Expansion, \$0.73 million for State Pre-K/Title I Preschool, and \$0.48 million for Local Pre-K (Centro Nia)

¹⁹ Calculated as the sum of \$17.3 million for Half-Day Special Education Pre-K (PEP and Speech and Language Pre-k classes) and \$2.35 million for Full-Day Special Education Pre-K (CAPP)

Table 3-5: Summary of Publicly Supported Programs for Pre-K Aged Children, FY16

Program	Eligibility Requirements (Income and Age)	Annual Budget	Total Slots	4-Year-Old Slots	Costs/Student
Half-Day General Education Preschool Programs (2.5 to 3 hours per day)					
State Pre-K	185% of Federal Poverty Level (FPL) & four-year olds	\$11,681,000	2,183	2,183	\$5,351
Head Start	100% FPL children age 3-5 or 130% of FPL if all 100% FRL children served	\$2,546,000	308	246**	\$8,841
State Child Care Subsidy (CCS)	Income up to \$40,600; children 13 and under	\$7,200,000*	1,375*	275**	\$5,200
Local Supplement to CCS	Income up to \$40,600 and children ages 2 - 5	\$551,000	550		\$1,100
Working Parents Assistance (WPA)	Income \$40,600 - \$74,520; children 14 and under	\$2,600,000	500	100*	\$6,000
Half-Day General Ed. Preschool (4-Year-Olds) Subtotal		\$16,781,000	5,718**	2,804**	\$5,985
Half-Day Special Ed. Preschool (4-Year-Olds) Subtotal (PEP and Pre-k Speech and Language Classes)		\$35,629,000	1,546	750**	\$23,000
School-Day General Education Preschool Programs (6 hours per day or more)					
Head Start/Title I Preschool	100% FPL and Title I school	\$4,378,000	340	272**	\$12,877
State Pre-K Expansion	300% FPL & four-year olds	\$1,300,000	163	163	\$8,000
State Pre-K/Title I Preschool	185% -200% FPL, Title I school, & four-year old	\$734,600	100	100	\$7,344
Local Pre-K (Centro Nia)	Low-income children	\$671,000	70	50	\$9,600
School-Day General Ed. Preschool (4-Year-Olds) Subtotal		\$6,208,000	673	585**	\$10,612
School-Day Special Ed. Preschool (4-Year-Olds) Subtotal (Comprehensive Autism Preschool Program)		\$4,371,000	93	50**	\$47,000

*Estimated enrollment based on available data;

**Based on 2014/FY15 data points from OLO Report 2016-3, Table 14

B. Pre-K Demand, Quality, Supply, and Costs

This section examines a variety of data sources to describe the County’s population of four-year-olds by income, trends in school readiness by preschool and prior care experience, the number of additional preschool slots needed to provide universal pre-k in the County and their attendant costs, and the estimated rate of return of expanding public pre-k programs in the County to provide universal pre-k.

Population of Four-Year-Olds in Montgomery County. Table 3-6 describes the population of four-year-olds in Montgomery County and by district in 2010 and 2012, and by four income levels in 2012:

- Less than 100% of the federal poverty level where students are eligible for Head Start²⁰
- Less than 185% of the federal poverty level where students are eligible for free and reduced priced meals (FARMS) and state pre-k²¹

²⁰ Incomes less than \$20,000 for a family of three; less than \$24,000 for a family of four

²¹ Incomes less than \$37,000 for a family of three; less than \$45,000 for a family of four

- More than 185% of the federal poverty level where students are ineligible for FARMS (Non-FARMS) or state pre-k²²
- Between 185% and 300% of the federal poverty level where students are eligible for federally funded Pre-K Expansion Grants²³

Table 3-6: Population of Four-Year-Olds in Montgomery County by District and Income Level

	All four-year-olds (2010)*	4-year-olds < 100% FPL (2012)**	4-year-olds < 185% FPL (2012)**	4-year-olds 185% - 300% FPL (2012)**	4-year-olds < 185% FPL (2012)**	All 4-year-olds (2012)**
Montgomery County	13,003	1,079	2,824	1,801	9,705	12,529
By District						
1 (Laytonsville)	255	7	7	35	262	269
2 (Clarksburg and Northern Germantown)	766	46	88	112	646	734
3 (Poolesville)	62	0	14	5	29	43
4 (Rockville)	1,399	78	185	145	1,097	1,282
5 (Burtonsville and White Oak)	1,358	111	410	261	934	1,344
6 (Darnestown and North Potomac)	704	16	33	41	500	553
7 (Bethesda)	1,206	18	23	25	1,006	1,029
8 (Olney and Brookeville)	542	5	19	64	499	518
9 (Gaithersburg and Montgomery Village)	2,607	272	780	482	1,932	2,612
10 (Potomac)	416	10	16	8	316	332
11 (Barnesville)	16	0	0	0	14	14
12 (Damascus)	254	43	66	44	203	269
13 (Silver Spring and Wheaton-Glenmont)	3,418	473	1,183	633	2,401	3,584

*From 2010 U.S. Census Summary File, cited by DHHS and Collaboration Council's Demographic Report: Families and Children Birth to Six, Montgomery County, Maryland, December 2014; **From 2012 Maryland Department of Health and Mental Hygiene, Vital Statistics Administration, Births Data by Jurisdiction, 2012

According to the Census data described below, one in five four-year-olds in the County were eligible for free and reduced priced meals (FARMS), and nearly two in five resided in households earning less than 300% of the federal poverty level. Further, four-year-olds are concentrated in three of the County's 13 districts: Silver Spring and Wheaton-Glenmont, Gaithersburg and Montgomery Village, and Burtonsville and White Oak. Sixty percent of the County's four year-olds reside in these three districts as well as 84 percent of four-year-olds eligible for FARMS. These data points suggest that the three districts are in greatest need of high-quality pre-k slots.

When comparing data on public pre-k programs described in the prior section to the population of four-year-olds in the County described in Table 3-6, several additional findings regarding Head Start, State Pre-K, and Universal Pre-k emerge:

²² Incomes less than \$37,000 for a family of three; less than \$45,000 for a family of four

²³ Incomes between \$37,000 and \$60,000 for a family of three; between \$45,000 and \$72,000 for a family of four

- **Head Start:** In 2012, 1,100 four-year-olds lived below the poverty line in the County. In 2016, Head Start offered an estimated 518 slots for four-year olds out of 628 total slots. Assuming similar data in 2012 and 2016, local Head Start programs cover about half of all income eligible children. Moreover, only a quarter of Head Start-eligible youth participated in full school day Head Start programs. The districts/communities with the greatest need for Head Start slots based on the residence of families with four-year-olds earning less than the federal poverty level were Silver Spring and Wheaton-Glenmont, Gaithersburg and Montgomery Village, and Burtonsville and White Oak.
- **State Pre-K:** In 2012, 2,624 four-year-olds were eligible for FARMS (because their families earned less than 185% of the federal poverty rate) and for state funded pre-k. In 2016, there were 3,389 publicly-funded general education slots for income eligible four-year olds. Thus, MCPS and the County as a whole more than met the BTE mandate to provide a pre-k slot to every income eligible child desiring a pre-k slot. Yet, only one in six general education pre-k slots offered full school day length programs. Arguably, the districts with the greatest need for State Pre-K slots were Silver Spring and Wheaton-Glenmont, Gaithersburg and Montgomery Village, and Burtonsville and White Oak.
- **Universal Pre-k:** To provide universal pre-k, jurisdictions generally target providing slots to 80 percent of all age eligible children.²⁴ With a four-year old population of about 13,000 children, Montgomery County would have to provide 10,500 pre-k slots to deliver universal pre-k. Currently, MCPS and the County jointly fund nearly 4,200 general and special education slots or about a third of all four-year-olds in the County. About a third of four-year-olds participate in part-time pre-k programs that are publicly-funded while less than five percent of the County's four-year-olds are served in public school-day length pre-k programs.

School Readiness by Prior Care and Preschool Experience. Annually, the Maryland State Department of Education surveys teachers and parents of kindergarteners to assess their readiness for school.²⁵ In 2014-15, MSDE adopted the Ready for Kindergarten: Maryland Early Childhood Comprehensive Assessment System that uses the Kindergarten Readiness Assessment (KRA) to measure school readiness in four learning domains: language and literacy, mathematics, physical well-being and motor development, and social foundations.

KRA assessments in Montgomery County reveal school readiness gap by pre-k experience, with children who had attended private pre-k programs in nursery schools and child care centers demonstrating higher levels of school readiness than students who had attended public pre-k programs. In 2015-16,

- 69% of children from non-public nurseries and 61% from child care centers met school readiness standards in kindergarten on the KSA compared to
- 38% of children from Head Start and 33% from public pre-k programs.

Prior to MSDE adopting the KRA as a school readiness assessment, MSDE used the Maryland Model for School Readiness Framework. This school readiness measure also revealed an achievement gap by prior care and pre-k setting where for 2013-14,

²⁴ The 80% benchmark reflects that universal Pre-k programs (UPK) are voluntary and some families will prefer home-based care for their four year-olds or other potential preschool settings outside of the UPK system.

²⁵ <http://www.readyatfive.org/school-readiness-data/how-is-school-readiness-measured.html>

- 93% of children from non-public nurseries and 83% from child care centers met school readiness standards in kindergarten on the MMSR compared to
- 68% of children from Head Start and 80% from public pre-k programs.

The newer school readiness benchmark demonstrates a larger gap in school readiness between private and public pre-k placements than the previous assessment (28-31 point gap v. 3-25 point gap). Nevertheless, the gaps in school readiness between private and public pre-k programs likely reflect the gaps in school readiness by student income and the length of Pre-k programs. Based on the KRA, 61% of Non-FARMS students met school readiness standards compared to 29% of FARMS students. Yet, the difference in school readiness between private and public pre-k programs may also reflect differences in the quality between private and public pre-k programs.

More specifically, as already noted, most public pre-k programs are half-day, school-year programs that deliver services for 2.5 to 3 hours per day. Yet, best practices recommend offering full school-day pre-k programs, particularly for low-income children. Conversely, most private pre-k programs in the County are likely school-day and year-round programs because many working families require school-day length/full-day preschool programs to accommodate their child care needs and more affluent families can afford school/full-day programs.

Finally, another set of findings emerges from a review of the County's school readiness data when comparing school readiness outcomes between public pre-k programs and family-based settings:

- Based on the KSA, children served in licensed family child care centers were just as likely to meet school readiness standards as children from Head Start (39% v. 38% met standards) and children served in informal/home-based arrangements were just as likely as public pre-k students to meet school readiness standards (33% of each group met standards).
- Based on the MMSR, similarly children in home care and licensed family child care were as likely as Head Start and public pre-k children to demonstrate school readiness (68%-80% of each group met standards).

The relative equivalence in school readiness among children served in family based care to children served in public pre-k and Head Start programs on both the MMSR and KSA metrics suggests that ample opportunity exists for improving the quality of public pre-k, Head Start, and licensed family child care programs locally.

Pre-K Demand and Supply in Montgomery County. As part of the updated Adequacy Study for Public Education Funding in Maryland authorized by the State Legislature's Kirwan Commission, Augenblick, Palaich, and Associates (APA) Consulting authored *A Comprehensive Analysis of Pre-k in Maryland*.²⁶ In their report, APA describes the population of four-year-olds in each local jurisdiction, including Montgomery County, their enrollment in early childhood education by provider type, and program quality among existing preschool slots.

Table 3-7 on the next page summarizes data compiled by APA and also analyzed by OLO to describe the estimated demand for pre-k in the County by quality and program length (i.e. half- v. school-day).

²⁶ <http://www.marylandpublicschools.org/Documents/adequacystudy/MDPreKComprehensiveAnalysis011316.pdf>

Table 3-7: Estimated Demand and Supply of High Quality Pre-K in Montgomery County

	4-Year-Old Pre-K Enrollment	Any Quality Capacity	High Quality* Capacity	HQ School Day (SD) ** Capacity	OLO Est. HQ SD *** Capacity
Four-Year Enrollment and Pre-K Program Capacity (% of Four-year old Population Served)					
Montgomery County (13,010 four-year olds)	8,895 (68%)	9,670 (74%)	4,860 (43%)	1,341 (13%)	1,476 (14%)
Early Childhood Education Slots by Provider					
Public Pre-K	3,311	3,311	3,311	450	585
- Half-Day Slots	2,860	2,860			
- School-Day Slots	450	450			
Child Care Centers	4,983	5,342	1,316	658	658
Family Homes	601	1,017	233	233	233
Additional Pre-K Slots Needed to Enroll 80% of All Four-year olds					
Unmet Need for Pre-k		738	5,548	9,067	8,932

*EXCELS 5, Accredited and Public Pre-K; **EXCELS 5, Accredited and Full School-Day Public Pre-K estimated by Workman, et al. Full-time slots for child care and family homes estimated by OLO; *** OLO estimate of capacity based on data compiled in Table 3-5. Source: Workman, Paliach, and Wool (January 2016). A Comprehensive Analysis of Prekindergarten in Maryland; OLO analysis of data compiled by APA

Several findings emerge from the data compiled in Table 3-7.

- **Pre-K Enrollment:** Nearly 9,000 of the 13,000 four-year-olds in the County were enrolled in early education programs. Most were enrolled in childcare centers, followed by public pre-k programs and licensed family child care homes. Overall, 68% of four-year-olds were enrolled in pre-k.
- **Pre-K Capacity:** Nearly 10,000 pre-k slots (public pre-k, child care center, and family home slots) were available with the capacity to serve 74% of four-year-olds in the County.
- **Capacity in High-Quality Programs:** High quality pre-k programs include public pre-k programs, accredited child care centers and family homes, and providers earning Level 5 recognition on EXCELS, Maryland’s quality rating and improvement system for early childhood education. Nearly 5,000 high quality pre-k slots operate in the County with the capacity to serve 43% of all four-year olds. Yet, the majority of these slots were half-day programs since the vast majority of public pre-k slots are for half-day programs.
- **Capacity in High-Quality School Day Programs:** Best practices recommend school-day length pre-k programs, yet data on the number of school-day length private pre-k slots in the County are not available. OLO uses two data sets to estimate the capacity of high-quality school-day length pre-k programs in the County. Using APA data, OLO assumes that half of high-quality child care center slots and all high-quality licensed family child care slots operate as school-day programs. For a second estimate of the capacity of school-day length pre-k programs, OLO uses public pre-k data compiled in Table 3-5 with private pre-k data estimated from APA. Two similar findings emerge:
 - Using the APA data source, high-quality pre-k programs had the capacity to serve 1,341 children in school-day length programs or to serve 13% of all four-year olds;

- Using combined APA and OLO data, high-quality pre-k programs had the capacity to serve 1,476 children in school-day length programs or to serve 14% of all four-year olds.
- **Slots Required to Meet Unmet Demand:** For pre-k programs of any quality, 738 new slots are needed to meet the 80% benchmark of four-year-olds enrolled in early childhood education. For high-quality pre-k programs of any program length, 5,548 new slots are needed; for high-quality, school-day length pre-k programs, 8,932 new slots are needed to convert 4,262 high-quality half-day slots into school-day length slots and to create another 4,668 school-day length slots.

