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Resources and Staffing among MCPS Schools

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Executive Summary of OLO Report Number 2015-15 September 22, 2015

Summary: The achievement gap by student income in Montgomery County raises questions about whether the school system provides sufficient resources to schools to narrow the achievement gap. The County Council tasked the Office of Legislative Oversight to investigate whether MCPS allocates more staffing and resources to its highest poverty schools aimed at narrowing the achievement gap.

OLO's review of the data found that MCPS allocates more staffing to its highest poverty schools yielding lower class sizes and higher personnel costs per student in high-FARMS schools. The difference in per student compensation costs between high- and low-FARMS schools, however, is dampened by three trends: higher teacher salaries in low-FARMS schools, the allocation of a third of state revenue for compensatory education programs to non-compensatory education programs, and the allocation of less than a third of the total compensatory education budget to secondary schools.

These findings suggest that MCPS could provide additional resources to its high-poverty schools and its high-FARMS secondary schools in particular to help narrow the achievement gap. OLO recommends the County Council discuss three issues with the Board of Education and MCPS leadership during worksession.

Revenue and Programs for Special Needs Students

MCPS receives state and federal aid for its ESOL, special education, and compensatory education programs based on its enrollment of English language learners, students with disabilities, and students receiving free and reduced priced meals. MCPS also receives state and federal aid for preschool programs. MCPS expended less than it received in state and federal aid for compensatory education in FY15, but expended more revenue than it received on preschool, ESOL, and special education programs.

Revenue and Costs for MCPS Preschool, Compensatory Education, ESOL, and Special Education Programs, FY15 (in millions)

Program/Population	Revenue and Costs	2014-15
Early Childhood Education/Head Start	State & Federal Revenue	$4.2
	Program Costs	$17.3
	Difference (Revenue - Costs)	**($13.1)**
Compensatory Education/Free and Reduced Prices Meals (FARMS)	State & Federal Revenue	$151.0
	Program Costs	$90.8
	Difference (Revenue - Costs)	**$60.2**
ESOL/Limited English Proficiency	State & Federal Revenue	$59.0
	Program Costs	$63.8
	Difference (Revenue - Costs)	**($4.8)**
Special Education / Students with Disabilities	State & Federal Revenue	$80.8
	Program Costs	$376.5
	Difference (Revenue - Costs)	**($295.5)**

In FY15, MCPS added nearly $5 million in local funds to its ESOL program budget and nearly $300 million in local funds to its special education program budget. MCPS also used $13 million in state compensatory aid to fund preschool programs for low-income students. Conversely, MCPS yielded a $47 million surplus in state compensatory aid that was allocated to MCPS' operating budget rather than used to fund additional compensatory education programs that served low-income students.

Demographics across High- and Low-FARMS Schools

In FY15, the half of MCPS schools with the highest FARMS rates enrolled 78% of all low-income students and 74% of all English language learners. On average, poverty rates were 3-4 times higher in high-FARMS v. low-FARMS schools; and ESOL rates were 2-3 times higher in high-FARMS schools. Thus, the need for ESOL and compensatory education programs varies among MCPS schools.

Key Demographics by School Type, FY15			
Data on…	**All Schools**	**High-FARMS**	**Low-FARMS**
Average FARMS Rate			
Elementary Schools	**39%**	62%	15%
Middle Schools	**35%**	53%	17%
High Schools	**29%**	43%	14%
Average ESOL Rate			
Elementary Schools	**23%**	33%	11%
Middle Schools	**9%**	14%	5%
High Schools	**8%**	11%	4%

Staff Allocations across High- and Low-FARMS Schools

OLO reviewed data on several staffing indicators to consider whether MCPS allocated more staffing resources to high-FARMS schools. These indicators included average class sizes, teacher salaries, and teacher costs per student. OLO found that MCPS allocated more staff to its high-FARMS schools, yielding smaller class sizes in these schools, particularly at the elementary school level, as well as lower student-to-staff ratios. Yet, OLO also found that more experienced and expensive teachers were allocated to low-FARMS schools and there was higher teacher turnover in high-FARMS schools.

Overall, with the additional staffing assigned to high-FARMS schools, MCPS expended more on teacher compensation per student in high-FARMS schools, yielding per student compensation costs that were:

- 21% higher in high-FARMS v. low-FARMS elementary schools;
- 3% higher in high-FARMS v. low-FARMS middle schools; and
- 7% higher in high-FARMS v. low-FARMS high schools.

Anticipated Differences in Per Student Costs across High- and Low-FARMS Schools

When comparing differences in teacher salaries and student demographics between high- and low-FARMS schools, the 3-21% difference in per student compensation costs is less than anticipated, at least for secondary schools. In particular, the per student compensation gap would have ranged from:

- 10-25% if average salaries among high- and low-FARMS schools were equal;
- 10-16% if the ESOL and compensatory education program budgets were allocated to all schools based on their ESOL and FARMS enrollments; and
- 14-19% if the federal and state revenue MCPS received based on its ESOL and FARMS enrollments had been allocated to schools based on their ESOL and FARMS enrollments.

Moreover, the anticipated gaps in per student compensation between high- and low-FARMS schools would have been even wider if MCPS (a) targeted its budget for compensatory education programs solely to high-FARMS schools or (b) allocated all of its compensatory education aid to high-FARMS schools.

Recommended Discussion Issues

Given this project's findings and the persistent achievement gap by student income within MCPS, OLO recommends that the County Council consider the following three issues for discussion with the Board of Education and MCPS leadership during worksession:

1. **Allocation of all state aid for compensatory education to schools based on their FARMS enrollment**. In FY15, $47 million generated in state aid by MCPS based on its FARMS enrollment was allocated to non-compensatory programs. Under state law, MCPS has the discretion to allocate its state compensatory education aid to its operating budget without restrictions. Yet, given the persistent achievement gap, there may be merit to explicitly allocating all state compensatory education funds to programs aimed at improving the performance of low-income students.

2. **Allocation of additional compensatory education aid to secondary schools based on their FARMS enrollment**. MCPS invests the vast majority of its compensatory education funds into programs at the elementary school level. These include Title I programs, class size reduction teachers, and preschool programs. In FY15, 735 of 1,011 combined preschool and compensatory education positions were allocated to elementary schools. Yet, the achievement gap by income persists and often widens across the grade span. Thus, there may be some merit to allocating more compensatory education funds to secondary schools and high-FARMS ones in particular.

3. **Student-based budgeting.** MCPS uses a school-based budgeting process to allocate staff to schools based on student enrollment, schools' grade spans, desired class sizes, and special programs. Some school systems take a more differentiated approach that is student- rather than school-based. These systems attempt to allocate resources to schools based on the needs, or weights, of their students so that students eligible for ESOL, FARMS, and special education are allocated more funds per student than students who are ineligible for these programs. There may be some merit to using this approach to ensure that high-FARMS schools have sufficient resources to meet the needs of the diverse learners and struggling students disproportionately enrolled on their campuses.

For a complete copy of OLO-Report 2015-15, go to:
http://www.montgomerycountymd.gov/olo/reports/2008.html

Office of Legislative Report 2015-15

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I. Authority

Council Resolution 17-1266, Amendments for FY 2015 Work Program for the Office of Legislative Oversight, adopted November 25, 2014.