Estimating the Costs of Universal Pre-K. Estimating the public costs of delivering universal pre-k locally requires a number of assumptions, including the share of pre-k costs that will be picked up by tax payers vs. private citizens. As noted in the “Other Jurisdictions” section, not all universal pre-k programs provide preschool services to any family at no cost: some jurisdictions target free pre-k to low and moderate income families and offer subsidies to non-poor families to help cover a portion of their costs.

Determining whether universal pre-k refers to ensuring access to pre-k slots for interested families or fully subsidizing the cost of pre-k slots for all age eligible children is also critical to estimating the costs of universal pre-k. Karoly, et al. of the RAND Corporation summarize the potential trade-offs between targeted and universal pre-k programs in Table 3-8.

Table 3-8: Potential Trade Offs Between Targeted and Universal Preschool Programs

Criteria	Targeted Program	Universal Program
Total cost	<ul style="list-style-type: none"> ● Lower 	<ul style="list-style-type: none"> ● Higher
Displacement of private spending	<ul style="list-style-type: none"> ● Smaller 	<ul style="list-style-type: none"> ● If fully subsidized, would displace private spending on programs
Economic returns	<ul style="list-style-type: none"> ● Higher per child 	<ul style="list-style-type: none"> ● Lower per child, but aggregate net benefits might be higher
Determining eligibility	<ul style="list-style-type: none"> ● Program cost 	<ul style="list-style-type: none"> ● No program cost
Ability to target	<ul style="list-style-type: none"> ● Children’s eligibility changes because of changing circumstances ● Eligibility rules often exclude children who can benefit 	<ul style="list-style-type: none"> ● Children remain eligible regardless of circumstance ● All children who can benefit are eligible
Participation rates	<ul style="list-style-type: none"> ● Due to eligibility rules and stigma, not all eligible children enroll 	<ul style="list-style-type: none"> ● Participation might be higher and support greater integration within programs or classrooms
Funding	<ul style="list-style-type: none"> ● Programs are often not fully funded or not funded at a level required for quality 	<ul style="list-style-type: none"> ● Public or political support for universal programs might be higher than for targeted programs

Increased public and political support for universal pre-k programs may improve the quality and overall participation in pre-k programs, particularly among non-poor children that could be used to promote economic integration in the classrooms. However, if limited funding for expanding pre-k programs is the political reality, expanding targeted pre-k programs for low-income children (e.g. converting half-day to school-day programs) may be the advisable approach for expanding pre-k locally since they are associated with lower costs and higher economic returns.

For this project, OLO estimated the cost of high-quality, pre-k slots at two price points:

- Price Point A analyzes the cost of expanding pre-k at \$6,000 per student for half-day slots (3 hours) and \$12,000 per student for school-day slots (6 hours)
- Price Point B analyzes the cost of expanding pre-k at \$7,000 per student for half-day slots and \$14,000 per student for school-day slots.

Price Point A aligns with MCPS' current costs for half-day programs in general education (noted at \$5,985 per slot in Table 3-5) and slightly higher than the average costs for school-day programs in general education (at \$10,612 per slot). Price Point B aligns with one of two APA Consulting estimates of pre-k costs per slot in their 2016 analyses of pre-k in Maryland and adequacy funding. In their analysis of pre-K in Maryland, they estimate the average cost of high-quality, school-day length slots as:

- \$10,000 per pre-k slot delivered by licensed family child care providers;
- \$11,000 per pre-k slot delivered by child care centers; and
- \$12,000 per pre-k slot delivered by public schools.

In APA's adequacy study for Maryland, however, they estimate the cost of high-quality pre-k at \$14,000 per slot for school-day length programs. Given the range in the estimated cost of high-quality pre-k programs in general education, OLO elected to offer a range of costs as well. Of note, none of these estimates include costs for start-up or facilities necessary for expanding pre-k. Instead, these per slot costs reflect the estimated annual operating costs for administering pre-k programs.

Using these two price points for pre-k slot costs, OLO compares current public pre-k slots and costs in the County as described in Table 3-7 to the estimated costs of expanding pre-k slots under four options:

- **Option 1: Targeted School-Day Pre-K for Low-Income Families.** This option estimates the additional public cost of providing school-day pre-k programs for families eligible for FARMS by converting public half-day (HD) pre-k slots into school-day (SD) slots.
- **Option 2: Targeted School-Day Pre-K for Low and Moderate Income Families.** This option estimates the additional public cost of providing universal pre-k for families earning up to 300% of the federal poverty level after Option 1 is implemented. The additional cost of school-day (SD) pre-k slots for such families is estimated.
- **Option 3: Universal Half-Day Pre-K or School-Day Pre-K with Sliding Scale for Higher Income Families.** This option estimates the additional public cost of extending half-day (HD) pre-k slots to cover 80% of all four-year-olds (excluding those enrolled in special education pre-k programs) after Options 1 and 2 are implemented. Option 3 serves families with incomes above 300% of the federal poverty level. This option assumes that parent fees will cover the difference in costs between HD and SD programs for higher income families seeking school-day length pre-k slots.
- **Option 4: Universal Pre-K with 100% Subsidy for All Families.** This option estimates the marginal cost of creating a 100% subsidy for higher income families seeking school-day slots after Options 1-3 are implemented. As such, this option estimates the public cost of offsetting parents' fees for school-day programs after Option 3 is implemented. This option estimates the additional public support necessary to provide school-day length pre-k slots to all families.

OLO relied on pre-k data compiled by APA Consulting and County Council staff and on census data compiled by DHHS and the Collaboration Council in their 2014 demographic report on four-year olds in the County to estimate the number of pre-k slots required for each option considered. Table 3-9 summarizes OLO’s analysis comparing current costs of public pre-k to the marginal costs of expanding pre-k programs under the four options considered.

Table 3-9: Estimated Public Costs of Expanding Pre-K in Montgomery County

	Current Pre-K for FARMS Families	Option 1: Convert HD to SD Programs	Option 2: Extend SD to 300% FPL	Option 3: Extend HD to All Families	Option 4: Extend SD to All Families
Capacity	3,311	3,311	4,411	9,395	9,395
- Half-Day Slots	2,860	-	-	4,984	-
<i>Marginal Cost</i>		<i>\$17-20 million</i>	<i>\$13-15 million</i>	<i>\$30-35 million</i>	<i>\$30-35 million</i>
Total Pre-K Cost	\$23 million	\$40-\$43 million	\$53-\$58 million	\$83-\$93 million	\$113-\$128 million

Assuming a four-year-old population of 13,010 children in the County, OLO estimates that the number of additional pre-k slots needed and the marginal costs for each option in Table 3-9 as follows:

- **Option 1 - School-Day Pre-K for Low-Income Families** requires the conversion of **2,860 half-day public pre-k slots** into school-day slots. The marginal cost of Option 1 ranges from \$17.2 - \$20.0 million annually. Under this scenario, the total public cost of pre-k for general education slots would increase from \$23 million to \$40-\$43 million annually.
- After implementing Option 1, **Option 2 - School-Day Pre-K for Low and Moderate Income Families**, requires the addition of **1,100 publicly funded school-day pre-k slots** to ensure that all families earning up to 300% of the federal poverty level had universal pre-k. The marginal cost of Option 2 ranges from \$13.2 - \$15.4 million. Under this scenario, the total public cost of pre-k would increase to \$53-\$58 million annually.
- After implementing Options 1 and 2, **Option 3 – Universal Pre-K with Sliding Scale for Higher Income Families**, requires public funding to offset half the costs of **4,984 school-day pre-k slots** to reach the 80% benchmark for pre-k participation of four-year-olds. The marginal cost of Option 3 ranges from \$29.9 - \$34.9 million. Under this scenario, the total public cost of pre-k would increase to \$83-\$93 million annually.
- After implementing Options 1 - 3, **Option 4 – Universal Pre-K with 100% Subsidy for All Families** requires public funding to offset parent fees under Option 3 for **4,984 pre-k slots**. The marginal cost of Option 4 is the same as Option 3, ranging from \$29.9 million to \$34.9 million. Under this scenario, the total public cost of pre-k would increase to \$113-\$128 million annually.

APA Consulting also developed estimates of the capacity and cost of high-quality pre-k in Montgomery County as part of their comprehensive analysis of pre-k in Maryland. Their cost estimates, summarized in Table 3-10 on the next page, are based on three levels of capacity for school-day length programs.

Table 3-10: Estimated Cost of Expanding Pre-k in Montgomery County, APA Consulting

	Pre-k Enrollment Target for 4-Year Olds		
	60% Target	70% Target	80% Target
Capacity	7,542	8,799	10,056
Total Pre-k Costs	\$82.9 million	\$96.8 million	\$110.6 million
Additional Funding Required	\$44.4 million	\$58.2 million	\$72.0 million

With a per slot estimate of \$11,000 per student, APA estimates the cost of universal pre-k to serve 80 percent of the County’s population of four-year olds at \$110.6 million annually for 10,056 pre-k slots. They also estimate that this is \$72 million above what is currently expended on publicly supported pre-k in Montgomery County. APA also advocates relying on a mix of public school, child care center, and licensed family child care providers to implement universal pre-K.

Of note, County Government and MCPS rely on local dollars to spend about \$5 million on general education pre-k for four-year-olds.²⁷ Federal and state funding comprise the bulk of current revenue for the County’s public pre-k programs. So, providing for universal pre-k in the County could represent a significant increase in County funding for pre-k slots for four-year olds: from about \$5 million to more than \$100 million annually, excluding the cost of expanding systems and infrastructure to support new pre-k slots, including new classroom facilities.

C. Estimated Return on Investment

The cost of creating a system of universal pre-k is high in the County, particularly if it delivers high quality, school-day length programming. Yet the benefit of high-quality pre-k programs far exceeds the costs. Based on their review of the research literature, APA Consulting finds that every dollar spent on high-quality pre-k yields a return of investment of up to:

- Eight dollars for the lowest income children with family incomes below the federal poverty level (i.e. children eligible for Head Start).
- Six dollars for poor to near-poor children with family incomes between 100% and 200% of the federal poverty level (children eligible for FARMS have family incomes up to 185% of FPL).
- Four dollars for near poor to non-poor children with family incomes above 200% of the FPL.

Table 3-11 on the next page describes the estimated benefit of high-quality pre-k programs for the lowest income children, noting that benefits accrue across four categories: reduced government spending on K-12 education, criminal justice and child welfare systems, and increased earnings for participants as adults due to higher educational attainment and career advancement. About half of the benefits of pre-k accrue to the public in reduced government spending, criminal activity, and victim costs, and the other half to pre-k participants themselves in increased earnings as adults.

²⁷ \$2.6 million for WPA, \$1.5 million for Head Start, \$551,000 for the CCS supplement, and \$479,000 for pre-k slots at Centro Nia. MCPS relies on state aid fund state pre-k programs required under the Bridge to Excellence Act.

Table 3-11: Estimated Per Child Benefit of Prekindergarten Participation

Category	Estimated Per Child Benefit
K-12 System	
Reduced Special Education Costs	\$8,425
Reduced Grade Retention	\$2,018
Reduced Teacher Turnover Costs	\$78
Reduced Teacher Salary Costs	\$1,729
Reduced Teacher Absenteeism Costs	\$1,859
Reduced School Support Costs	\$5,226
Higher Education and Career	
Increased Cost of College Participation	(\$970)
Increased Cost of High School Participation	(\$1,441)
Increased Future Income	\$48,324
Criminal Justice	
Reduced Juvenile Crime Costs	\$7,257
Reduced Adult Crime Costs	\$4,530
Reduced Tangible Victim Costs	\$4,757
Child Welfare System	
Reduced Foster Care and Home Care Costs	\$327
Reduced Child Welfare Quality of Life Costs	\$2,016
Reduced Child Welfare Tangible Victim Costs	\$230
TOTAL	\$84,365

Source: Table 25, APA Consulting, Comprehensive Review of Pre-k in Maryland

Overall, pre-k participation in high-quality programs for children whose families earn less than the federal poverty level (FPL) generates an estimated benefit of \$84,000 per child with:

- \$19,000 in reduced K-12 spending on special education, remediation, and school support costs
- \$16,500 in reduced criminal justice costs
- \$2,600 in reduced child welfare costs
- \$46,000 in increased future income

The benefits of pre-k, however, are reduced for lower quality pre-k programs. As noted below in Table 3-12, APA Consulting estimates that the lowest quality programs - scoring in the first or second tier of a five-tier rating system - generate zero return on investment.

Table 3-12: Per Child Benefit of Pre-K Participation Adjusted for Quality Multipliers

Quality Level	Multiplier	Adjusted Benefit
Level 1	0%	\$0
Level 2	0%	\$0
Level 3	75%	\$63,274
Level 4	85%	\$71,710
Level 5	100%	\$84,365

Source: Table 26, APA Consulting, Comprehensive Review of Pre-k in Maryland

Overall, the estimated benefits of pre-k participation far exceed the costs of pre-k if program quality is high. As noted in Table 3-13 below, APA estimates that expending \$83 million on high-quality, school-day length pre-k in Montgomery County would yield \$466 million in benefits, that expending \$97 million would yield \$521 million benefits, and that expending \$111 million would yield \$595 million in benefits.

Table 3-13: Estimated Cost and Benefit of Expanding Pre-K in Montgomery County, APA Consulting

	Pre-k Enrollment Target for 4-Year Olds		
	60% Target	70% Target	80% Target
Capacity	7,542	8,799	10,056
Pre-k Costs	\$82.9 million	\$96.8 million	\$110.6 million
Benefit	\$466.3 million	\$520.6 million	\$595.0 million

Similarly, in Table 3-14, OLO finds a significant benefit of pre-k participation when implementing any of the four options considered for expanding pre-k. Converting all public half-day slots to full-day slots at a marginal cost of \$17-20 million generates \$102 - \$120 million in benefits, while creating a system of universal pre-k for all families with a 100% subsidy at a marginal cost of \$90 to \$105 million yields a benefit of \$394 - \$460 million. Half of the estimated ROI's yield benefits to the public in reduced spending on special education, remediation and criminal justice costs, while the other half benefits pre-k students themselves with increased educational attainment and earnings into adulthood.

Table 3-9: Estimated Cost and Benefit of Expanding Pre-K in Montgomery County, OLO

	Current Pre-K for FARMS Families	Option 1: Convert HD to SD Programs	Option 2: Extend SD to 300% FPL	Option 3: Extend HD to All Families	Option 4: Extend SD to All Families
Capacity	3,311	3,311	4,411	9,395	9,395
Half Day Slots	2,860	-	-	4,984	-
<i>Marginal Cost</i>		<i>\$17-\$20 million</i>	<i>\$13-\$15 million</i>	<i>\$30-\$35 million</i>	<i>\$30-\$35 million</i>
Total Costs	\$23 million	\$40-\$43 million	\$53-\$58 million	\$83-\$93 million	\$113-\$128 million
Benefit	\$138 million	\$240-258 mil.	\$292-\$318 mil.	\$412-\$458 mil.	\$532-\$598 mil.