A. Scope, Purpose, and Methodology

The achievement gap between low-income students and their more affluent peers in Montgomery County[1] has raised questions about whether Montgomery County Public Schools (MCPS) provides enough resources to its high-poverty schools to meet the school system's academic goals.

MCPS utilizes a school-based budgeting process via its K-12 Budget Staffing Guidelines to assign staff to its 202 campuses. The vast majority of staff are allocated to schools based on the total number of students enrolled and the grade levels served. MCPS also allocates funding for additional staffing and programming to deliver additional services to students with disabilities, English language learners, and students enrolled in high-poverty schools. For example, MCPS allocates additional staff to high-poverty elementary schools to reduce class sizes in grades K-2. Unlike some school systems, however, MCPS generally does not use a student based budgeting approach to provide additional funding to schools based on the differentiated needs of their student enrollments.[2]

Research on narrowing the achievement gap suggests that integrating schools, equalizing funding, reducing class sizes, enhancing teacher quality, and improving the curriculum and use of instructional interventions may help narrow the gap.[3] Research also shows that schools that tend to fall on the wrong side of the achievement gap (high-poverty schools) often have fewer resources to address the impact of poverty on achievement, including more inexperienced teachers and higher staff turnover. Federal research also shows that within school districts, per pupil expenditures are often higher among low-poverty schools compared to high-poverty schools because of the unequal distribution of base local funding across schools.[4]

The purpose of this OLO report is to improve the County Council's understanding and oversight of how MCPS funds its schools to help narrow the achievement gap. Toward this end, this report describes school funding and allocation patterns within MCPS and trends in resources and staffing among schools.

More specifically, this report compares differences in class size, staff tenure, per pupil expenditures and teacher salary costs between MCPS' schools with the highest rates of free and reduced priced meals (FARMS) and those with the lowest FARMS rates. This report also compares *actual* differences in resources between high- and low-poverty schools with *anticipated* differences in school resources based on schools' ESOL and FARMS enrollments and the additional state and federal revenue that MCPS receives and budgets for ESOL and compensatory education programs that serve these two student subgroups.

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[1] See prior OLO reports at http://www.montgomerycountymd.gov/OLO/Resources/Files/OLO%20Report%202014-7%20Final.pdf and http://www.montgomerycountymd.gov/olo/resources/files/oloreport2013-4.pdf

[2] Student-based budgeting is also known as weighted per pupil funding.

[3] See description of the Opportunity Gap and references to Barton and Coley (2009) and Darling-Hammond (2010) in OLO Report 2013-4 at http://www.montgomerycountymd.gov/olo/resources/files/oloreport2013-4.pdf

[4] http://www2.ed.gov/rschstat/eval/title-i/school-level-expenditures/school-level-expenditures.pdf

Overall, OLO finds that low-FARMS schools employ more experienced and expensive teachers than their high-FARMS peers[5] but MCPS allocates additional staff to high-FARMS schools. In turn, average class sizes are smaller in high-FARMS schools, particularly at the elementary level, and the ratio of students to staff are also lower in high-FARMS schools. Consequentially, MCPS expends more on staff compensation per student in high-FARMS schools compared to low-FARMS schools, ranging from a difference of 2% to 21% depending on the school level.

Yet, the actual difference in per student costs between high- and low-FARMS schools in FY15 is less than what is anticipated given the high concentration of English learners and low-income students among MCPS' high-FARMS schools and the additional state and federal aid that MCPS receives based on its FARMS and ESOL enrollment. Had MCPS allocated all of its compensatory education aid to schools based on their FARMS enrollment, the gap in per student compensation costs between high- and low-FARMS schools would have ranged from 14% to 19%. And if MCPS had allocated these resources exclusively to high-FARMS schools, the gap would have ranged from 18% to 37%.

B. Organization of Report

- **Section II, Overview on School Funding and Allocations,** describes the revenue that MCPS receives to address the differentiated needs of its students, how MCPS allocates its funding to schools, and the use of per pupil weights/student based budgeting among some other jurisdictions to meet the extra learning needs of students in need of compensatory education, ESOL programs, and special education.

- **Section III, Overview of MCPS School Demographics and Resource Indicators,** describes how OLO classified MCPS schools as high and low-FARMS schools and key differences in the student demographics between both types of schools.

- **Section IV, Review of Five Indicators of MCPS Staffing,** describes differences in the allocation of MCPS staff resources across five measures: number of general education professionals, teacher experience and turnover, administrator experience, class sizes, and teacher salary costs.

- **Section V, Comparing Differences in Compensation per Student to Anticipated Costs,** compares *actual* differences in resources between high- and low-poverty schools with *anticipated* differences in school resources based on equal average teacher salaries in low- and high-poverty schools, the cost of ESOL and compensatory education programs, and the additional federal and state revenue that MCPS receives for ESOL and FARMS enrollment.

- **Section VI, Summary of Key Findings and Recommended Issues for Discussion**, presents the report's seven key findings and offers three recommended issues for discussion for the County Council with the Board of Education and the staff leadership of MCPS.

- **Section VII, Agency Comments,** includes a summary of MCPS' concerns with the report and a written response from the Interim Superintendent on MCPS on the report.

[5] Data compiled by the U.S. Department of Education's Educator Equity Profiles demonstrates a similar trend of the highest poverty quartile and highest minority quartile schools employing more inexperienced teachers and lower averages teacher salaries than their lowest poverty quartiles and lowest minority quartile school peers. See 2011-12 data on Maryland at http://www2.ed.gov/programs/titleiparta/equitable/mdeep.pdf.

II. Overview on School Funding and Allocations

School systems rely on local, state, and federal revenue to fund their administrative and school based functions. Most school systems, like MCPS, do not have the ability to raise revenue on their own and rely on allocations from local jurisdictions to fund schools. Local revenue for schools is raised through a blend of local property taxes and income taxes. Local school systems also rely on state and federal revenue to help fund educational services, particularly for low-income students and students in need of ESOL and special education services.

For MCPS, the state revenue it receives is authorized by the Bridge to Excellence Act of 2002, also referred to as Thornton.[6] Bridge to Excellence established a state school aid formula to enable schools to have the resources necessary to provide each child with "an adequate and equitable education." Unlike the categorical funding formulas that it replaced, Bridge to Excellence extends broad flexibility to local school systems for determining how to use state funds to meet the needs of students. Bridge to Excellence, however, also provides supplemental revenue to school systems for:

- Compensatory education programs that meet the needs of low-income students,
- ESOL programs for English language learners, and
- Special education programs for students with disabilities.

More specifically, Bridge to Excellence provides state aid to local school systems in two main ways:[7]

- Foundation Program. Each Maryland school system receives a basic per pupil funding amount, which is adjusted by an inflation factor each year. The per pupil amount—which was $6,860 in fiscal year 2015—is then adjusted for every local jurisdiction depending on its property value and income level to ensure an equitable funding system where counties with less wealth (and therefore less ability to cover educational costs) receive a greater share of state aid. The foundation amount not only provides each system with a basic level of funding, but is also used to determine how much supplemental funding is allocated from the other Thornton programs.

- At-Risk Programs. Local school systems also receive supplemental aid for every child who needs additional resources via three programs:

    - *Compensatory Programs* that provide extra support for low-income students. For every FARMS student, school systems receive an amount equal to 97% of their per pupil foundation.
    - *Limited English Proficiency Programs* that deliver ESOL services. For every student who is learning English as a second language, school systems receive an amount equal to 99% of their per pupil foundation.
    - *Special Education Programs* for students with disabilities. For every student receiving special education services, school systems receive an amount equal to 74% of their per pupil foundation.

[6] This section summarized from two sources: Maryland State Department of Education's Bridge to Excellence Fact Sheet 63 (January 2012) assessable at http://www.marylandpublicschools.org/NR/rdonlyres/841ABD3D-FC95-47AB-BB74-BD3C85A1EFB8/31364/FS_63_2012_.pdf; and Maryland State Education Association's "What is Thornton Funding Formula, available at http://www.marylandeducators.org/thornton-plan.

[7] See http://www.marylandeducators.org/thornton-plan.

Funding for local school systems for each of these supplemental aid programs are also adjusted by several other factors (e.g. state share of Compensatory Education funding and per pupil wealth) to calculate the state supplemental funding to districts for each program.[8]

The Bridge to Excellence funding formula is emblematic of how federal and state aid are typically targeted to local school systems in that they reflect two common concerns:[9]

- The limited ability of local jurisdictions with low tax bases to raise sufficient revenue to deliver adequate educational services; and
- The need for compensatory education, ESOL, and/or special education services to help low-income students, English language learners, and students with disabilities (i.e. students with special needs) achieve success in schools.

Thus, federal and state aid generally focuses on narrowing the achievement gap as school systems enrolling more students with disabilities, English language learners, and students eligible for FARMS receive more federal and state aid than school systems enrolling fewer students with special needs.

State and Federal Revenue Targeting the Achievement Gap: As noted in Table 1, federal and state aid to MCPS for preschool, compensatory education, ESOL, and special education programs totaled $295 million in FY15, up 13 percent from $257 million in FY11.

Table 1: State and Federal Revenue for MCPS Preschool, Compensatory Education, ESOL, and Special Education Programs (in millions)

Program/Population	Revenue	2010-11	2012-13	2014-15
Early Childhood Education/Head Start	State	$0.5	$0.6	$0.6
	Federal	$3.4	$3.6	$3.6
	Subtotal	***$3.9***	***$4.2***	***$4.2***
Compensatory Education/FARMS	State	$94.3	$115.2	$128.6
	Federal	$23.6	$21.0	$22.4
	Subtotal	***$117.9***	***$136.2***	***$151.0***
ESOL/Limited English Proficiency	State	$43.8	$55.1	$55.6
	Federal	$3.3	$3.8	$3.4
	Subtotal	***$47.1***	***$58.9***	***$59.0***
Special Education / Students with Disabilities	State	$44.0	$49.9	$51.2
	Federal	$44.5	$30.0	$29.6
	Subtotal	***$88.5***	***$79.9***	***$80.8***
All Special Programs	**Total**	**$257.4**	**$279.2**	**$295.0**

**Actual revenue data for FY11 and FY13 and budgeted revenue data for FY15*
Source: OLO analysis of MCPS data from Annual Operating Budgets

[8] Communication with MCPS staff, August 14, 2015. Additionally, MDSE provides local funding to support early childhood education programs in high-poverty/Title I schools under its Judy Centers grants.
[9] This is similar to how the Center for American Progress frames the goals of state aid in The Stealth Inequities in School Funding (https://cdn.americanprogress.org/wp-content/uploads/2012/09/StealthInequities.pdf)

Of note, more than half of these funds in FY13 and FY15 were based on MCPS' enrollment of low-income students (i.e. students eligible for FARMS). And of the $619 million in state aid that MCPS received in FY15, nearly a third was in supplemental funding for at-risk programs/special needs subgroups.

Table 2 compares enrollment among MCPS student service programs to the state and federal revenue it receives based on at-risk populations to consider differences in per student revenue generated by students' subgroups. If MCPS allocated the additional state and federal resources it receives due to its low-income, ESOL, and special education enrollment to programs for at-risk students then MCPS would have budgeted about $1,500 per low-income preschool student, $2,900 per FARMS student for compensatory education, another $2,900 per English language learner for ESOL programs, and $5,000 per student with disabilities for special education programs in FY15.[10]

Table 2: State and Federal Revenue per Compensatory Education, ESOL, and Special Education Student*

Program/Population	Indicators	2010-11	2012-13	2014-15
Early Childhood Education/Head Start	Revenue (in millions)	$3.9	$4.2	$4.2
	Enrollment	2,583	2,607	2,773
	Revenue per Student	**$1,510**	**$1,611**	**$1,515**
Compensatory Education/FARMS	Revenue (in millions)	$117.8	$136.2	$151.0
	Enrollment	43,140	48,140	52,681
	Revenue per Student	**$2,735**	**$2,829**	**$2,866**
ESOL/Limited English Proficiency	Revenue (in millions)	$47.1	$58.9	$59.0
	Enrollment	19,107	19,540	20,300
	Revenue per Student	**$2,465**	**$3,014**	**$2,906**
Special Education / Students with Disabilities	Revenue (in millions)	$88.5	$79.9	$80.8
	Enrollment	15,598	15,805	16,059
	Revenue per Student	**$5,674**	**$5,055**	**$5,031**

**Actual revenue data for FY 11 and FY13 and budgeted revenue data for FY15*
Source: OLO analysis of MCPS budget data from Annual Operating Budgets and enrollment data provided by MCPS staff/referenced in Annual Operating Budgets.

So, what did MCPS expend on average per student for preschool, compensatory education, ESOL, and special education programs? To answer this question, OLO relied on MCPS FY15 data to calculate per student costs for preschool, ESOL and special education as follows:

- *Program Costs for Prekindergarten and Head Start Programs*[11] are referenced from the FY15 MCPS Program Budget which includes program costs with employee benefits.
- *Program Costs for ESOL Programs* in elementary, middle, and high schools are referenced from the FY15 MCPS Program Budget and multiplied by a factor of 22% (1.22) to estimate the cost of employee salaries and benefits.

[10] These amounts would have been over and above what MCPS expends for each student subgroup on core instructional programs (i.e. general education costs).
[11] Preschool programs are considered in this report because general education pre-K exclusively serves low-income children and MCPS allocates part of its state compensatory education aid to fund these programs as noted on page 7.

- *Program Costs for Special Education Programs* are calculated as the total cost of expenditures under State Budget Category 6 within the FY15 MCPS Operating Budget, and also multiplied by a factor of 22% (1.22) to reflect the combined cost of employee salaries and benefits.

Understanding and identifying MCPS' FY15 compensatory education costs, however, was not as straightforward as using MCPS' budget documents to describe ESOL, special education, or preschool costs. MCPS' budget documents only describe the federally funded Title I program as its compensatory education programs although it targets a number of additional supports to low-income students and/or high-poverty schools aimed at narrowing the achievement gap by student income that are described in Table 3 on the next page. A description of how MCPS uses its state compensatory education formula funding and how OLO identified MCPS compensatory education programs for inclusion in this report follows.