D. State and Local Efforts to Expand Pre-K

Over the past decade, early learning providers and public agencies have partnered to seek additional funding and to maintain current early learning programs. Prior efforts have assumed a significant new infusion of federal and/or state dollars. These expectations may be less than warranted given the current state and to be federal administrations, although the State Legislatures impending review of the Kirwan Commission's recommendations suggest future increases in state revenue for public schools and Pre-k in particular. To increase public engagement and to help actualize the full benefits of universal Pre-k locally, Montgomery Moving Forward has also recently launched a public education campaign aimed at increasing the private sectors' support for early learning programs.

Over the past decade, there has been seven significant state and local efforts aimed at creating a system of universal pre-k in Maryland and Montgomery County. This section describes these efforts as follows:

- State Task Force on Universal Preschool Education/Preschool for All in Maryland
- Montgomery County Universal Preschool Implementation Work Group
- Maryland Race to the Top and Pre-School Expansion Grants
- Early Childhood Care Advisory and Coordinating Councils
- State legislature commissioned Adequate Funding and Analysis of Pre-K in Maryland Studies
- Montgomery Moving Forward

State Task Force.²⁸ In December 2007, the Task Force on Universal Preschool Education presented its report to the Governor and the General Assembly as required under HB 1466. The Task Force recommended the creation of a voluntary, free universal preschool program, *Preschool for All*, which would provide early education for all four-year-olds in Maryland by 2014 regardless of financial need.

The Task Force called for a dedicated funding source for pre-k in Maryland and a mixed delivery of pre-k services by public and private providers by having the state “establish a sustainable funding mechanism for the initiative in diverse early education settings, including public schools, nationally or state accredited child care centers, nursery schools, Head Start, and accredited family child care.” Other Task Force Recommendations included:

1. Standards of operations and accountability for under pre-k programs
2. Maryland State Department of Education (MSDE) should bear responsibility for planning, implementation, and funding of Preschool for All
3. Develop and establish a model program to integrate nationally accredited family child care programs into Preschool for All
4. Allow parents to choose the preschool setting for their children
5. Each provider should provide an educational component operated on the public school schedule for a minimum of 2.5 hours but no more than 6.5 hours per school day.

Although the State's Preschool for All report recommended development of a program by 2014, state officials deemed that completion of it would be delayed because of the economic recession of 2008.

²⁸ <http://msa.maryland.gov/megafile/msa/speccol/sc5300/sc5339/000113/004000/004996/unrestricted/20071428e.pdf>

Nevertheless, the State Task Force charged MDSE to develop a business plan for implementing *Preschool for All* which it released in October 2008.²⁹ Key provisions of the MSDE business plan included:

- MSDE having oversight of and accountability for implementing Preschool for All
- Funding for Preschool for All being shared with the state covering 70% of costs and local governments covering the remaining 30% of costs
- Accredited child care centers, nursery schools, Head Start programs, family child care networks, and local school systems would be eligible to develop proposals to operate pre-k programs
- Local jurisdictions would select Local Review Panels to provide countywide coordination of the program, review and approve grant applications, and serve in advisory capacities to applicants

Further, MSDE's draft business plan included estimates of the cost of expanding preschool slots in the state for universal pre-k. The cost of expansion to households with incomes up to 300% of FPL totaled \$20 million in FY09 and the cost for all households to serve four-year-olds would cost \$120 million statewide. These estimates assumed that half of all participants would participate in school-day length pre-k programs (6.5 hours) and half would participate in half-day programs (2.5 hours).

Local Universal Preschool Implementation Work Group. In July 2008, the Montgomery County Universal Preschool Implementation Work Group was launched to help implement the recommendations of the State Task Force on Universal Preschool.³⁰ Although the Executive's recommended FY10 budget did not propose an expansion of high-quality preschool programs due to the recession, the Work Group recommended the maintenance of existing programs and supports to current child care providers. Specific recommendations from their 2009 report included:³¹

- Maintain full funding for existing programs serving children from birth to age 5
- Sustain the existing BTE requirement to provide pre-k for children whose families earn up to 185% of the FPL (FARMS eligible)
- Engage all types of preschool and child care providers in efforts to expand access
- Create a local review panel to provide countywide coordination of preschool services
- Initially expand universal pre-k services to children whose families earn up to 300% of FPL
- Conduct a community needs assessment prior to expansion in specific communities
- Provide transportation as a component of program expansion
- Grow the pool of high quality preschool providers using a variety of support services that targets child care providers at all levels
- Give preference for expanded professional development funding to providers in high need areas, centers-based staff closest to certification, and family child care providers closest to national accreditation
- Encourage the State and higher education institutions to develop a higher education system that meets the needs of the County's early childhood workforce
- Develop a pilot model for delivering pre-k services through family child care providers that aligns with the state requirements

²⁹ <http://archives.marylandpublicschools.org/NR/rdonlyres/651A1BB8-0C13-4E66-B860-3CCE62D3BC9B/18331/PreschoolforAllBusinessPlanrevised.pdf>

³⁰ Established July 15, 2008 by Councilmember Ervin under Resolution 16-664

³¹ https://www.montgomerycountymd.gov/COUNCIL/Resources/Files/Pre_school/final_report.pdf

- Monitor the progress and success of pre-k program participants in using a student assessment tool and assess other programmatic aspects that reflect program quality
- Develop a communications and outreach plan to educate the community about the importance and effectiveness of pre-k and enlist the support of business and other organizations
- Fully utilize any state funding made available for universal pre-k and make local resources available as necessary to assess state, federal, or private funding (matching funds) and ensure the delivery of high quality preschool for all services with adequate infrastructure support

Maryland Race to the Top and Pre-k Expansion Grants. In 2012, the Maryland State Department of Education was awarded a four-year \$50 million federal grant for the Race to the Top Early Learning Challenge and in 2014, MSDE was also awarded an additional \$4.6 million under the RTT Early Learning Challenge Grant. Together, these federal grants have been used to:

- Establish new school readiness formative assessment aligned with the Common Core State Standards,
- Develop a tiered quality rating improvement system (Maryland EXCELS); and
- Support the formation of local early education councils to develop plans for implementing MSDE' early childhood education plan and its Race to the Top project scope.

In 2014, MSDE was also awarded another \$15 million federal grant award to expand and improve the quality of pre-k programs for four-year-olds from families earning less than 300% of the federal poverty level.³² In FY16, MSDE allocated State Pre-K Expansion Grants to local school systems and community-based child care providers. Eight programs in Montgomery County received \$1.3 million in grants to serve 163 children. It is anticipated that similar funding will be available in FY17.

Montgomery County Early Childhood Advisory and Coordination Councils. Maryland's Race to the Top award in early learning lead to the formation of the Early Childhood Advisory Council (ECAC) within the Montgomery County Department of Health and Human Services. ECAC's role is to monitor, advocate and make policy recommendations for developing a comprehensive, coordinated early care and education system that supports school readiness, provides support to state and local initiatives, and builds on existing efforts to improve the system of early care and education.

A variety of stakeholders and professionals comprised the ECAC in 2014-15, including local parents, child care providers, agency staff (e.g. MCPS and MSDE), County government representatives and business and foundation representatives. In 2014-15 year, ECAC primarily worked on five tasks:

- Developing its priorities for addressing the creation of a comprehensive system;
- Launching a public outreach and media campaign related to Child Link aimed at parents, child care providers and pediatricians,
- Interviewing focus groups of parents, child care providers and MCPS early childhood teachers;
- Sponsoring a community project at Gaithersburg Elementary School and
- Commissioning a demographics report.

As a result of these efforts, ECAC made four recommendations to the County at the end of the 2014-15:

³² <https://www2.ed.gov/programs/preschooldevelopmentgrants/abstracts/mdabstractpdg2014.pdf>

- Review the Working Parents Assistance Program 2014 Workgroup recommendations and at minimum revise the WPA Income Guidelines and simplify the WPA Subsidy Tables.
- Examine the costs and funding required to create full-day publicly-funded pre-k programs throughout the County. ECAC noted that “the current funding of two and half hours per day pre-k programs does not meet the needs of the low income families of children that public pre-k is intended to serve.
- Fully fund the development and creation of a regional system of Family Involvement Centers to provide play based, inclusive early childhood experiences in classroom settings for children and families with a curriculum focused on socio-emotional development.

In 2015-16, the Early Childhood Coordinating Council was formed from the work of the prior ECAC which was initially established at the request of MSDE. County Council Bill 13-15 established the ECCC with a focus on identifying priorities that will help create a system of early care and education in the County and that eliminates gaps in school readiness among children so that all children are ready for school. ECCC’s initial priorities mirrored ECAC’s priorities for 2015-16:

- Create a birth – 3rd grade system of early childhood education
- Align program priorities to maximize support to families provided by programs and services
- Create family engagement opportunities with an emphasis on social-emotional development and kindergarten readiness
- Complete the work of ECAC committees (Media and Outreach, Literacy and Pediatric Outreach, and Family Engagement) with recommendations and strategies to support the first three priorities aforementioned.

ECCC priorities for 2016-17 will be informed by the Strategic Plan for Early Care and Education (scheduled for release in early 2017) and the following recommendations for action.

- Develop and fully funding a comprehensive mobile app to meet the information and service referral needs of parents with young children aged birth to eight.
- Develop an outreach campaign aimed at school readiness targeted at parents, providers, and pediatricians.
- County Council fully fund the development and creation of a regional system of Family Involvement Centers based on best practice and research to meet the needs of young children and families from diverse cultural and economic backgrounds.

State Commission Pre-k and Adequate Funding Studies. The Bridge to Excellence Act of 2002 requires a ten year follow up study and APA Consulting, in partnership with Picus Odden and Associates and the Maryland Equity Project at the University of Maryland, recently completed its final report of the Maryland Adequacy Study describing the additional funding needed to ensure that Maryland’s public students are receiving an adequate education. As part of this overarching project, APA Consulting also completed an analysis of pre-k in Maryland.³³ Recommendations made by the study team to the state legislature will likely reinvigorate the policy push to expand high-quality pre-k slots statewide.

³³ <http://marylandpublicschools.org/Documents/adequacystudy/MDPreKComprehensiveAnalysis011316.pdf>

In *A Comprehensive Analysis of Prekindergarten in Maryland*, the APA Consulting led study team offers several recommendations to state policymakers aim at creating a system of universal Pre-k across the state. Their five specific recommendations to state policymakers follow:

1. Continue to invest in early childhood data systems (i.e. Maryland EXCELS) and use them to establish targets for the number of high-quality pre-k slots available in each local school district.
2. Understand the differences in the return on investment (ROI) between a one-year investment and a two-year investment and target expenditures appropriately. In particular, they note that the best use of scarce resources is to fund high-quality pre-k for four-year-olds first.
3. Increase the ROI of pre-k by providing increased investment to support child care centers and family homes to reach the highest levels of Maryland EXCELS.
4. Increase the ROI of pre-k by encouraging providers to participate in Maryland EXCELS and by encouraging parents to enroll their children in quality pre-k programs.
5. Offer universal pre-k in Maryland, providing funding for 80 percent of Maryland's four-year-olds to attend a high quality pre-k program.

The APA Consulting led team also offered the following considerations as Maryland considers moving forward with funding and implementing universal pre-k:

- Consider implementing strategies for creating additional space for pre-k programs. Potential strategies could include: creating an application based loan guarantee program that could be accessed by pre-k centers; and instituting a competitive matching construction grant for local school districts.
- Phase in universal access by continuing to expand pre-k access to families with household incomes below 300% of the federal poverty line, enhance the number of slots to serve 80% of all four-year olds, and engage in systematic quality improvement efforts to enhance the quality of current pre-k slots (e.g. use of tiered tuition credit systems where higher quality care providers are eligible for larger tuition credits).
- Consider several options for funding universal pre-k such as determining an appropriate allocation between state and local funding responsibilities and determining an appropriate allocation between state, local, and family responsibilities based on a sliding scale for tuition credits based on family income. Use of the later, in particular, could help achieve universal access to high-quality programs while minimizing the new state and local funding sources needed to expand pre-k.

APA's recently released Final Adequacy Report also advocates for the State of Maryland to launch universal pre-k. Its specific recommendations relative to pre-k include the following:

- Adopt universal full-day pre-k for four-year olds
- Include four-year-olds in September FTE enrollment count
- Programs must be high-quality (Maryland EXCELS Level 5 or state or nationally accredited) to be eligible for funding
- Pre-k students would receive a 0.29 weight
- Funding to provide coverage for 80 percent of four-year-olds to attend either a public pre-k program or a high-quality rated private program.

This legislative session, it is anticipated that the General Assembly will review the Adequacy Study's findings and the study teams recommendations as part of its 100 day session.

Montgomery Moving Forward. Montgomery Moving Forward (MMF) has taken on Early Care and Education as its newest focus and asked business leaders and community leaders to take part in efforts to improve early learning for young children in the County. MMF's framework is to engage and empower stakeholders to solve problems by having them find common ground, develop common vision, and execute actionable plans. MMF's current focus on early childhood education emerged from a six-month community engagement process.

In November, MMF hosted a symposium for community leaders, government officials, and others describing the economic imperative for expanding early childhood education locally. As follow up, MMF has asked business leaders to contribute toward their goals by sponsoring gatherings where different aspects of early childhood education would be discussed, or by co-hosting awareness-building opportunities. MMF's next step is to create a cohesive set of action steps with in the next six months to year. More specifically, a working group will analyze local data and complete an assets and gaps analysis that includes identifying relevant partners and initiatives. A call to action will be issued in early 2018.

Chapter 4. Pre-K in Other Jurisdictions

Given the benefits of high-quality pre-k programs, policymakers have been eager to learn about the experiences of state and local jurisdictions that have been at the forefront of expanding pre-k programs. This section summarizes findings from four recent reviews of pre-k programs nationally and among select states and localities that have invested significantly in expanding public pre-k programs:

- **National Institute for Early Education Research (NIEER)**, *2015 State of Preschool Yearbook*;¹
- **Learning Policy Institute (LPI)**, *The Road to High-Quality Early Learning: Lessons from the States*;²
- **The RAND Corporation**, *Options for Investing in Access to High Quality Preschool in Cincinnati*;³
- **American Institutes for Research (AIR)**, *Analysis of Options for Funding Universal Preschool in Sonoma County, Updated Report*.⁴

The states and localities reviewed in this section were profiled in one or more of these reviews as employing best practices to expand publicly-funded pre-k options. More specifically, NIEER identifies the District of Columbia, Oklahoma, West Virginia and Georgia as states with high levels of pre-k access and program quality; LPI profiles North Carolina, Michigan, Washington, and West Virginia as states that have effectively expanded their preschool programs; and both RAND and AIR profile preschool initiatives in Boston, Denver, New York, San Antonio, San Francisco, Seattle, and Washington, DC.

Given the collective reviews of these four organizations, this section synthesizes information compiled across four reports to describe pre-k initiatives in 13 jurisdictions: Georgia, Michigan, North Carolina, Oklahoma, Washington State, Virginia, Washington, DC, Boston, Denver, New York City, San Antonio, San Francisco, and Seattle. To summarize the lessons learned from these reports, this section is presented in two parts:

- A. Findings from Prior Pre-K Reviews** describe the key program features of preschool and universal pre-k initiatives in other jurisdictions.
- B. Recommendations from Pre-K Prior Reviews** offers recommendations for jurisdictions seeking to expand their pre-k programming from LPI and AIR.

Several findings emerge from the information synthesized in this section:

- Other jurisdictions have taken both targeted and universal approaches to expanding pre-k with most focused on expanding access initially for low to moderate income children.
- Most jurisdictions focus on expanding access and the quality of current pre-k programs, particularly for low- to middle-income children rather than provide free pre-k slots for all.
- Other jurisdictions have usually relied on one of two approaches to fund their pre-k initiatives, revenue set-asides from existing budgets or new taxes on property or sales.

¹ <http://nieer.org/state-preschool-yearbooks/the-state-of-preschool-2015>

² https://learningpolicyinstitute.org/sites/default/files/product-files/Road_to_High_Quality_Early_Learning_REPORT.pdf

³ http://www.rand.org/content/dam/rand/pubs/research_reports/RR1600/RR1615/RAND_RR1615.pdf

⁴ <http://www.air.org/sites/default/files/downloads/report/Funding-Universal-Preschool-Sonoma-County-Updated-Report-April-2016-rev.pdf>

- Other jurisdictions rely on program structures that enhance quality to expand pre-k access, including reliance on school-day schedules to deliver services, investments in professional development, and use of quality rating improving systems.
- Other jurisdictions have relied on a variety of governance and leadership approaches to expand pre-k. They have also relied on a mixed delivery approach, using public and private providers.
- The jurisdictions that have been successful at securing dedicated revenue for pre-k have relied on broad based coalitions of support, focused advocacy efforts and targeted public education campaigns that explicitly make the case for the extensive benefits of pre-k programs.
- Other jurisdictions usually rely on a phased-in approach to expand pre-k programming that focuses on expanding access for low- and middle-income children first.

A. Findings from Prior Pre-K Reviews

This section is presented in two parts to describe the key program features of preschool and universal pre-k initiatives in other jurisdictions.

1. **Preschool Program Access, Funding, Structure, and Governance** summarizes data compiled primarily by NIEER, LPI and RAND to describe key pre-k program features among the 13 state and local preschool initiatives reviewed; and
2. **Leadership, Advocacy, and Program Implementation** describes approaches taken in other jurisdictions to enhance public support for pre-k programs and to expand existing programs.

1. Preschool Program Access, Funding, Structure, and Governance

Access and Enrollment. As noted by NIEER, 42 states plus the District of Columbia had state-funded programs in the 2014-15 school year. State funded pre-k programs seek to expand access to publicly-funded preschool programs beyond what is feasible with federal funding (e.g. Head Start and childcare subsidies). Similarly, city-funded preschool programs seek to expand access to public pre-k programs beyond what is possible with existing federal and state funding. Table 4-1 on the next page describes key access to pre-k features for the jurisdictions reviewed for this OLO project.

As noted among the 13 jurisdictions reviewed in Table 4-1, 11 offered one-year programs for four-year-olds and two also offered programs for three year-olds. Among the 13, seven offered universal programs for any family and six provided targeted programs for low-income children. Among the universal programs, however, some limitations apply. For example, Boston does not offer enough slots for all eligible children so slots are awarded via lottery. And for Denver, the value of tuition credits varies according to family income with higher income families bearing a greater share of program costs.

Table 4-1 also describes a range in the value of preschool subsidies to families, ranging from a high of \$17,500 per child per year in Washington, DC for any families with three- and four-year-olds to \$3,000 per year for the average preschool tuition credit in Denver for four-year-olds enrolled in school-day pre-k. At the middle level, Boston, New York City, and West Virginia offer subsidies valued at \$10,000 - \$12,000 per student per year for any four-year-olds enrolled in their universal pre-k programs.

Table 4-1: Access Features for Other Jurisdictions with Preschool Initiatives

Location	Age Served	Targeted or Universal	Nature of Subsidy and Family Fees
Boston	4-year olds	Universal, but not fully funded	100% subsidy for all families. Access limited to those awarded slots via lottery. Estimated cost of \$10,000 - \$15,000 per child in FY 2015
Denver	4-year olds	Universal	Income-based sliding scale tuition credits for all families based on income and preschool quality. For 2014-15, the average tuition credit was \$303 per month for a full-day program. Parent fees required to make up the difference
New York City	4-year olds	Universal	100% subsidy, all families. Estimated cost of \$10,050 - \$12,000 per student
San Antonio	4-year olds	Targeted	100% subsidy for income, language, or child welfare eligible children. Estimated cost of \$14,500 per year. Sliding scale tuition to higher income children chosen by lottery.
San Francisco	4-year olds	Universal	100% subsidy for part-day programs, all families; sliding-scale for full-day programs (although free for low-income families). Estimated reimbursement of \$4,950 to \$6,000 per year per child based on leader teacher qualifications.
Seattle	4-year olds	Targeted	100% subsidy children with family incomes < 300% of FPL and sliding scale subsidy: up to \$13,000 per child
	3-year olds	Targeted	100% subsidy children with family incomes < 300% of FPL
District of Columbia	3 and 4-year olds	Universal	100% subsidy, all families: \$17,509 per child
Georgia	4-year olds	Universal	100% subsidy, all families: \$3,880 per child
Michigan	4-year olds	Targeted	100% subsidy, children with family incomes < 250% of FPL; sliding scale for higher income families; \$6,447 per child
North Carolina	4-year olds	Targeted	100% subsidy (families earning up to 75% of median state income i.e. \$51,000 for family of four): \$7,793 per child
Oklahoma	4-year olds	Universal	100% subsidy, all families: \$7,782 per child
Washington State	3 and 4-year olds	Targeted	100% subsidy, families earning up to 110% of the FPL: \$8,232 per child
West Virginia	4-year olds	Universal	100% subsidy for 4-year-olds, all families; 100% subsidy for 3-year olds, children with lowest incomes and/or with disabilities: \$9,898 per child
	3-year olds	Targeted	

To provide further context for the 13 jurisdictions reviewed, Table 4-2 describes the enrollment of four-year-olds and the shared enrolled in each location’s preschool initiative. Data on Head Start enrollment is excluded from each jurisdiction as well as state pre-k enrollment for local jurisdictions and local enrollment for state pre-k programs. Several findings emerge from an analysis of the data in Table 4-2.

- Two of the seven local initiatives – San Antonio and Seattle - are at best pilot programs covering less than ten percent of the four-year-olds in their jurisdictions. Moreover, even at scale, San Antonio’s pre-K program will only offer slots to 15 percent of all four-year-olds there.
- Five of the 13 jurisdictions have essentially achieved universal access with participation rates of 70 percent or above: Washington, D.C., Oklahoma, West Virginia, Denver and New York City.
- A wide range of slots are delivered among the 13 jurisdictions from a low of 1,500 pre-k slots in San Antonio to highs of 69,000 pre-k slots in New York City and 80,000 pre-k slots in Georgia.

Table 4-2: Four-Year Old Enrollment in Other Jurisdictions with Pre-K, 2015

Location	Four-Year Old Enrollment	Share in Pre-K Program
Boston	2,400 - 2,900	50%
Denver	5,500 children in 2015	70%
New York	68,674	70%
San Antonio	1,500 in 2015 (Target: 3,700 in 2017-18)	6%
San Francisco	3,600	45%
Seattle	280 children, 2015-16 (Target: 1,615 in 2018-19)	4%
District of Columbia	6,955	90%
Georgia	80,430	59%
Michigan	37,112	32%
North Carolina	26,854	22%
Oklahoma	40,085	75%
Washington State	10,091	20%
West Virginia	15,472	75%

Program Funding. State and local jurisdictions rely on a variety of funding mechanisms to support their pre-k programs as summarized among the 13 jurisdictions reviewed in Table 4-3.

Table 4-3: Program Funding for Jurisdictions with Preschool Initiatives

Location	Primary Funding Sources	Secondary Funding Sources
Boston	City set-aside and school district funds, Title I	Race to the Top grant funds, foundation grants, Head Start, TANF vouchers, and other government subsidies
Denver	Sales tax of 0.15%; sliding scale tuition payments	Providers may receive funding from other sources including federal and state subsidies
New York	State grant to New York City	Other state, federal (TANF and CBDG) and local funds
San Antonio	Sales tax of 0.125% and sliding scale tuition payments for full-day program	State and local matching funds for a small portion of the children served and local donations
San Francisco	City set-aside of 0.04%, revenue from state tobacco tax, and sliding scale tuition payments	First 5 California funds, developer impact fees and CDBG funds for facilities
Seattle	Local property tax levy for preschool and sliding scale tuition payments	Head Start and child care subsidies; State preschool funding
District of Columbia	City set-aside funds and school district funding formula	Head Start, Title I and child care subsidies
Georgia	State lottery revenue	Head Start
Michigan	State school aid	Head Start, Title I and IDEA
North Carolina	State general funds, lottery revenue, local match, and school district aid	Head Start, Title I, TANF, and IDEA
Oklahoma	State public school funding formula	Head Start and IDEA
Washington State	State general funds and lottery revenue	Head Start and IDEA
West Virginia	State public school funding formula	Head Start and IDEA

Local jurisdictions often rely on dedicated revenue as primary funding sources for city-funded pre-k programs. Budget set-asides and dedicated revenue from sales and property taxes are the primary approaches used in six of seven local jurisdictions reviewed (Boston, Denver, San Antonio, San Francisco, and Washington, DC). Additionally, four of seven localities also rely on parent fees via sliding scale tuition payments to fund local pre-k programs (Denver, San Antonio, San Francisco, and Seattle).

State pre-k programs, however, often rely on a combination of lottery revenue and state aid/student formula driven revenue to fund their programs. As noted in Table 4-3 on the next page, three states rely on lottery revenue to partially fund state pre-k programs (Georgia, North Carolina, and Washington State) and five states rely on general state funds or public school funding formulas to fund their pre-k programs (Michigan, North Carolina, Oklahoma, Washington State, and West Virginia). Of note, another source of pre-k program revenue noted above is the use of developer impact fees and Community Development Block Grants funds in San Francisco to fund pre-k facilities.

And, as noted in Table 4-3, both state and local jurisdictions often pair Head Start, IDEA, TANF, CDBG, and other existing sources of preschool revenue with new revenue sources to expand their preschool programs. Jurisdictions essentially blend and braid these resources to support pre-k programming.

To offer context for the amount of revenue localities generate for pre-k programs, Table 4-4 describes funding levels among the seven local jurisdictions reviewed. Of note, the two local jurisdictions with the highest funding levels for pre-k – New York and Washington, DC – do not rely on dedicated taxes to fund their pre-k programs. The four jurisdictions relying on dedicated tax revenue – Denver, San Antonio, San Francisco, and Seattle – generated \$13 million to \$31 million annually from these sources. These four jurisdictions also rely on parent fees to help fund their local pre-k programs.

Table 4-4: Funding Level for Other Jurisdictions with Preschool Initiatives

Location	Funding Level
Boston	\$24 million per year
Denver	\$13 million per year from a sales tax increase
New York	\$300 million state grant in 2014 to fund full-day preschool; additional funds to expand half-day programs into full-day programs
San Antonio	\$31 million per year for eight years from a sales tax increase, plus state and local matching funds of \$3 million per year
San Francisco	\$27 million annually from Public Education Enrichment Fund (PEEF)
Seattle	\$14 million annually based on \$58 million across four years from property tax
District of Columbia	\$191 million, but may not include funds for CBO's

Source: AIR

Program Structure and Quality. To actualize the long-term benefits of pre-k programs, jurisdictions need to implement high quality programs that align with best practices. RAND's review of seven comparison cities, summarized in Table 4-5 on the next page, shows that leading cities offering locally funded pre-k programs usually provided school-day/school year pre-k programs. The exceptions to this pattern included Denver and San Francisco offering half-day options, particularly to non-poor families; and San Antonio offering a full-day (10 hour) program, although it was targeted to low-income families and relied on a lottery since demand greatly exceeded supply.

Table 4-5: Program Quality-Related Features for Cities with Preschool Initiatives

Location	Hours per Day/ Weeks per Year	Other Program Requirements Include	Link to QRIS?
Boston	School-day/school year	Required curriculum for literacy and math; lead teacher have a bachelor's degree with plan for a MA in five years	No
Denver	School-day and half-day/school year and full-year	Use of CLASS in addition to QRIS rating, quality improvement activities, including teacher coaching and other professional development	Yes, require 3 of 5 stars on QRIS
New York	School-day/school year	Minimum score on Environmental Rating Scale and CLASS; ratio of 9 to 1 staff, group size of up to 20 children with 3 staff, each lead teacher has a bachelor's degree (3 year window to obtain) and on-site coaching	No
San Antonio	Full-day (10 hours)/ school year	Developmentally appropriate curriculum, staff participate in ongoing professional development; components for healthy meals, parent education, and health and developmental screenings	No
San Francisco	School-day and half-day/school year and full-year	Standards for teaching and approved curriculum, classroom materials, developmental screening and assessment, and teacher professional development	Yes, require 3 of 5 stars on local QRIS
Seattle	School-day/school year and full-year	Ratio of 10 to 1 staff; group size up to 20; use of approved curricula; teachers have four years to meet bachelor's degree requirement; participate in coaching and other professional development	Yes, require 3 to 5 on statewide QRIS
District of Columbia	School-day/school year	Head Start performance standards for Head Start classrooms; bachelor's degree in public schools; community-based providers required by Fall 2017	No

At the state level, NIEER also screens for quality among state programs by comparing their programs' alignment to the following ten best practices for pre-k:

- Comprehensive early learning standards
- Bachelor's level degree requirement for lead teachers
- Specialized teacher training in pre-k
- CDA/equivalent degree requirement for assistant teachers
- Requirement of at least 15 hours of in-service training for pre-k teachers
- Maximize class size of 20 or fewer students for three and four-year olds
- Staff-child ratio of 1:10 or better
- Screening for vision, hearing and health and referrals for at least one support service
- At least one meal per day
- Monitoring site visits at least once every five years

As noted in Table 4-6 on the next page, three of the seven states (Georgia, Michigan, and Oklahoma) align with 8 of 10 NIEER standards, two states (the District of Columbia and Washington State) align with 9 NIEER standards and another two states (Oklahoma and West Virginia) aligned with all 10 NIEER standards. Additionally, three states linked their state pre-k systems to quality rating improvement systems and six states offered school-day length pre-k programs rather than half-day schedules.