Use of State Compensatory Education Formula Funds: Unlike federal compensatory education funding (Title I), state compensatory education funding is unrestricted in Maryland. Thus, Maryland school systems do not have to use these funds exclusively for low-income students or schools enrolling high percentages of students eligible for FARMS. Instead, each Maryland school system has the discretion to use these funds broadly as long as they submit annual master plans to the state indicating how every student subgroup will demonstrate improved progress.[12]

The persistent achievement gap by student income within Montgomery County suggests that MCPS would allocate that additional state funding it receives based on its FARMS enrollment to compensatory education programs that seek to improve the performance of low-income students. This presumption holds for ESOL and special education: MCPS adds local dollars to its budgets for ESOL and special education programs to supplement the state and federal resources that it receives based on its enrollment of English language learners and students with disabilities. This presumption of adding local funds to state and federal aid to meet the needs of low-income students, however, does not hold for compensatory education programs in MCPS.

Rather than budget for compensatory education programs based on the additional federal and state revenue it receives for its FARMS students and their learning needs, MCPS adds its state funds for compensatory education funding to its overall general revenue fund to support the MCPS operating budget as a whole. While some state compensatory funds are reallocated out to schools as "local dollars" to support programs that target low-income students, a sizable share of these funds are used for non-compensatory education purposes that serve FARMS and non-FARMS students.

Identifying Local Compensatory Education Programs: Although Maryland does not require school systems to allocate their state compensatory education funding exclusively to programs that serve low-income students or schools, MCPS indeed provides local compensatory education programs and services to students and schools impacted by poverty to help narrow the achievement gap by income. These programs explicitly allocate positions and resources to schools based on their FARMS enrollment to deliver services to students and schools that are beyond what is available to all under the core instructional curriculum. These programs are listed on the next page in Table 3.

[12] See Bridge to Excellence Act Fact Sheet 63 http://www.marylandpublicschools.org/NR/rdonlyres/841ABD3D-FC95-47AB-BB74-BD3C85A1EFB8/31364/FS_63_2012_.pdf.

Of note, many of the programs listed in Table 3 do not exclusively serve low-income students or schools. For example, struggling learners in any secondary school may benefit from an Alternative I Program class although more Alternative Teachers are allocated to high-poverty campuses. Overall, Table 3 includes programs that allocate a large share or their total share of their positions to schools based on their FARMS enrollment. OLO, however, excluded programs recommended by MCPS staff that were assessed as supports being available to all students with demonstrated needs (e.g. Alternative II and III programs) and/or that inconsistently allocated additional staffing to schools based on their FARMS enrollment (e.g. Vocational/Career Support/Preparation teachers).[13, 14]

Table 3: MCPS Compensatory Education Supports for Students and Schools, 2014-15

Positions or programs allocated to schools or providing support to schools based on FARMS rate:	**Total FTE's**	**Elem. FTE's**	**Budget** (in millions)
Class Size Reduction Teachers	293.0	293.0	$27.4
Focus Teachers	239.8	169.8	$21.0
Title I Staff (School and Central office positions)	74.9	61.3	$12.9
Academic Intervention Teachers	97.1	47.7	$9.5
Special Program Teachers	66.0	14.8	$7.8
Alternative Program Teachers	76.4	-	$7.6
Middle School Extended Year	1.0	-	$1.8
Other Programs*	14.8	-	$2.7
Total	**862.8**	**586.4**	**$90.8**

**Includes Career Lattice, Linkages to Learning, Intervention School Network, Read 180, Excel Beyond the Bell, George B. Thomas Academy, ACES, and AVID*

Table 3 shows that about $91 million was allocated to compensatory education programs in FY15 and about two-thirds of the positions allocated to schools based on their FARMS rate were allocated to elementary schools.[15]

Table 4 on the next page compares MCPS' costs for preschool, compensatory education, ESOL, and special education programs to the supplemental state and federal revenue that MCPS receives based on its preschool, FARMS, ESOL, and special education enrollments. It shows that for three special needs programs – preschool, ESOL, and special education – MCPS expended more on these budgets than it received in federal and state revenue for these programs. In particular, the cost of preschool programs exceeded revenue by $13 million, the cost of ESOL programs exceeded revenue by nearly $5 million, and the cost of special education programs exceeded federal and state revenue for these programs by nearly $300 million. Yet, for compensatory education, state and federal revenue for these programs exceeded the budget for compensatory education by $61 million.

[13] Other programs recommended for inclusion in Table 3 that were excluded by OLO include High School Intervention, Interim School Services, Summer School, Minority Achievement Program Extracurricular Funds, HSA Bridge Program, Language Assistance, ESOL Teachers Coaching, Equity Unit, the Office of Community Engagement and Partnerships, Elementary Counselors for Coordinated Services Support, and Social Workers.
[14] See Enclosure A of http://www.montgomeryschoolsmd.org/uploadedFiles/Letter-to-Councilmember-Branson-5.1.14.pdf for a description of allocations of Career Support and Career Preparation teachers among high schools.
[15] When considering the additional 148.3 preschool FTE's that were supported by state compensatory education aid in FY15 at a cost of $13.1 million, then nearly three-quarters (72.7%) of all compensatory education positions are allocated to elementary schools.

Table 4: State and Federal Revenue and Costs for MCPS Preschool, Compensatory Education, ESOL, and Special Education Programs (in millions)

Program/Population	Revenue and Costs	2014-15
Early Childhood Education/Head Start	State & Federal Revenue	$4.2
	Program Costs	$17.3
	Difference (Revenue - Costs)	**($13.1)**
Compensatory Education/FARMS	State & Federal Revenue	$151.0
	Program Costs	$90.8
	Difference (Revenue - Costs)	**$60.2**
ESOL/Limited English Proficiency	State & Federal Revenue	$59.0
	Program Costs	$63.8
	Difference (Revenue - Costs)	**($4.8)**
Special Education / Students with Disabilities	State & Federal Revenue	$80.8
	Program Costs	$376.5
	Difference (Revenue - Costs)	**($295.5)**

Sources: OLO analysis of MCPS data from MCPS Staff and FY15 Program Budget

If program costs exceed the state and federal revenue for these programs, MCPS generally makes up the difference with local funds. In the case of program costs for preschool exceeding state and federal revenue for preschool by $13.1 million in FY15, MCPS shored up this gap between program costs and revenue with state aid for compensatory education since public preschool programs serve low-income children in Maryland.

So, in total, MCPS expended $104 million of the $151 million it received in state compensatory education aid on preschool and compensatory education programs. In turn, the remaining $47 million in state compensatory education aid was allocated to the MCPS operating budget for non-compensatory education programs. The gap between program revenue and budgeting for compensatory education, however, begs the question of whether MCPS targets sufficient resources to narrow the achievement gap by student income.

Whereas the school system has added local revenue to the state and federal revenue it receives for ESOL programs and expended four to five times more than the state and federal funding it receives for special education programs, MCPS spends only two-thirds of the state and federal revenue it receives on compensatory education programs for such programs.

Another way to consider whether MCPS budgets sufficient resources to compensatory education is to compare differences in per student costs for preschool, compensatory education, ESOL, and special education programs to the federal and state revenue that MCPS receives per student for these programs. Table 5 on the next page compares program revenue to program costs for each of these special needs programs.