Table 4-6: Program Quality-Related Features for Select States with Preschool Initiatives

Location	Pre-k Schedule	Alignment with NIEER Quality Standards	Link to QRIS?
District of Columbia	School-day, school year	9 of 10	No
Georgia	School-day, school year	8 of 10	No
Michigan	School-day, school year, <i>four day week</i>	8 of 10	Yes
North Carolina	School-day, school year	10 of 10	Yes
Oklahoma	School-day, school year	8 of 10	No
Washington State	Half-day, school year	9 of 10	Yes
West Virginia	School-day, school year	10 of 10	No

Program Governance. Other jurisdictions have used a range of governance models to implement their preschool initiatives. Researchers have recognized that there is no “one size fits all” governance model that enables cities or states to best expand their pre-k programs. As noted in Table 4-7 below, nine of 13 jurisdictions rely on local or state educational agencies to administer their pre-k programs, two rely on nonprofits, one state pre-k program is administered by its department of health and human services, and one city’s pre-program is administered by a city agency rather than the local school system.

Table 4-7: Program Governance for Other Jurisdictions with Preschool Initiatives

Location	Governance
Boston	School district: Boston Public Schools
Denver	Nonprofit: DPP under contract with the city and the county
New York	School district: New York City Department of Education
San Antonio	Nonprofit: Early Childhood Education Municipal Development Corporation
San Francisco	City Agency: Office of Early Care and Education
Seattle	School District: Seattle Department of Education and Early Learning
District of Columbia	State Educational Agency: DC Office of the State Superintendent of Education
Georgia	State Educational Agency: Georgia Department of Early Learning
Michigan	Regional Educational Agencies: Intermediate School Districts
North Carolina	North Carolina Department of Health and Human Services
Oklahoma	State Educational Agency: Oklahoma State Department of Education
Washington State	State Educational Agency: Washington Department of Early Learning
West Virginia	State and Local Educational Agencies: West Virginia Department of Education; County Boards of Education

Beyond governance models, other infrastructure elements that jurisdictions use to administer their pre-k programs include data systems to support ongoing monitoring, evaluation, and continuous quality improvement; quality improvement supports and resources for workforce professional development; investment funds for facilities (especially when expansion is required); and transportation services.

2. Leadership, Advocacy, and Program Implementation

Leadership. Political leadership from elected officials and other community stakeholders has been critical to enhancing the public support for pre-k among states and localities. As noted in Table 4-8, city mayors in particular have been successful champions for expanded pre-k programming among the seven localities reviewed. City council leaders in Seattle and Washington, DC have also successfully championed the effective expansion of public pre-k programs as well.

At the state level, political leaders also helped to spur pre-k. For example, Governor Earl Ray Tomblin’s support of pre-k contributed to the development of universal pre-k in West Virginia. Additionally, the support of other community stakeholders helped garner further support for universal pre-k in West Virginia. Other effective advocates for universal pre-k in West Virginia, including the Southern Regional Education Board, have been critical in expanding access for pre-k programs among cities and states.

For example, advocates and external organizations such as the Southern Regional Education Board and the Education Commission of the States that shared knowledge about pre-k with state legislators were instrumental to West Virginia’s successful effort to expand pre-k. According to the Learning Policy Institute, researchers at Marshall University also played a critical role in expanding pre-k in West Virginia by producing state-specific analyses about the long term economic benefits of early childhood investments, findings that were compelling to state leaders.

Table 4-8: Political Leadership for Preschool Initiatives

Location	Political Leadership
Boston	Former Mayor Thomas Menino and current Mayor Martin Walsh
Denver	Former Mayor John Hickenlooper (now governor of Colorado; initial program) and current Mayor Michael Hancock (2014 expansion)
New York	Mayor Bill de Blasio
San Antonio	Mayor Julian Castro, local business leaders
San Francisco	Community organizers, former County supervisor Tom Ammiano
Seattle	City Council President Tim Burgess and Mayor Ed Murray
Washington, DC	Former District Council Chair Vincent Gray (later mayor), current Mayor Muriel Bowser, and various community organizations and nonprofit organizations

Source: AIR

Focused Advocacy. A focus on expanding preschool opportunities as opposed to services for children broadly has also contributed to the successful expansion of pre-k programs in several jurisdictions. For example, Denver voters were unwilling to support sales tax increases in 2000 and 2001 for broadly defined early childhood services and programs. However, when advocates changed their pitch to voters from broad programs for children to pre-k programs for four-year olds, a majority of voters supported the sales tax increase needed to finance expanded pre-k programs.

In Denver, the narrower focus of advocacy efforts on pre-k combined with a \$1 million privately funded public education campaign led to the successful tax election for the Denver Preschool Plan in 2006 and its ten-year tax renewal in 2014. Similarly, advocates for pre-k in Michigan had to redirect advocates focused on early childhood education comprehensively, and the need for more resources to serve children between the ages of 0 to 3, to narrow their message to pre-k in order to elicit the support of the state legislature. This focused advocacy strategy worked, enabling Michigan to expand pre-k.

Phased-in Program Implementation. Another attribute of most of the pre-k programs reviewed for this report is the phased in implementation of expanded pre-k programs. As noted by LPI, the WV legislature “set realistic timelines for the rollout and expansion of WV Pre-K, allowing ten years in which to achieve full implementation.”

Similarly, many of the locally funded pre-k programs also phased in their expansion of pre-k slots over a number of years to ensure that new slots were of sufficient quality to reap the long-term benefits for pre-k participation. For example, rather than scaling up quickly to meet demand, Seattle started by funding only 14 sites that already offered state preschool and scored well on the QRIS. As noted by LPI, the phased in implementation of expanded pre-k programs enabled jurisdictions to address the tension between access and quality by investing in training and development, reimbursement rates, and coaching to create the workforce necessary to deliver high quality pre-k programs. Table 4-9 on the next page describes the phase-in plans for the seven local jurisdictions reviewed in this report.

As described in Table 4-9 on the next page, five of the seven local jurisdictions reviewed implemented their pre-k programs over several years. The two exceptions were Denver and New York City that implemented their initiatives quickly. New York’s two-year time line for implementing universal pre-k is especially striking. As noted by NIEER, prior to expansion, 58,000 children attended pre-k in New York City, with only 19,000 children enrolled in school-day length programs. In two years, the City added 53,120 full-day seats so that by 2015-16, 68,647 children were enrolled in full-day pre-k in the City. The expansion required significant investments in new educators, spaces, programming and oversight, and extensive outreach to families to encourage enrollment in new programs.

Mixed Program Delivery. Another common feature of pre-k programs among the jurisdictions reviewed is the use of mixed program delivery models where public schools, community based providers, and licensed family child care homes offer pre-k programming. Research indicates that both school and community based providers can deliver effective preschool programs. Varied reimbursement rates can also be applied to create parity between public school and community-based pre-k providers as well as wage parity between staff in different settings. Table 4-10 on the next page describes the providers and facilities for preschool initiatives among the seven local jurisdictions reviewed.

Table 4-9: Phase-in Plan and Implementation Status for City Preschool Initiatives,

Location	Phase-in Plan and Implementation Status
Boston	In 2005, the city of Boston provided 700 free preschool slots. By 2010, 85% of elementary schools had at least one preschool classroom and 2,000 slots for four-year olds. By 2015, 95% of elementary schools had a preschool classroom with 2,400 slots. Boston cannot expand further due to space and budget limitations
Denver	No phase in plan. The Denver Preschool Plan was open to all Denver four year-olds at the start of operations. The school-year program was fully implemented with 5,000 children served (about 54% of all eligible children) as of 2013.
New York	During the 2014-15 school year, expanded existing slots from half-day to school-day, added new slots, and improved the quality of existing school-day slots. Fully implemented during the 2015-16 school year.
San Antonio	Started with two city-run centers in 2013-14, added two more in 2014-15, and will add a limited number of public and private providers this year. Full implementation in 2017-18.
San Francisco	Initially targeted low-income and high-need neighborhoods and became citywide in 2008. City funding was meant to phase across a five-year period, but was not fully funded or implemented until 2014. Additional funds from the 2014 renewal and increase of the set aside from the General Fund for preschool and other educational purposes will be phased in across the next few years. Fully implemented as of 2014.
Seattle	Launched during the 2015-16 school year starting with the 14-15 classrooms, expanding to 39 in 2016-17, will expand to 70 in 2017-18, and to 100 in 2018-19 to serve 1,615 children in the last year. At that time, the program will be evaluated for renewal.
Washington, DC	Three goals of the 2008 Act: expand preschool programs by 2,000 slots, improve the quality of existing programs, and place well-qualified and well-paid teachers in every prekindergarten classroom by FY 2014. Work began in 2008, universal access implemented by 2013-14, and now focus is on improving quality.

Source: AIR

Table 4-10: Providers or Facilities for Preschool Initiatives

Location	Providers/Facilities
Boston	Public schools only for BPS based program but relied on community providers for grant funded slots and considering mixed delivery model to expand Boston Public Schools based program if additional funding becomes available
Denver	250 partner preschools, including public, private, community and faith-based organizations
New York	District schools and community providers provide services. Participating community providers are referred to as New York City Early Education Centers, which are selected through a competitive application process
San Antonio	Currently four model centers built and operated by Pre-k 4 SA; expanded to qualifying public and private providers in 2016
San Francisco	Qualified public, private, and family providers receive grants based on the number of qualifying children served and based on the availability of funding; priority funding for underserved neighborhoods
Seattle	Public and private providers; schools and providers apply for eligibility. CBOs are selected through a competitive process, and public schools may contract directly without competing
Washington, DC	DCPS, charter schools, and community based organizations

Source: AIR

B. Recommendations from Pre-K Prior Reviews

Based on their reviews of pre-k initiatives in other jurisdictions, both the Learning Policy Institute (LPI) and the American Institutes for Research (AIR) offered recommendations for jurisdictions seeking to expand their pre-k programming. LPI in particular offered a set of recommendations for states based on their case study of four leading states while AIR offered recommendations for funding and phasing in universal preschool to Sonoma County (CA) based on their review of nine localities and current practices in Sonoma County. A summary of AIR's and LPI's recommendations from their reviews of locally-funded and state pre-k programs follows.

AIR Recommendations to Sonoma County. Based on their research of 12 preschool initiatives and interviews with stakeholders, AIR recommended that Sonoma County pursue ten steps to successfully implement its proposed universal preschool initiative:

- 1. *Clearly define the county's ultimate goal for universal pre-k as providing "access to quality access for all three and four-year old children in the county".*** In their review, AIR found that providing access to pre-k does not necessarily mean making preschool free for all. Although universal preschool initiatives typically allow all children regardless of income to participate, some initiatives, like San Francisco's, use funding to enhance the quality of existing slots rather than to fund the entire per child slot.
- 2. *Offer free preschool up to 300% of the FPL and a sliding scale to families above that level.*** Many of the preschool initiatives AIR examined in some way provide more financial help to children from lower income families and significantly less support for children from higher income families. These include Seattle which makes preschool free to families earning below 300% of the FPL and Denver which provides a larger preschool tuition credit to families depending on their income, the length of the program, and its quality.
- 3. *Establish an evidence-based framework for quality programs that will achieve the promised benefits of preschool.*** These include a framework for enhancing lead teacher requirements for preschool programs, often to a level required for K-12 teachers with commensurate compensation. Other quality elements noted in other jurisdictions include master-level teacher support to classrooms, family engagement components, assessing classrooms and providing coaching to meet identified shortfalls, and having a research-based curriculum.
- 4. *Plan for at least a school-day, school-year calendar, with provision for extended day and year.*** Most of the preschool initiatives examined by AIR provide the option of at least a six-hour, school-year program. The reasons for at least a six-hour day include that a partial-day schedule is inaccessible for many working families and may pose a barrier to enrollment for some children who would most benefit from the program.
- 5. *Make the most of existing state and federal funding, including Head Start and Title I.*** AIR recommends that Sonoma County secure all the existing state and federal revenue for preschool for which they are eligible. AIR also recommended that Sonoma County convene superintendents to discuss the possibility of their investing federal Title I funds in pre-k.

6. **Obtain a dedicated funding source for preschool.** Most stakeholders interviewed by AIR stressed that a new dedicated funding stream was essential for implementing a successful universal preschool initiative. AIR recommended that Sonoma County consider a sales tax increase or a set-aside from the general fund as a new pre-k revenue source, but only if these measures were accompanied by a substantial public education campaign.
7. **Adopt a separate funding source or reserve a specific percentage of any new revenue for preschool facilities.** AIR found that most jurisdictions faced challenges with regard to facilities for preschool. San Antonio and Seattle dealt with this challenge by setting aside money from within their main funding mechanisms for facilities; San Francisco used developer impact fees and CDBG funds to pay for building and improving facilities.
8. **Attach preschool programs to elementary schools where possible, but allow for the participation of community based preschool providers.** Access to support services, such as a school nurse, early intervention, transportation and food services, may be greater in a public school setting. Linking preschool to public schools may also enhance family engagement in schools. It is also important for jurisdictions to offer a range of options to maximize pre-k participation among families who prefer community based settings.
9. **Invest in and mount a public education campaign to build the case for the additional revenue needed.** From AIR's examination of other preschool initiatives, they also found that efforts to raise taxes to support a preschool initiative requires the development of a public education campaign. Stakeholders interviewed by AIR noted the importance of (a) using polling to determine the needs and type of education campaign required, (b) wording the ballot initiative to maximize support, and (c) building partnerships with school districts, community child care and advocacy groups, and the business community as part of the planning process.
10. **Phase in the preschool initiative across a period of up to 10 years, beginning in the neighborhoods of greatest unmet need.** Most of the preschool initiatives that AIR examined were phased in gradually; even in cases where the implementation was more rapid, the stakeholders interviewed by AIR recommended phasing in gradually based on experience. For example, interviewees in San Francisco recommended phasing in gradually based on their experience of conducting a needs assessment and realizing that it would take more than five years to have enough pre-k providers that met the quality standards for the program.

LPI Recommendations to States. The Learning Policy Institute, in their case study of pre-k initiatives in Michigan, North Carolina, Washington, and West Virginia, found that there is no "one size fits all" response that enables states to effectively expand their early childhood education programs. Yet, they identified five common elements that emerged as best practices among these state's efforts to expand preschool programming. These five common elements and a summary of LPI's recommendations for policymakers to advance each follows.

1. **Prioritize quality and continuous improvement by:**

- a. Defining and using state quality standards that incorporate assessments of adult-child interactions as well as structural factors (like adult-child ratios);
- b. Developing quality rating improvement systems to support continuous improvement, reinforce quality standards, and provide a basis for program accountability;

- c. Linking funding to rating as a tool for program quality; and
- d. Developing a strong local infrastructure to meet the needs of diverse communities.

2. Invest in training and coaching by:

- a. Investing in strengthening teacher quality by providing specialized training;
- b. Making training programs accessible to providers;
- c. Encouraging teacher advancement and retention through scholarships and salary supplements; and
- d. Providing coaching to improve program quality.

3. Coordinate the administration of birth through grade 3 programs by:

- a. Housing all children's services under one umbrella or creating a children's cabinet that works across agencies; and
- b. Improving coordination across programs and services by sharing data and aligning curriculum and assessments.

4. Strategically combine multiple funding sources to increase access and improve quality by:

- a. Funding early childhood education programs with dedicated state dollars combined, or braided with funding from Head Start and other federal programs to make the most efficient use of available resources and to expand access and quality; and
- b. Leverage short-term funds (e.g. Race to the Top) and public-private partnerships (i.e. Smart Start in North Carolina).

5. Create broad based coalitions and support by:

- a. Bringing together advocates, politicians, philanthropists, practitioners, and business leaders working closely with policymakers, to promote high-quality, accessible early education;
- b. Offering parents a choice of providers; and
- c. Cultivating champions.

Chapter 5. Findings and Recommendations

This report's ten major findings are clustered around three broad topics:

- The first three findings summarize research describing the benefits of pre-k and best practices
- The next four findings describe local pre-k programs, data on school readiness, prior efforts to expand pre-k, and estimated costs and return on investment of universal pre-k in the County
- The final three findings describe common efforts and strategies used in other jurisdictions to expand pre-k.

Each finding is described in detail below; this report's recommendations for discussion based on these project findings begins on page 55.

1. Project Findings

Research on Pre-K Benefits and Best Practices

Finding #1: Research consistently demonstrates that high-quality pre-k programs generate significant benefits to pre-k participants and society at large.

Researchers have identified a range of benefits for high-quality pre-k programs. They include:

- Academic gains of a third of year in additional learning in average programs to a half and a full year of additional learning for the highest quality programs.
- Reduced need and costs for K-12 special education and remediation services.
- Increased education and labor force participation among parents with high-quality child care.
- Help to close achievement gaps by income, race, and ethnicity.

Based on their review of the research literature, APA Consulting finds that every \$1 spent on high-quality pre-k yields a return of investment for up to:

- \$8 for children with family incomes below the federal poverty level (FPL);
- \$6 for children with family incomes between 100% and 200% of the FPL; and
- \$4 for children with family incomes above 200% of the FPL.

Table 5-1 on the next page describes the estimated benefit of high-quality pre-k for children with family incomes below the FPL. About half of the benefits accrue to the public in reduced government spending, criminal activity, and victim costs and the other half to pre-k participants in increased earnings as adults. Most of the long-term benefits of pre-k are achieved twenty or more years after pre-k participation.

Table 5-1: Estimated Per Child Benefit of Prekindergarten Participation

Category	Estimated Per Child Benefit
K-12 System	
Reduced Special Education Costs	\$8,425
Reduced Grade Retention	\$2,018
Reduced Teacher Turnover Costs	\$78
Reduced Teacher Salary Costs	\$1,729
Reduced Teacher Absenteeism Costs	\$1,859
Reduced School Support Costs	\$5,226
Higher Education and Career	
Increased Cost of College Participation	(\$970)
Increased Cost of High School Participation	(\$1,441)
Increased Future Income	\$48,324
Criminal Justice	
Reduced Juvenile Crime Costs	\$7,257
Reduced Adult Crime Costs	\$4,530
Reduced Tangible Victim Costs	\$4,757
Child Welfare System	
Reduced Foster Care and Home Care Costs	\$327
Reduced Child Welfare Quality of Life Costs	\$2,016
Reduced Child Welfare Tangible Victim Costs	\$230
TOTAL	\$84,365

Finding #2: *The highest quality pre-k programs employ low student-to-staff ratios, credentialed teachers, effective curriculums, and school-day length programs.*

High-quality pre-k programs that use best practices offer greater benefits than low-quality programs not aligned with best practices. Table 5-2 on the next page summarizes pre-k best practices identified by a consensus of researchers. They include use of small-class sizes, student-directed learning, open-ended play, use of pre-k assessments and data for decision making, and school-day length programs.

Additional best practices identified as drivers of pre-k performance include:

- **Student Diversity**, where children in classes with higher family incomes/education levels learned more than children in classes with less affluent/educated parents.
- **Staff Diversity**, where teachers of color improve the academic outcomes and school experiences of students of color compared to their white peers.
- **Public School-Based Programs**, where public school based pre-k programs on average produced the largest effects on child development for 3 and 4-year-olds.
- **Comprehensive Services**, such as health screenings and home visiting programs that model positive interactions for parents with opportunities for practice and feedback.
- **High Quality K-12 School Systems**, particularly in the elementary school years, that extend the benefits of pre-k into the longer term.

Table 5-2: Summary of Best Practices for Pre-k Programs

Pre-K Best Practices		NIEER Best Practices	LPI Best Practices
<i>Supports for Educators and Young Learners</i>	Class Size Ratio (1:10)	✓	✓
	Two-Adults per Class	✓	✓
	Early Learning Standards	✓	✓
	Support for Students with Disabilities	✓	✓
	Support for English Language Learners	✓	✓
	Education and Compensation for Staff	✓	
	Effective Curriculum	✓	✓
<i>High Quality Instruction</i>	Use of Pre-K Assessments	✓	✓
	Use of Data for Decision Making	✓	✓
	Quality Rating and Improvement System	✓	✓
	Professional Development	✓	✓
	High Quality Teaching	✓	✓
	School-Day Length Programs	✓	

Finding #3: *The impact of pre-k varies by program quality and length and by the demographics of children served in pre-k programs.*

Emerging research demonstrates a favorable impact of high-quality pre-k programs on non-poor children as well as low-income children. Researchers generally find, however, that pre-k programs yield greater benefits for low-income children, Latinos and English language learners than compared to higher-income, non-Hispanic, and English proficient peers. The impact of pre-k also varies by the quality of the program and the length of the program with stronger quality and school-day length programs generating greater benefits than lower quality and half-day pre-k programs.

APA Consulting quantifies differences in return of investment of pre-k programs based on their quality and family income. As noted in Finding #2, APA Consulting estimates that every \$1 spent on high-quality pre-k yields a return of investment for up to:

- \$8 for children with family incomes below the federal poverty level;
- \$6 for children with family incomes between 100% and 200% of the FPL; and
- \$4 for children with family incomes above 200% of the FPL.

APA, however, estimates that the benefits of pre-k are reduced for lower quality programs. They estimate that the lowest quality programs - scoring in the first or second tier of a five tier rating system - generate zero return on investment (ROI), while those rated a three generate 75% of the ROI, those rated a four generate 85% of the ROI, and those rated a five generate 100% of the ROI.

Researchers have also found that both one-year and two-year pre-k programs yield benefits to participants and society. However, the second year of pre-k programs typically generates smaller gains than what is achieved from the first year. This suggests that when resources are limited, it is more beneficial to serve a greater number of children in a high-quality one year program rather than to serve a smaller number of children for two years.

Local Pre-K Programs in Montgomery County

Finding #4: *There has been several policy discussions and pushes over the past decade aimed at expanding pre-k access in Maryland and in Montgomery County.*

In December 2007, the **State Task Force on Universal Preschool Education** recommended the creation of a voluntary, free universal preschool program for all four-year-olds in Maryland. The Task Force called for a dedicated funding source and a mixed delivery of pre-k services by public and private providers that would offer half-day pre-k programming to any interested families by 2014.

In response to the State Task Force's directive, the Maryland State Department of Education developed a **Business Plan for Implementing Preschool for All** which it released in October 2008. Key provisions recommended in the Business Plan included MSDE overseeing the universal pre-k program and the state covering 70% of costs with local governments covering the remaining 30% of costs.

Montgomery County also developed a **Universal Preschool Implementation Work Group** in 2008 in response to the State Task Force. This local work group offered several recommendations, including:

- Initially expanding universal pre-k to children whose families earn up to 300% of FPL;
- Providing transportation as a component of program expansion;
- Growing the pool of high quality preschool providers at all levels; and
- Developing a pilot model for delivering pre-k services through licensed family child care providers.

Due to the recession, plans for developing universal pre-k across the state and within the County were tabled. However, there have been efforts since 2008 aimed at enhancing the quality of existing pre-k programs and access among low- to moderate-income families. MSDE received a four-year \$50 million federal grant for the **Race to the Top Early Learning Challenge** in 2012 and an additional \$4.6 million grant under the **RTT Early Learning Challenge Grant** in 2014. Together, these grants have been used to:

- Develop a new school readiness assessment aligned with the Common Core State Standards;
- Develop a tiered quality rating improvement system (Maryland EXCELS); and
- Support the formation of local early education councils.

In 2014, MSDE was awarded another \$15 million federal grant to expand quality of pre-k programs for families earning less than 300% of FPL. **State Pre-K Expansion Grants** were allocated to local school systems and community-based providers, including \$1.3 million to eight programs locally. Currently, two local efforts are focused on expanding pre-k in the County:

- **The Montgomery County Early Childhood Coordination Council (ECCC)** has recommended that the County focus on creating full-day pre-k programs, family involvement centers, an outreach campaign for parents, providers, and pediatricians, and an information app for children age 0-8. ECCC has also contributed to the Department of Health and Human Services' recently released Early Care and Education Strategic Plan for Montgomery County.
- **Montgomery Moving Forward** has also recently asked business leaders to take part in efforts to improve early learning for young children in the County.

Finally, the 2016 **State Commission Adequacy Study and Analysis of Pre-K in Maryland** reports by APA Consulting both encourage the state to adopt full-day universal pre-k for all four-year-olds in Maryland by: continuing to invest in early childhood data systems; encouraging providers to participate in Maryland EXCELS; providing resources to enable pre-k providers to reach the highest levels of Maryland EXCELS; encouraging parents to enroll their children in high-quality programs; and providing funding for 80% of Maryland’s four-year-olds to attend a high-quality pre-k program.

Finding #5: *A majority of pre-k slots in the County do not fully align with best practices because most public pre-k programs are half-day and most private pre-k providers do not participate in the state’s quality rating improvement system (Maryland EXCELS).*

Slightly less than 5,000 of the 13,000 four-year-olds in 2014 were enrolled in high-quality pre-k programs the year before they began kindergarten. High quality pre-k programs, defined by APA Consulting as public pre-k, accredited and EXCEL 5 rated providers, had the capacity to serve 43 percent of all four-year-olds in the County as noted in Table 5-3 below. Yet, nearly 3,000 of the high-quality slots available were half-day public pre-k classes. Best practices recommend school-day length programs for pre-k to maximize the benefits of participation.

Table 5-3: Estimated Demand and Supply of High Quality Pre-k in Montgomery County

	4-year-old Pre-k Enrollment	Any Quality Capacity	High Quality* Capacity	HQ School Day (SD) ** Capacity	OLO Est. HQ SD *** Capacity
Four-Year Enrollment and Pre-k Program Capacity <i>(% of Four-year old Population Served)</i>					
Montgomery County <i>(13,010 four-year olds)</i>	8,895 <i>(68%)</i>	9,670 <i>(74%)</i>	4,860 <i>(43%)</i>	1,341 <i>(13%)</i>	1,476 <i>(14%)</i>
Early Childhood Education Slots by Provider					
Public Pre-K	3,311	3,311	3,311	450	585
- <i>Half-Day Slots</i>	2,860	2,860	2,860		
- <i>School-Day Slots</i>	450	450	450		
Child Care Centers	4,983	5,342	1,316	658	658
Family Homes	601	1,017	233	233	233
Additional Pre-k Slots Needed to Enroll 80% of All Four-year olds					
Unmet Need for Pre-K		738	5,548	9,067	8,932

Further, very few private pre-k slots among child care centers and family homes are designated as high-quality in part because few programs participate in Maryland EXCELS. Moreover, the state does not collect data on whether private pre-k slots operate on half-day or school-day schedules.

Assuming that half of the EXCELS 5 and accredited child care center slots provide six or more hours of pre-k programming on school days, and that all high-quality family child care homes provide six or more hours of pre-k programming, OLO estimates that high-quality, school-day length pre-k programs in the County have the capacity to serve between 13% and 14% of all four-year-olds. An additional 9,000 school-day length, high-quality pre-k slots would be required to meet the 80% percent threshold for providing universal pre-k to four-year-olds in Montgomery County.

Finding #6: School readiness data reveals an achievement gap by pre-k experience and prior care.

Annually, the Maryland State Department of Education surveys teachers and parents of kindergarteners to assess their readiness for school. In 2014-15, MSDE adopted the Ready for Kindergarten: Maryland Early Childhood Comprehensive Assessment System that uses the Kindergarten Readiness Assessment (KRA) to measure school readiness in four learning domains: language and literacy, mathematics, physical well-being and motor development, and social foundations.

KRA assessments in Montgomery County reveal school readiness gap by pre-k experience, with children who had attended private pre-k programs in nursery schools and child care centers demonstrating higher levels of school readiness than students who had attended public pre-k programs. In 2015-16,

- Among private providers, 69% of children from non-public nurseries and 61% from child care centers met school readiness standards in kindergarten on the KSA compared to
- Among public providers, 38% of children from Head Start and 33% from state pre-k programs.

Prior to MSDE adopting the KRA as a school readiness assessment, MSDE used the Maryland Model for School Readiness Framework. This school readiness measure also revealed an achievement gap by prior care and pre-k setting where for 2013-14,

- Among private providers, 93% of children from non-public nurseries and 83% from child care centers met school readiness standards in kindergarten on the MMSR compared to
- Among public providers, 68% of children from Head Start and 80% from state pre-k programs.

The newer school readiness benchmark demonstrates a larger gap in school readiness between private and public pre-k placements than the previous assessment (28-31 point gap v. 3-25 point gap). Nevertheless, the gaps in school readiness between private and public pre-k programs likely reflect the gaps in school readiness by student income and the length of pre-k programs. Based on the KRA, 61% of Non-FARMS students met school readiness standards compared to 29% of FARMS students. And as noted in Finding #5, most public pre-k slots are only 2.5 to three hours in length while private pre-k slots are presumed to offer more school-day and full-day programming due to parents' work schedules.

Finally, another noteworthy finding emerges from a review of the County's school readiness data:

- Based on the KSA, children served in licensed family child care centers were just as likely to meet school readiness standards as children from Head Start (39% v. 38% met standards) and children served in informal/home-based arrangements were just as likely as state pre-k students to meet school readiness standards (33% of each group met standards).
- Based on the MMSR, children in home care and licensed family child care were also as likely as Head Start and state pre-k children to demonstrate school readiness (68%-80% of each group met standards).

The relative equivalence in school readiness among children served in theirs or another family's home to children served in public pre-k and Head Start programs on both the MMSR and KSA metrics suggests that ample opportunity exists for improving the quality of public pre-k and Head Start programs locally.

Finding #7 **The costs of expanding high-quality pre-k slots in the County are significant, but the anticipated benefits are four to six times greater.**

For the project, members of the County Council tasked OLO to estimate the costs of expanding pre-k in the County under several scenarios. Based on a review of existing research regarding the costs of high-quality pre-k slots and the estimated return of benefits for effective pre-k programs, OLO considered four approaches for expanding pre-k in the County and estimated the public costs and anticipated benefits of each approach. Table 5-4 describes the approaches reviewed, the estimated costs of each approach, and the number of publicly-funded pre-k slots required for each approach. OLO assumes a cost of \$12,000 and \$14,000 per school-day length slot and of \$6,000 and \$7,000 per half-day slot.