Table 5: Program Revenue and Costs per Preschool, Compensatory Education, ESOL, and Special Education Student

Program/Population	Per Student Indicators	2014-15
Early Childhood Education/Head Start	State and Federal Revenue	$1,515
	Program Costs (Title I)	$6,239
	Difference (Revenue - Costs)	**($4,724)**
Compensatory Education/FARMS	State and Federal Revenue	$2,866
	Program Costs (Title I)	$1,724
	Difference (Revenue - Costs)	**$1,142**
ESOL/Limited English Proficiency	State and Federal Revenue	$2,906
	Program Costs	$3,143
	Difference (Revenue - Costs)	**($237)**
Special Education/Students with Disabilities	State and Federal Revenue	$5,031
	Program Costs	$23,445
	Difference (Revenue - Costs)	**($18,414)**
Note: Table 2 enrollment data used to generate these estimates		

Table 5 shows that MCPS budgeted about $1,700 per FARMS student for compensatory education in FY15 compared to receiving nearly $2,900 per FARMS student state and federal revenue. As already noted, MCPS diverts some of its state compensatory education revenue to close the $4,700 per student gap between preschool revenue and program costs. Conversely, MCPS budgeted $3,100 per English language learner for ESOL programs, adding $200 per student to the $2,900 per student generated in federal and state revenue for ESOL programs; and budgeted $23,000 per student with disabilities for special education programs, adding more than $18,000 per student in local funds to the $5,000 per student it received in state and federal aid to offset the costs of its special education programs.

Student-Based Budgeting in Other Jurisdictions: To ensure that students with special needs receive the supports they need to achieve desired outcomes, some school systems have adopted student-based budgeting approaches. Also known as weighted per pupil spending formulas, student-based budgeting increase funding allocations to schools based on their students' needs. Rather than uniformly fund schools based on recommended student-to-staff ratios, student-based budgeting allocates staffing and other resources to schools based on the differentiated needs of students.

Under student-based budgeting, funds per student are weighted per the needs of students. Students eligible for FARMS, special education, and ESOL services typically receive greater weights – funding allocations – than their peers who are ineligible for these at-risk programs. Through this approach, the "dollars follow the student" and schools enrolling students with greater weights receive more resources per student than schools enrolling fewer "high weight" students. Other determinants of student weights can include grade level and academic need. Chart 1 on the next page provides an example of how weights could be used to allocate funding to a high-poverty elementary school.

Chart 1: Hypothetical Student-Based Budgeting for Adams Elementary
(Total Enrollment = 275 Students)

Categories		Enrollment	Weight	Per Pupil Rate	Budget Allocation
Grade	**PreK**	48	1.80	$6,585	$316,080
	K	46	1.60	$5,853	$269,238
	1-2	93	1.40	$5.121	$476,253
	3-5	88	1.30	$4,755	$476,253
Poverty & Limited English Proficiency	**# of FARMS students**	243	0.10	$366	$418,440
	# of FARMS Above District Average	23	0.10	$366	$88,938
	# English language learners	153	0.05	$183	$8,418
Students with Disabilities	**Low Severity**	19	1.00	$3,658	$27,999
	Moderate Severity	10	1.40	$5,121	$69,502
	High Severity	21	4.30	$15,730	$51,210
School Foundation					$200,000
Total					**$2,254,408**

Source: Education Week Webinar, "Weighted Student Funding: The Boston Experience"

Several school systems across the country are utilizing a student-based budgeting/weighted student funding approach to tackle the achievement gap by providing additional funding to schools serving low-income students and English language learners. These include Baltimore, Boston, Cincinnati, Denver, New York City, Rochester (NY), Prince George's County, and Washington, DC.[16] Although MCPS targets additional staff to its highest poverty elementary schools, MCPS does not use an explicit weighted student funding formula to allocate resources among schools.

[16] Education Week Webinar, "Weighted Student Funding: The Boston Experience," December 2010

III. Overview of MCPS School Demographics and Resource Indicators

As previously noted, MCPS utilized the K-12 Budget Staffing Guidelines to allocate positions to schools. Most positions are allocated based on standard ratios of staff to student enrollment or to school buildings. MCPS, however, also allocates additional instructional staff to elementary schools, and to a lesser extent, among secondary schools, that have highest enrollments of students eligible for FARMS. These include additional positions to lower class sizes in grades K-2 among the highest poverty elementary schools and positions to lower class sizes in 9th grade English courses among the highest poverty high schools.

The central question that OLO seeks to address in this report is whether MCPS' allocation of staffing and resources for general education among its schools varies by the poverty level of schools' students.[17] To address this, OLO undertook several steps to classify MCPS' individual schools as having high or low levels of poverty and to identify resource measures that reflect the school system's expenditures for instruction and other school-based resources.

This section describes the methodology used by OLO to classify MCPS schools as either high or low poverty campuses based on their rates of students receiving free and reduced priced meals (FARMS). High poverty schools are described as high-FARMS schools and low poverty schools are described as low-FARMS schools. This section also summarizes data describing differences in the school poverty and ESOL rates between high- and low-FARMS schools within MCPS.

A. Classifying MCPS Schools as High and Low-FARMS Schools

OLO assigned MCPS schools by grade span to high- and low-FARMS categories based on the percentages of students at each school that received FARMS between the 2010-11 and 2014-15 school years. Eligibility for FARMS depends on household size and income. Students residing within a family of four with an annual income of approximately $44,000 or lower (185% of the federal poverty level) were eligible for FARMS in the 2014-15 school year. Therefore, a higher percentage of students receiving FARMS – a higher FARMS rate – indicates a higher level of poverty, and vice versa.

To assign schools to categories, OLO sorted MCPS' comprehensive campuses for each grade span (elementary, middle and high) by their FARMS rates and then divided schools into two equal-sized groups (low-FARMS and high-FARMS) for each of the five years. OLO then placed each school into a final high- or low-FARMS category depending on which group the school was in for the majority of the five years. Appendix A displays data on each group of schools across the three grade spans, including the number of campuses, student enrollment, percentages of students receiving FARMS, and the lowest and highest per-school FARMS rates for 2010-11 and 2014-15. Appendix A also displays lists of schools in each FARMS category for each school level.

[17] As noted in Appendix A, the variation in poverty (FARMS) levels among MCPS schools is wide, ranging from less than 1% to more than 95% at the elementary level in FY15. Since student poverty and concentrated poverty in particular, can diminish student achievement in high-poverty schools, while socio-economic integration tends to benefit low-income and high-income students alike, school systems would need to significantly increase funding for high-poverty schools to offset the negative impact of concentrated poverty on student achievement. Socio-economically integrating schools so that each school mirrored the districts; overall FARMS (and ESOL rates) would be another way for schools to counter the negative impacts of concentrated poverty on student achievement.

Of note, only schools that operated during the full five-year period from 2010-11 to 2014-15 were included, and OLO did not examine special schools or alternative programs, which have significantly different resource requirements compared with comprehensive MCPS schools. Additionally, since this report's goal is to describe differences in the allocation of resources for general education, to the extent practicable, this report excludes enrollment for students who receive special education services outside of a regular classroom for more than 21% of the day (i.e. students in LRE B and C settings).

B. Demographics among MCPS Schools

Table 6 summarizes key demographic differences between high- and low-FARMS schools by level.