Table 5-4: Estimated Cost and Benefit of Expanding Pre-K in Montgomery County, OLO

	Current Pre-K for FARMS Families	Option 1: Convert HD to SD Programs	Option 2: Extend SD to 300% FPL	Option 3: Extend HD to All Families	Option 4: Extend SD to All Families
Capacity	3,311	3,311	4,411	9,395	9,395
Half Day Slots	2,860	-	-	4,984	-
<i>Marginal Cost</i>		<i>\$17-\$20 million</i>	<i>\$13-\$15 million</i>	<i>\$30-\$35 million</i>	<i>\$30-\$35 million</i>
Total Costs	\$23 million	\$40-\$43 million	\$53-\$58 million	\$83-\$93 million	\$113-\$128 million
<i>Marginal Benefit</i>		<i>\$102-\$120 mil.</i>	<i>\$52-\$60 million</i>	<i>\$120-\$140 mil.</i>	<i>\$120-\$140 mil.</i>
Total Benefit	\$138 million	\$240-258 mil.	\$292-\$318 mil.	\$412-\$458 mil.	\$532-\$598 mil.

Notes: HD = Half-Day Pre-K slots; SD = School-Day Length Pre-K slots

- Option 1: Targeted School-Day Pre-K for Low-Income Families by Converting Current Half-Day Programs into School-Day Programs.** Currently, 3,311 low-income four-year olds are served in the County’s general education pre-k programs at a cost of \$23 million a year, yielding \$138 million in benefits. However, 86% are served in half-day programs. If the County converted current half-day pre-k slots into full-day slots for 2,860 children at a cost of \$17 - \$20 million, the return on the County’s pre-k investment would increase by \$102 to \$120 million.
- Option 2: Targeted School-Day Pre-K for Low to Moderate Income Families by Adding School-Day Slots for Families Earning up to 300% of the FPL.** There are about 1,100 four-year-olds in families earning between 185% and 300% of the FPL that do not participate in public pre-k. If the County extended 1,100 school-day pre-k slots to this student group, it would require an additional \$13 to \$15 million beyond the funding required for Option 1, and generate an additional \$52 to \$60 million in benefits.
- Option 3: Universal Half-Day Pre-K for Families Earning Above 300% of the FPL.** Excluding children who receive pre-k special education services, OLO anticipates that there could be another 5,000 four-year olds in higher income families that would enroll in publicly-funded pre-k. If the County extended high-quality half-day pre-k slots to this group, 4,984 additional children could be served in public pre-k programs at a marginal cost of \$30 - \$35 million. The return on the County’s pre-k investment would be \$120 to \$140 million. For families seeking school-day length programs, parent fees would be required to pay the difference between half-day and school-day length programs.

- **Option 4: Universal School-Day Pre-K with 100% Subsidy for All Families.** If the County converted half-day pre-k slots under Option 3 into school-day length programs for families earning above 300% of the FPL, this would cost an additional \$30 - \$35 million annually, generating an additional estimated return of investment of \$120 to \$140 million.

Estimated Total Cost of Universal Pre-K: OLO estimates that the total cost of implementing universal pre-k to serve all interested four year olds in the County (with a coverage rate of 80%) would cost between \$113 - \$128 million annually, or \$90 to \$105 million more than the \$23 million in public funding that is currently spent on the County’s pre-k programs in general education.

APA Consulting also developed estimates of the cost of expanding high-quality pre-k in Montgomery County. They estimate the number of slots needed at each capacity level with a per slot cost of \$11,000. Based on their assumptions, APA finds that funding universal pre-k to serve 80% of the County’s four-year olds would cost \$110.6 million for 10,056 school-day pre-k slots, or an additional \$72 million above what is currently expended on publicly supported pre-k. They also estimate that expending \$111 million on high-quality pre-k for 10,056 four-year-olds would yield \$595 million in benefits as noted in Table 5-5.

Table 5-5: Estimated Cost of Expanding Pre-k in Montgomery County, APA Consulting

	Pre-k Enrollment Target for 4-Year Olds		
	60% Target	70% Target	80% Target
Capacity	7,542	8,799	10,056
Additional Funding Required	\$44.4 million	\$58.2 million	\$72.0 million
Total Pre-k Costs	\$82.9 million	\$96.8 million	\$110.6 million
Benefit	\$466.3 million	\$520.6 million	\$595.0 million

Lessons from Pre-K Programs in Other Jurisdictions

Finding #8: *Leading pre-k jurisdictions typically serve four-year-olds and prioritize serving low- and moderate-income children, even within universal pre-k systems.*

OLO reviewed data on 13 jurisdictions to understand practices for expanding pre-k across the country. Table 5-6 on the next page describes key pre-k access features for these leading jurisdictions: Boston, Denver, New York City, San Antonio, San Francisco, Seattle, District of Columbia, Georgia, Michigan, North Carolina, Oklahoma, Washington State, and West Virginia.

Among the 13 jurisdictions reviewed, ten exclusively served four-year-olds in their pre-k programs. Among the three that also served three-year olds, only one jurisdiction (Washington, DC) offered universal pre-k to this age group. And while access to most pre-k programs was universal to four-year olds, several targeted either core or additional pre-k services to low-income children. For example, while seven jurisdictions offered universal pre-k for any age eligible child and six exclusively enrolled low-income children in their programs. Yet, several of universal jurisdictions provided additional assistance to low-income families. For example, Denver provides larger pre-k tuition credits to low-income families than higher-income families; San Francisco provides additional assistance to low-income families to participate in school-day length pre-k programs.

Table 5-6: Access Features for Other Jurisdictions with Preschool Initiatives

Location	4-Year Olds Served	Targeted/ Universal	Nature of Subsidy and Family Fees
Boston	50%	Universal, not fully funded	100% subsidy for families admitted by lottery. Access limited to those awarded slots via lottery. Estimated cost of \$10,000 - \$15,000 per child in FY 2015
Denver	70%	Universal	Income-based sliding scale tuition credits for all families based on income and preschool quality. 2014-15, average tuition credit was \$303 per month for a full-day program
New York City	70%	Universal	100% subsidy, all families. Estimated cost \$10,050 - \$12,000 per student
San Antonio	6%	Targeted	100% subsidy for income, language, or child welfare eligible children. Estimated cost of \$14,500 per year. Sliding scale tuition to higher income children chosen by lottery
San Francisco	45%	Universal	100% subsidy half-day programs, all families; sliding-scale for school-day programs (although free for low-income families). Estimated reimbursement of \$4,950 to \$6,000 per year
Seattle	4%	Targeted	100% subsidy for 3-year old and 4-year old children with family incomes < 300% of FPL and sliding scale subsidy: up to \$13,000 per child.
District of Columbia	90%	Universal	100% subsidy, all families: \$17,509 per child. 3-year olds also eligible for 100% subsidy
Georgia	59%	Universal	100% subsidy, all families: \$3,880 per child
Michigan	32%	Targeted	100% subsidy, children with family incomes < 250% of FPL; sliding scale for higher income families; \$6,447 per child
North Carolina	22%	Targeted	100% subsidy (families earning up to 75% of median state income i.e. \$51,000 for family of four): \$7,793 per child
Oklahoma	75%	Universal	100% subsidy, all families: \$7,782 per child
Washington State	20%	Targeted	100% subsidy for 3-year old and 4-year old children with family incomes up to 110% of the FPL: \$8,232 per child.
West Virginia	75%	Universal	100% subsidy for 4-year-olds, all families and for 3-year olds with low incomes/disabilities: \$9,898 per child

Among the 13 jurisdictions reviewed, there was also a range in the value of pre-k subsidies to families, ranging from a high of \$17,500 per child per year in Washington, DC for any families with three- and four-year-olds to an average \$3,000 per year preschool tuition credit in Denver for four-year-olds in full-day pre-k. At the middle level, Boston, New York City, and West Virginia offered subsidies valued at \$10,000 - \$12,000 per student per year for any four-year-olds enrolled in their universal pre-k programs.

The share of four-year-olds participating in these 13 pre-k programs also varies widely. Five of the 13 jurisdictions have essentially achieved universal access with four-year old participation rates of 70 percent or above: Washington, D.C., Oklahoma, West Virginia, Denver and New York City. Two of the seven local initiatives however, San Antonio and Seattle, are at best pilot programs covering less than ten percent of the four-year-olds in their jurisdictions. Even at scale, San Antonio’s pre-k program will only offer slots to 15 percent of all four-year-olds there.

Finding #9: Local jurisdictions typically take several years to implement their pre-k expansions.

Another attribute of most of the pre-k programs reviewed for this report is the phased in implementation of expanded pre-k programs. As noted by the Learning Policy Institute, the West Virginia legislature “set realistic timelines for the rollout and expansion of WV Pre-K, allowing ten years in which to achieve full implementation.” Similarly, many of the locally funded pre-K programs reviewed also phased in their expansion of pre-k slots over a number of years to ensure that new slots were of sufficient quality to reap the anticipated benefits of pre-k participation. Table 5-7 describes the phase-in plans for the seven local jurisdictions reviewed in this report.

Table 5-7: Phase-in Plan and Implementation Status for City Preschool Initiatives

Location	Phase-in Plan and Implementation Status
Boston	In 2005, the city of Boston provided 700 free preschool slots. By 2010, 85% of elementary schools has at least one preschool classrooms and 2,000 slots for four-year olds. By 2015, 95% of elementary schools had a preschool classroom with 2,400 slots. Boston cannot expand further due to space and budget limitations.
Denver	No phase in plan. The Denver Preschool Plan was open to all Denver four year-olds at the start of operations. The school-year program was fully implemented with 5,000 children as of 2013. The 2014 increase allowed additional funding to go toward summer programs.
New York City	During the 2014-15 school year, expanded existing slots from half day to school-day, added new school-day length slots, and improved the quality of existing school -day slots. Fully implemented as of the 2015-16 school year.
San Antonio	Started with two city-run centers in 2013-14, added two more in 2014-15, and will add a limited number of public and private providers this year. Full implementation by 2017-18.
San Francisco	Initially targeted low-income and high-need neighborhoods and became citywide in 2008. City funding was meant to phase across a five-year period, but was not fully funded or implemented until 2014. Additional funds from the 2014 renewal and increase of the set aside from the General Fund for preschool and other educational purposes will be phased in across the next few years. Fully implemented as of 2014.
Seattle	Launched during the 2015-16 school year starting with the 14-15 classrooms, expanding to 39 classrooms in 2016-17 and will expand to 70 classrooms in 2017-18, and 100 in 2018-19 to serve 1,615 children in the last year. At that time, the program will be evaluated for renewal.
Washington, D.C.	Three goals of the 2008 Act: expand preschool programs by 2,000 slots, improve the quality of existing programs, and place well-qualified and well-paid teachers in every prekindergarten classroom by FY 2014. Work began in 2008, universal access implemented by 2013-14, and their current focus is on improving quality.

Five of the local jurisdictions implemented their pre-k programs over several years. The two exceptions were Denver and New York City that implemented their pre-k initiatives quickly. New York’s two-year time line for implementing universal pre-k program is especially striking. As noted by NIEER, prior to expansion, 58,000 children attended pre-k in New York City, with only 19,000 children enrolled in school-day length programs. In two years, the City added 53,120 full-day seats so that by 2015-16, 68,647 children were enrolled in full-day pre-k in the City. The expansion required significant investments in new educators, spaces, programming and oversight and extensive outreach to families to encourage enrollment in new programs.

Finding #10: Leading jurisdictions typically rely on budget set-asides or new taxes generated from sales, property, or gaming revenue to fund pre-k expansions.

State and local jurisdictions rely on a variety of funding mechanisms to support their pre-k programs as summarized among the 13 jurisdictions reviewed in Table 5-8.

Table 5-8: Funding Sources for Jurisdictions with Preschool Initiatives

Location	Primary Funding Sources	Secondary Funding Sources
Boston	City set-aside and school district funds, Title I	Race to the Top grant funds, foundation grants, Head Start, TANF vouchers, and other government subsidies
Denver	Sales tax of 0.15%; sliding scale tuition payments	Providers may receive funding from other sources including federal and state subsidies
New York City	State grant to New York City	Local sources, other state grants, and existing federal resources (e.g. Head Start)
San Antonio	Sales tax of 0.125% and sliding scale tuition payments for full-day program	State and local matching funds for a small portion of the children served and local donations,
San Francisco	City set-aside of 0.04%, revenue from state tobacco tax, and sliding scale tuition payments for school-day length programs	First 5 California funds, developer impact fees and CDBG funds for facilities
Seattle	Local property tax levy for preschool and sliding scale tuition payments	Head Start and child care subsidies; State preschool funding
District of Columbia	City set-aside funds and school district funding formula	Head Start, Title I and child care subsidies
Georgia	State lottery revenue	Head Start
Michigan	State school aid	Head Start, Title I and IDEA
North Carolina	State general funds, lottery revenue, local match, and school district aid	Head Start, Title I, TANF, and IDEA
Oklahoma	State public school funding formula	Head Start and IDEA
Washington State	State general funds and lottery revenue	Head Start and IDEA
West Virginia	State public school funding formula	Head Start and IDEA

As noted in the table above, both state and local jurisdictions often pair Head Start, IDEA, TANF, CDBG, and other existing sources of preschool revenue with new revenue sources to expand their preschool programs. Jurisdictions essentially blend and braid these resources to support pre-k programming.

Local jurisdictions often rely on dedicated revenue as primary funding sources for their expanded pre-k programs. Budget set-asides and dedicated revenue from sales and property taxes are the primary approaches used in six of seven local jurisdictions reviewed (Boston, Denver, San Antonio, San Francisco, and Washington, DC). Additionally, four of seven localities also rely on parent fees via sliding scale tuition payments to help fund local pre-k programs (Denver, San Antonio, San Francisco, and Seattle).

State pre-k programs, however, often rely on a combination of lottery revenue and state aid/student formula driven revenue to fund their programs. Three states rely on lottery revenue to partially fund state pre-k programs (Georgia, North Carolina, and Washington State) and five states rely on general state funds or public school funding formulas to fund their pre-k programs (Michigan, North Carolina, Oklahoma, Washington State, and West Virginia).

2. Recommendations for Discussion

Understanding research on pre-k benefits and best practices and the scope of pre-k programs locally and in other jurisdictions can help inform decision-making about whether and how to expand publicly-funded pre-k programs in Montgomery County. Overall, this study finds that the benefits of high-quality pre-k programs far exceed the annual costs of pre-k programs, but that the costs of creating universal pre-k systems are significant.

Per the request of the County Council, this report describes four options for expanding pre-k programs for four-year-olds under Finding #7. The first two options extend school-day length slots to low- and moderate-income families at an annual cost of \$30 to \$35 million. The second two options extend universal pre-k to higher income families for half-day and school-day length programs at an annual cost of \$30 to \$35 million for each option. The estimated cost of proceeding with all four options to develop a system of universal pre-k in school-day length slots for all families is \$90 to \$105 million annually.

Including the approximately \$23 million that is already spent on public pre-k for four-year-olds in the County, creating and sustaining 9,400 high-quality, school-day pre-k slots could cost upwards of \$113 to \$128 million annually, excluding the costs of infrastructure, training, and on-going capacity building. Although the General Assembly is currently revisiting whether the State of Maryland allocates sufficient funding to public schools to support adequacy, it remains unclear whether the state will allocate additional funding for pre-k programming. It also remains unclear whether there will be any changes in federal support to continue current pre-k programs or to expand them.

In Montgomery County, local funding accounts for about \$5 million of the \$23 million currently spent on pre-k in general education. Thus, increasing the local commitment to pre-k to potentially more than \$100 million annually would be a heavy lift. Yet, such an investment could yield nearly \$600 million in long-term benefits from reduced government spending on education and criminal justice, and improved productivity and earnings among pre-k participants as adults.

As the County Council considers approaches for expanding pre-k, OLO recommends that the Council consider lessons learned in other jurisdictions to help refine its approach. Further, OLO recommends that the County Council consider other jurisdictions beyond Washington, DC and New York City that have taken a more measured approach to expanding pre-k.

Other jurisdictions have often focused on expanding access to high-quality pre-k among low- to moderate-income families first before embarking on universal pre-k programs, if at all. These include expanding school-day length programs, teacher training and credentialing, and supporting pay equity between public and private pre-k providers to enhance program quality. Other jurisdictions have also created dedicated revenue streams to fund expanded pre-k programming and taken several years to fully implement their pre-k initiatives. Most have also used a mixed delivery approach, relying on both public and private pre-k providers, to ensure sufficient high-quality pre-k slots to meet local demand.

As the County Council considers expanding high-quality pre-k in Montgomery County, OLO recommends that the Council consider the following sets of questions with key stakeholders to develop a common vision and understanding of how the County should advocate for expanding pre-k. Key stakeholders for these community conversations with the Council should include parents, child-serving agencies, advocates, philanthropists, practitioners, pre-k providers, business leaders, representatives from government, and community leaders.

Question #1 *How interested are current and potential pre-k providers in the idea of expanding pre-k slots in the County to reach more four-year-olds? If there sufficient interest in expanding high-quality programs? School-day length slots?*

APA recommends that Maryland employ a mixed program delivery model for expanding pre-k that relies on public schools, child care centers, and licensed family child care providers to deliver high-quality pre-k programming. Maryland EXCELS, the state’s quality rating and information system, is set up to assess and improve the quality of pre-k placements across the state and locally. Yet, very few child care centers and licensed family child care providers participate in Maryland EXCELS. Moreover, only a small fraction of child care centers and licensed family child care providers score at the highest levels of Maryland EXCELS five tier system across the state and locally.

For the most, other local jurisdictions reviewed have also relied on a cross-section of pre-k providers to expand their pre-k programming. This includes the use of charter schools and community based organizations in New York City, Washington, D.C., and Seattle, and the use of a community hub model in Seattle. Assessing the level of interest locally among early learning providers in expanding pre-k will be critical to developing a feasible strategy for improving both the quality of pre-k slots, and the number of school-day length slots.

Question #2 *What agency and/or organization within the County is best suited to lead and manage the expansion of high-quality pre-k in the County?*

Other jurisdictions have used a range of governance models to implement their preschool initiatives. Some have relied on their state or local school systems, others have relied on departments within state and local government – such as departments for health and human services or for children’s services – and some jurisdictions have created new entities or non-profits to manage the expansion of their preschool initiatives.

Researchers have recognized that there is no “one size fits all” governance model that enables local jurisdictions or states to best expand their pre-k programs. They acknowledge instead that pre-k governance models should play to the strengths of states and community conditions. Given that the research offers little direction in this area, it will be incumbent among the varying stakeholders involved to achieve consensus on which agency and/or group should lead the County’s efforts to expand pre-k.

Question #3 *High-Poverty Neighborhoods or Integration: Should the County focus on expanding high quality pre-k slots in high-poverty neighborhoods for low-income children and/or on promoting socio-economic integration?*

Publicly-funded general education pre-k slots in the County exclusively serve low-income children. This is typical of many jurisdictions because federal and state funding for pre-k typically target low-income children. Targeting publicly-funded pre-k to low-income students aligns with research regarding the extraordinary benefits of high-quality pre-k on such students. Recent research, however, demonstrates a favorable impact of high-quality pre-k programs on non-poor children as well as a favorable impact of socio-economic diversity among pre-k programs for all students. As the County considers the tension between expanding pre-k programs for low-income children and promoting economic diversity within pre-k programs, it might want to consider pursuing both ends by expanding pre-k programs in high-poverty neighborhoods and making some slots available to higher income students via lottery.

Question #4 *New Taxes v. Set-asides: What dedicated funding sources should the County pursue to expand pre-k programming?*

For the past decade, state and local efforts to expand pre-k have emphasized the need for new revenue sources to fund pre-k programs. While Maryland significantly increased state aid to local school systems under the Bridge to Excellence Act, it did not create a dedicated revenue source to fund state mandated pre-k programs for low-income students. Given the significant costs associated with implementing high-quality pre-k programs, stakeholders agree that expanding pre-k requires a dedicated source of revenue.

Most jurisdictions have either relied on new taxes on sales, property, or gaming or set-asides of existing tax revenue to fund their pre-k initiatives. Either approach requires convincing the public that the benefits of pre-k warrant new taxes or directing existing funding from other competing government functions. Given the high price tag for expanding pre-k programs, a new tax sources would probably be the most feasible approach to creating a dedicated revenue source for pre-k. Parent fees to help offset the costs of expanding high-quality pre-k programs among middle- and upper-income children are another financing approach to consider.

Question #5 *Focused Advocacy or Broad Public Education Campaign: Should the County support a public education campaign focused exclusively on promoting pre-k or more broadly on support for expanding children’s services?*

High-quality pre-k programs are one of many investments that governments can make to improve child outcomes and school readiness. Home visiting programs and high quality child care for children between the ages of 0 and 3 can improve school readiness and there are other child serving programs such as extended care and youth development programs that can improve other outcomes for children.

Given the breadth of under-funded programs that can favorably impact children, some jurisdictions (e.g. Miami Dade) have pursued public funding for pre-k within the context of generating additional resources for children services. Yet the experiences of some jurisdictions (e.g. Denver) suggest that efforts to seek new public funding for multiple child-serving efforts are less effective than focused advocacy for expanding pre-k alone.

From AIR’s examination of other preschool initiatives, they found that efforts to raise taxes to support a preschool initiative often require the development of a public education campaign. Montgomery County may need to consider the type of public education campaign required to secure the public’s support for new taxes or a budget set-aside for pre-k. Given the experiences of other jurisdictions, the County may also need to seek the support of philanthropy to financially support a public education campaign aimed at increasing public support for pre-k.

Chapter 6. Agency Comments

The Office of Legislative Oversight shared final drafts of this report with Montgomery County Government and Montgomery County Public Schools for technical comment. OLO appreciates the time taken by County Government and MCPS staff to review the draft report and to provide technical feedback. This final report incorporates technical corrections and feedback received by MCG and MCPS personnel.

Written comments from the MCPS Chief Academic Officer, Dr. Maria Navarro, are attached. Comments from the Chief Administrative Officer will be posted online with this report and will be included in the packet for the Council's review of the report.



MONTGOMERY COUNTY PUBLIC SCHOOLS

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MARYLAND

February 9, 2017

Dr. Elaine Bonner-Tompkins, Senior Legislative Analyst
Montgomery County Office of Legislative Oversight
Stella B. Werner Office Building
100 Maryland Avenue
Rockville, Maryland 20850



Dear Dr. Bonner-Tompkins:

Thank you for providing Montgomery County Public Schools (MCPS) with the opportunity to review and provide comments on the draft Office of Legislative Oversight (OLO) report, Pre-K in Montgomery County and in Other Jurisdictions.

Staff report recommendations are the following:

The Division of Title I and Early Childhood Programs and Services has rewritten the following comments from page 12:

MCPS ensures compliance with the *Individuals with Disabilities Education Act* by providing a continuum of free and appropriate special education and related services for students with educational disabilities, ages 3 to kindergarten. Special education and related services are provided based on each student's individual goals and objectives, including specialized instruction, speech/language therapy, occupational and physical therapies, vision services, and services for preschool children who are deaf or hearing impaired.

Examples of preschool special education classes include:

- The Preschool Education Program which serves 1,384 students with educational disabilities and developmental delays in settings including community preschools and child care centers, general education classrooms, and self-contained classes.
- Prekindergarten language classes serve 162 students with expressive and receptive language delays, in a half-day class for two or five days per week.
- The Comprehensive Autism Preschool Program serves 93 preschool students with autism spectrum disorders in a six-hour program, including applied behavioral analysis.
- Disability-specific services include a preschool vision class, a preschool class for students who are deaf or hearing-impaired, and a class for students with significant physical disabilities.
- Itinerant services are provided by special educators and related service providers in MCPS elementary schools, including in prekindergarten and Head Start classes, and community child care centers.

Infants and Toddlers from the top of page 13:

- The Department of Health and Human Services (DHHS) in Montgomery County is the lead agency for the Montgomery County Infants and Toddlers Program (MCITP). MCITP provides

Office of the Chief Academic Officer

early intervention services to children with disabilities from birth to age 3, or the start of the school year following the child's fourth birthday on an Extended Individualized Family Services Plan. MCPS staff members provide services in an adult/caregiver coaching model, including special instruction, speech/language therapy, and occupational and physical therapies.

General education requests the following changes:

State Funded Prekindergarten Programs (Page 10)

Please add the following language to paragraph 3:

MCPS also received a Preschool Expansion grant in the amount of \$734,400 to serve 100 students in full-day prekindergarten in five elementary schools: Bel Pre, JoAnn Leleck at Broad Acres, Clopper Mill, Washington Grove, and Weller Road. The families whose children participate must have incomes between 185% and 200% of the Federal Poverty Level (FPL) (referenced in Table 3-5 but not in the narrative).

After Table 3-1, please change FY 17 to FY 16 in the phrase "For FY 16, the County is budgeted to:" and remove the word "is" so that the phrase reads, "For FY 16, the County budgeted to:"

Page 11 Changes:

- Please change 2,985 children to 2,183 children in half-day programs; 648 children in Head Start programs; and 100 children in the full-day federal Prekindergarten Expansion classes in the five schools referenced above.
- Please add this information as an additional bullet: The Head Start program in Montgomery County is one program. There are both full-day and part-day classes. MCPS is the delegate for the Head Start program. The part-day classes are funded with a 0.6 full-time equivalent teacher and assistant by the Head Start grant or local funds (match), and Title I pays the balance to make the program full day.
- Please add the words "an average cost" after the word "Spend" and change the amount \$5,351 to read \$5,368. In addition, please change \$8,000 to \$8,939.
- Please change the statement "Table 3-2 provides an overview of Head Start and Title I" to read "Table 3-2 provides an overview of Head Start."
- The table title should read: Table 3-2 Head Start Program Overview
- The Administrative Agencies for both rows should be the same, stating "Montgomery County DHHS Community Action Agency (CAA)."

- The Source of Funds for both rows should be the same, stating “Local and Federal funds distributed to local grantees.”
- The Federal Eligibility Requirements in the row for Full-Day Head Start in Title I Schools should read “Available to families whose children qualify for Head Start.”
- The Local Providers for both rows should be the same, stating “MCPS is the delegate agency for Head Start in Montgomery County.”

Page 12 Changes:

- Bullet number three at the top should read “Budgets \$7.0 million in FY 16 with \$5.0 million in federal and \$2.0 million in local dollars.”
- Bullet number four at the top should read “Budgets \$8,900 per student for half-day and \$12,900 per student for full-day programs.”

Page 15 Changes:

Table 3-5: Summary of Publicly Supported Programs for Pre-K Aged Children, FY16

- In addition, the table indicates that the Annual Budget for Head Start is \$2,546,000. This is incorrect. The actual total is closer to \$4 million and is distributed among MCPS, DHHS, and CAA.
- The Annual Budget for State Pre-K is listed as \$11,681,000; however, it should read \$11,718,344. The Costs/Student cell should be \$5,368.
- In the table, the 4-Year-Old Slots for Head Start is listed as 246; however, the actual number is 588. This number reflects 340 children in full-day classes and 248 children in part-day classes. There are an additional 60 slots for 3-year-olds. The Total Slots is listed as 308, but this is actually 648. The Annual Budget cell for Head Start should read \$5,767,200.
- Although all of the public prekindergarten classes are part-day, with the exception of the federal Prekindergarten Expansion program, a move to make the classes full day would necessitate a decrease in enrollment by half.
- Head Start/Title I Preschool Annual Budget is listed as \$4,378,000; however, the actual amount is \$4,386,000. The Costs/Student should read \$12,900.
- State Pre-K/Title I Preschool Eligibility Requirements should read “185% to 200% FPL, Title I school, & four-year old”.

- State Pre-K/Title I Preschool Annual Budget should be changed to \$734,400, and Costs/Student should be changed to \$7,344.

Finding 6 – School Readiness Data Reveals an Achievement Gap by Pre-K Experience and Prior Care (Page 50)

In the MCPS prekindergarten programs, 100 percent of the children are income eligible for Free and Reduced-price Meals System (FARMS), and the majority of the children are English language learners. In private prekindergarten, unfortunately, there is no way to determine whether the students qualify for FARMS or are English language learners. Additionally, the majority of the MCPS prekindergarten programs are part-day. Research has shown that a longer school day is particularly beneficial to low-income children. The children in private prekindergarten, generally, have a longer day than our MCPS prekindergarten programs. Therefore, at this time, it is not possible to make a fair comparison because there are too many unknown variables.

Recognizing that the Kindergarten Readiness Assessment is a newly designed and administered assessment (two years of administration and also revised in that two-year period), MCPS acknowledges the results and will continue to focus efforts on utilizing a variety of strategies for increasing the number of students demonstrating full readiness for kindergarten. The professional development focus is designed to strengthen teacher skills in preparing children to be successful in kindergarten and beyond. The emphasis for the last two years has been on improving instruction to support social emotional development, literacy, mathematics, and science skills in young children, as well as improving teacher/student interactions. In addition, early childhood instructional specialists conduct monthly visits to classrooms to provide job-embedded staff development and coaching for teachers. Further, the MCPS prekindergarten programs work collaboratively with parents to enhance their abilities to foster and support their children’s school readiness skills.

Thank you again for providing an opportunity to review and provide comments on the draft OLO report on prekindergarten in Montgomery County. We look forward to continuing our conversation on the benefits of high quality prekindergarten programs for young children in Montgomery County.

Sincerely,



Maria V. Navarro, Ed.D.
Chief Academic Officer

MVN:mj

Copy to:

Mr. Leggett

Mr. Rice

Members of the Board of Education

Executive Staff

Dr. D. Collins

Mrs. Hazel

Mr. Ikheloa