Table 6: Key Demographics by School Type, 2010-11 and 2014-15

Data on…	Year	All Schools	High-FARMS	Low-FARMS
Number of Schools				
Elementary Schools	**2011** **2015**	**131** **131**	66 66	65 65
Middle Schools	**2011** **2015**	**38** **38**	19 19	19 19
High Schools	**2011** **2015**	**25** **25**	13 13	12 12
Average FARMS Rate				
Elementary Schools	**2011** **2015**	**35%** **39%**	58% 62%	12% 15%
Middle Schools	**2011** **2015**	**32%** **35%**	48% 53%	15% 17%
High Schools	**2011** **2015**	**25%** **29%**	37% 43%	12% 14%
Average ESOL Rate				
Elementary Schools	**2011** **2015**	**24%** **23%**	37% 33%	12% 11%
Middle Schools	**2011** **2015**	**5%** **9%**	7% 14%	3% 5%
High Schools	**2011** **2015**	**5%** **8%**	7% 11%	3% 4%

Key demographic findings from Table 6 include the following:

- Elementary Schools - A little more than half of MCPS' 131 elementary schools can be classified as high-FARMS schools where 58% of students were eligible for free and reduced priced meals in 2010-11 compared to 62% in 2014-15. MCPS low-FARMS elementary schools had an average FARMS rate of 12% in 2010-11 compared to 15% in 2014-15. During this time frame, ESOL enrollment was also higher in the high-FARMS elementary schools, accounting for 33-37% of total enrollment compared to 10-11% of enrollment among low-FARMS schools.

- Middle Schools - Half of MCPS' 38 middle schools can be classified as high-FARMS schools where 32% of students were eligible for free and reduced priced meals in 2010-11 compared to 35% in 2014-15. MCPS' low-FARMS middle schools had an average FARMS rate of 15% in 2010-11 that rose slightly to 16% in 2014-15. ESOL students' share of enrollment among high-FARMS middle schools doubled, increasing from 7% to 14%. For low-FARMS middle schools, ESOL students share of enrollment also increased, but at a slower rate, from 3% to 5%.

- High Schools - A little more than half of MCPS' 25 comprehensive high schools can be classified as high-FARMS schools where 37% of students were eligible for free and reduced priced meals in 2010-11 compared to 43% in 2014-15. MCPS low-FARMS high schools had an average FARMS rate of 12% in 2010-11 that rose slightly to 14% in 2014-15. ESOL students share of enrollment among high-FARMS high schools increased from 7% to 11% of student enrollment. For low-FARMS high schools, ESOL students share of enrollment also increased, but at a slower rate, from 3% to 4% of overall enrollment.

A review of the demographics between MCPS' high- and low-FARMS schools also demonstrates the concentrated need for compensatory education and ESOL programs among schools. As noted in Table 7 below, the half of MCPS campuses with the highest FARMS rates enrolled 78% of the school systems' students eligible for FARMS and 74% of all English language learners in FY15. High-need students were especially concentrated among MCPS' high-poverty elementary schools that enrolled four out of five of all low-income elementary students and three out of four ESOL elementary students within MCPS.

Table 7: Shares of MCPS Students Enrolled in High- and Low-FARMS Schools, 2014-15*

Data on …		**High-FARMS**	**Low-FARMS**
Elementary Schools (131 campuses)	**All Students**	**51%**	**49%**
	-FARMS	81%	19%
	-ESOL	75%	25%
Middle Schools (38 campuses)	**All Students**	**44%**	**56%**
	-FARMS	72%	28%
	-ESOL	69%	31%
High Schools (25 campuses)	**All Students**	**49%**	**51%**
	-FARMS	74%	26%
	-ESOL	72%	28%
All Comprehensive Schools (194 campuses)	**All Students**	**49%**	**51%**
	-FARMS	78%	22%
	-ESOL	74%	26%
** Enrollment excludes students in LRE B and C Settings*			

IV. Review of Five Indicators of MCPS Staffing

Federal and state resources are targeted to schools serving students who are low-income and English language learners. Holding all other factors equal, MCPS schools serving more students receiving FARMS and English for Speakers of Other Languages (ESOL) should receive more resources than their peers. The goal of this report is to test this hypothesis by comparing the allocation of staffing among high- and low-poverty schools across five sets of measures:

- **General education professionals** that describe by school type the number of MCEA professionals (e.g. teachers) and SEIU paraeducators delivering general education services;
- **Teacher experience and turnover** that describe by school type the percentage of teachers (a) with low, medium, and high levels of experience and (b) that leave schools annually;
- **Administrator experience** that describes by school type the percentage of principals with less than or more than five years of experience at their current school;
- **Average class sizes** that describes by school type the average class size for core academic classes; and
- **Teacher salary costs** that describe by school type average teacher salaries by full-time equivalent (FTE) position and also by student.

A. General Education Professionals

Research Question 1: Does MCPS allocate more general education staff to high-poverty schools to address the higher costs associated with educating low-income students?

MCPS targets more general education staff to high-FARMS elementary schools yielding four fewer students per general education professional than low-FARMS elementary schools and twice as many general education paraeducators per student. High-FARMS middle and high schools also employ more general education professionals and paraeducators than their low-FARMS peers, but the difference in magnitude is smaller – less than two fewer students per general education professional.

This section presents 2010-11 and 2014-15 data on two measures to consider differences in general education staffing among low-poverty and high-poverty MCPS schools by grade span.

- **Number of students per MCEA professional** compare the number of certificated staff in each school to their total student enrollment. Certificated staff include teachers and counselors, but excludes special education teachers and related services personnel so that this measure can track changes in general education staffing.
- **Number of students per SEIU Paraeducator** compare the number of paraprofessionals in each school that deliver general education and ESOL supports and services to their total student enrollment. Paraprofessionals that deliver special education and related services are excluded from this measure.

Given this report's focus on general education resources, OLO's analysis excludes special education schools and students with disabilities served in restrictive placements (LRE B and C placements). OLO's analysis also excludes pre-K students from its measures based on student enrollment.

Table 8 describes the ratios of MCPS students per general education professional and paraeducator. This data is presented for all comprehensive elementary schools and by dividing these schools into two cohorts – high-FARMS schools and low-FARMS schools.

Students per MCEA Professional Findings:

- Among elementary schools, high-FARMS schools had 4.1 fewer students per MCEA professional than low-FARMS schools in 2010-11 and 2014-15;
- Among middle schools, high-FARMS schools had 1.5 to 1.6 fewer students per MCEA professional than low-FARMS schools in 2010-11 and 2014-15; and
- Among high schools, high-FARMS schools had 1.7 and 1.6 fewer students per MCEA professional than low-FARMS schools in 2010-11 and 2014-15.

Students per SEIU Paraeducator Findings:

- Among elementary schools, high-FARMS schools had 121 and 119 fewer students per SEIU paraeducator than low-FARMS schools in 2010-11 and 2014-15;
- Among middle schools, high-FARMS schools had 126 and 77 fewer students per SEIU paraeducator than low-FARMS schools in 2010-11 and 2014-15; and
- Among high schools, high-FARMS schools had 37 and 25 fewer students per MCEA professional than low-FARMS schools in 2010-11 and 2014-15.

Table 8: Students per General Education Professionals by School Type, 2010-11 and 2014-15

Data on…	Year	All Schools	High-FARMS	Low-FARMS	Gap (H-L)
Students per MCEA Professional					
Elementary Schools	**2011** **2015**	**14.1** **14.3**	12.3 12.6	16.4 16.7	-4.1 -4.1
Middle Schools	**2011** **2015**	**15.3** **15.1**	14.5 14.2	16.0 15.8	-1.5 -1.6
High Schools	**2011** **2015**	**16.9** **16.7**	16.1 15.9	17.8 17.5	-1.7 -1.6
Students per SEIU Paraeducator					
Elementary Schools	**2011** **2015**	**149** **152**	110 114	231 233	-121 -119
Middle Schools	**2011** **2015**	**435** **485**	374 445	500 522	-126 -77
High Schools	**2011** **2015**	**201** **229**	184 217	221 242	-37 -25

Discussion: The higher level of staffing in MCPS' high-FARMS elementary schools likely reflects two school system priorities:

- The targeting of federal Title I and state resources to MCPS' highest poverty elementary schools for class size reduction so that grade K-2 classes on average have 18 students per teacher compared to 22 students per teacher in non-CSR schools.

- The targeting of federal Title III, state, and local resources to meet the needs of English language learners whose enrollment is concentrated among MCPS' high-FARMS schools. As noted in Table 6, ESOL students account for a third of enrollment among these schools compared to about 10% of enrollment among MCPS' low-FARMS elementary schools. Moreover, as noted in Table 7, three-quarters of all ESOL students in grades K-5 were enrolled in MCPS' high-FARMS elementary schools.

The slightly higher general education staffing levels among MCPS' high-FARMS secondary schools may also reflect the increasing allocation of "focus teachers" among the school system's high-poverty high schools and their higher concentrations of English language learners as well. Yet, the relatively small difference in general education staff allocations at the secondary level compared to elementary schools also reflects the relative absence of targeted resources at this level to accelerate the achievement of low-income students.

B. Teacher Experience and Turnover

Research Question 2: Are MCPS' most experienced teachers more likely to work in low-FARMS schools and is teacher turnover higher among high-FARMS schools?

At the middle school level, and to a lesser extent at the elementary level, a greater share of the least experienced teachers are concentrated among the high-FARMS schools and a greater share of the most experienced teachers are concentrated among the low-FARMS schools. Teacher turnover is also higher among the high-FARMS middle schools compared to the low-FARMS middle schools. Among MCPS high schools, however, there is no remarkable difference in teacher experience or turnover between MCPS' high and low-FARMS schools. The difference in teacher turnover between MCPS' high and low-FARMS elementary schools was fairly small as well.

This section presents 2010-11 and 2013-14 data on two measures to consider differences in teacher experience and turnover among low-poverty and high-poverty MCPS schools by grade span.

- **Teacher Experience** compares the percentage of school teaching staff that have low experience (less than five years), medium experience (between five and 14.9 years), and high experience (15 years or more).
- **Teacher Turnover** is the number of retirements, resignations and other separations as a percentage of all K-12 teachers and other MCEA professional staff at a school, including special education teachers. OLO was not able to exclude special education teachers from this measure and turnover data was not available for the 2014-15 school year.

Table 9 on the next page describes the percentages of teachers in MCPS' comprehensive schools by grade span that have less than five years of experience (low experience), those that have five to 14.9 years of experience (medium experience), and those with 15 years or more of experience (high experience). Table 9 also describes annual rates of teacher turnover among schools by school poverty level.

Table 9: Teacher Experience and Annual Turnover by School Type, 2010-11 and 2014-15

Data on…	Year	All Schools	High-FARMS	Low-FARMS	Gap (H-L)
Low Experience (Less than 5 years)					
Elementary Schools	**2011** **2015**	**16.8%** **21.6%**	18.8% 24.0%	14.3% 18.3%	4.5% 5.7%
Middle Schools	**2011** **2015**	**14.7%** **18.3%**	17.6% 23.6%	12.1% 13.6%	5.5% 10.0%
High Schools	**2011** **2015**	**12.0%** **13.8%**	12.6% 15.8%	11.4% 11.5%	1.2% 4.3%
Medium Experience (5 to 14.9 years)					
Elementary Schools	**2011** **2015**	**45.5%** **38.5%**	46.0% 38.7%	44.9% 38.3%	1.1% 0.4%
Middle Schools	**2011** **2015**	**46.8%** **39.9%**	47.7% 39.7%	46.1% 40.0%	1.6% -0.3%
High Schools	**2011** **2015**	**47.5%** **40.5%**	46.7% 40.1%	48.4% 41.0%	-1.7% -1.0%
High Experience (15 years or more)					
Elementary Schools	**2011** **2015**	**37.6%** **39.9%**	35.1% 37.3%	40.8% 43.4%	-5.7% -6.1%
Middle Schools	**2011** **2015**	**38.5%** **41.9%**	34.7% 36.8%	41.9% 46.4%	-7.2% -9.6%
High Schools	**2011** **2015**	**40.5%** **45.7%**	40.7% 44.0%	40.2% 47.5%	-0.5% -3.5%
Annual Turnover Rate					
Elementary Schools	**2011** **2014**	**16.3%** **16.3%**	16.2% 17.2%	16.3% 15.1%	-0.1% 2.1%
Middle Schools	**2011** **2014**	**16.5%** **17.5%**	21.3% 20.5%	12.3% 14.8%	9.0% 5.7%
High Schools	**2011** **2014**	**12.0%** **11.5%**	13.7% 12.1%	10.2% 10.8%	3.5% 1.3%

Teacher Experience Findings:

- Middle schools had the largest gap in teacher experience where nearly a quarter of teachers in high-FARMS middle schools had less than five years of experience compared 14% of teachers in low-FARMS middle schools in 2015.
- Elementary schools had the next largest gap in teacher experience where nearly a quarter of teachers in high-FARMS elementary schools had less than five years of experience compared to 18% of teachers in low-FARMS elementary schools in 2015.

- High schools had a negligible gap in teacher experience where 16% of teachers in high-FARMS elementary schools had less than five years of experience compared to 12% of teachers in low-FARMS high schools in 2015.

Teacher Turnover Findings:

- High and low-FARMS elementary schools had similar teacher turnover rates in 2010-11 and 2014-15 (ranging from 15.1-17.2%);
- High-FARMS middle schools had higher teacher turnover rates than low-FARMS middle schools (21% v. 12-15%) in 2010-11 and 2014-15; and
- High and low-FARMS high schools had similar teacher turnover rates in 2010-11 and 2014-15 (ranging from 10-14%).

Discussion: The higher level of teacher experience among low-FARMS schools may reflect contract rules that enable teachers with more tenure to select their teaching assignments. Research suggests that all things being equal, teachers prefer to teach in low-FARMS rather than high-FARMS schools.[18] This preference seems particularly apparent at the middle school level where the gap in teacher experience and turnover between low and high-FARMS schools is high. Conversely, the relative parity in teacher experience and turnover between low and high-FARMS high schools suggest that the teaching workforce at the high school level is stable across the school system.

C. Administrator Experience

Research Question 3: Are MCPS' most experienced administrators, in terms of current service at their school, more likely to work in low-FARMS schools?

At the elementary and high school levels, a greater share of principals at low-FARMS schools had five or more years of experience at their current campus than principals from high-FARMS schools. Yet, for MCPS schools overall, most principals have less than five years of experience on their campus across grade spans and FARMS levels ranging from a high of 77% of principals in low-FARMS middle schools to a low of 56% of principals in low-FARMS elementary schools.

This section presents 2010-11 and 2014-15 data on administrators' experience by describing the shares of school principals and assistant principals who have less than five years of experience in their current school compared to those with more than five years of experience (low v. high experience). This measure excludes administrator experience at alternative and special education schools.

Table 10 on the next page describes data on administrator experience at their current school for all comprehensive MCPS campuses by school level and by school type: high-FARMS schools and low-FARMS schools.

[18] See Spatig-Amerikaner, A. Unequal education: Federal Loophole Enables Lower Spending on Students of Color, Center for American Progress – August 2012

Administrator Experience Findings:

- High-FARMS elementary schools had more principals with less than five years of experience at their campus in 2015 than low-FARMS elementary schools (73% v. 56%). However, in 2011, there was no difference in administrator experience between high and low-FARMS elementary schools.
- High-FARMS middle schools increased their administrators' experience levels between 2011 and 2015 but there was no change in administrator experience levels among low-FARMS middle schools during this time frame.
- Three- quarters of administrators in high-FARMS high schools had less than five years of experience at their campus compared to two-third of their peers in low-FARMS high schools in both 2011 and 2015.

Discussion: The administrator experience data suggests that principal turnover overall is fairly high across all school levels and types with only a quarter to a third of principals having five or more years of experience at their current campus. The vast majority of MCPS principals have less than five years of experience on their current campus.

Table 10: Administrator Experience at Current School by School Type, 2010-11 and 2014-15

Data on…	Year	All Schools	High-FARMS	Low-FARMS	Gap (H-L)
Less than 5 years of Experience at Current School					
Elementary Schools	**2011** **2015**	**68.0%** **65.0%**	67.9% 72.5%	68.1% 56.0%	-0.2% 16.5%
Middle Schools	**2011** **2015**	**79.2%** **75.4%**	82.1% 73.7%	76.6% 76.9%	5.5% -3.2%
High Schools	**2011** **2015**	**71.7%** **70.9%**	76.3% 75.0%	66.7% 66.7%	9.6% 8.3%
More than 5 years of Experience at Current School					
Elementary Schools	**2011** **2015**	**32.0%** **35.0%**	32.1% 27.5%	31.9% 44.0%	0.2% -16.5%
Middle Schools	**2011** **2015**	**20.8%** **24.6%**	17.9% 26.3%	23.4% 23.1%	-5.5% 3.2%
High Schools	**2011** **2015**	**28.3%** **29.1%**	23.7% 25.0%	33.3% 33.3%	-9.6% -8.3%

D. Average Class Sizes

Research Question 4: Are average class sizes in high-FARMS schools lower than average class sizes in low-FARMS schools?

At the elementary level and to a lesser extent at the high school levels, average class sizes are lower in high-FARMS schools than in low-FARMS schools. The targeting of resources for class size reduction in Grades K- 2 among high poverty elementary schools likely accounts for the difference in average class sizes between high and low-FARMS elementary schools.

This section presents 2011-12 and 2014-15 data on average class sizes among homerooms at the elementary level and among core academic courses at the secondary level. Average class size refers to the average number of students per section in elementary homerooms and core secondary cores in English, mathematics, science, and social sciences. Of note, middle and high school class data were not available for the 2010-11 school year and average class sizes among special education schools are excluded from this measure.

Table 11 describes data on average class sizes for all comprehensive MCPS schools by grade span and by school type – high-FARMS schools and low-FARMS schools.

Average Class Size Findings:

- Among elementary schools, average class sizes were roughly four students smaller in high-FARMS schools compared to low-FARMS schools in 2010-11 and 2014-15;
- Among middle schools, average class sizes were one student higher in high-FARMS schools compared to low-FARMS schools in 2010-11, but in 2014-15 average class sizes were 1.3 students lower in high-FARMS schools than in low-FARMS schools; and
- Among high schools, average class sizes were just under 2 students smaller in high-FARMS schools compared to low-FARMS schools in 2010-11 and 2014-15.

Table 11: Average Class Sizes by School Type, 2010-11 and 2014-15

Data on…	Year	All Schools	High-FARMS	Low-FARMS	Gap (H-L)
Average Class Size					
Elementary Schools	**2011**	**21.5**	19.7	23.5	-3.8
	2015	**20.6**	18.9	22.9	-4.0
Middle Schools	**2012**	**25.1**	25.7	24.7	1.0
	2015	**26.0**	25.7	26.3	-0.5
High Schools	**2012**	**26.5**	25.7	27.2	-1.6
	2015	**26.2**	25.3	27.1	-1.8

Discussion: The higher level of staffing in MCPS' high-FARMS elementary and high schools likely reflects the same two MCPS priorities that shape the ratio of students to MCEA professionals discussed on page 6: the targeting of federal and state resources to reduce their Grade K-2 class sizes to 18 students per teacher in MCPS' highest poverty elementary schools; and the provision of ESOL services to English language learners disproportionately enrolled in MCPS' high-FARMS schools.

Both high-poverty middle schools and high schools have also received additional focus teacher allocations in recent years, which may also help to explain changes in the differences in average class sizes between high-FARMS and low-FARMS secondary schools from FY12 to FY15.

E. Salary Costs

Research Question 5: Are salary costs higher in high-FARMS schools or lower than salary costs in low-FARMS schools?

Average salaries, as reflected by salaries per FTE, are higher in low-FARMS schools because, as already noted, professional staff in low-FARMS schools generally have more experience than their peers in high-FARMS schools. However, the higher allocation of staff to high-FARMS schools results in higher overall salary costs per student in high-FARMS schools vs. low-FARMS schools, particularly at the elementary level. And although average salaries per high school professional are higher than for middle and elementary school FTE's, MCPS expends more salary dollars per elementary student than at the middle or high school levels.

This section presents the following two sets of data to consider differences in salary allocations between high- and low-FARMS schools in 2010-11 and 2014-15.

- **MCEA Salaries per FTE –** using MCPS school-level compensation data, this measure is calculated as the ratio of the sum of the salaries for K-12 teachers, counselors, content specialists, literacy coaches, and media specialists to the sum of full-time equivalents (FTE) for these positions.
- **MCEA Salary Costs Per Student –** using MCPS school-level compensation data, this measure is calculated as the ratio of the sum of the salaries of K-12 teachers, counselors, content specialists, literacy coaches, and media specialists to the number of students from MCPS enrollment data.

Both measures rely on MCPS school-level compensation data and enrollment data. Given this report's focus on general education costs, salary and FTE data for special education professionals are excluded from these measures, but students with disabilities who receive special education services outside of a regular classroom for under 21% of the day are included.

Table 12 on the next page describes data on salary per FTE and salary costs per student. This data is presented for all comprehensive campuses by school level and by dividing these schools into two cohorts – high-FARMS schools and low-FARMS schools.

Table 12: MCEA Salary Costs by School Type, 2010-11 and 2014-15

Data on…	Year	All Schools	High-FARMS	Low-FARMS	Gap (H-L)
MCEA Salaries per FTE					
Elementary Schools	**2011** **2015**	**$74,366** **$73,799**	$73,139 $72,180	$75,963 $76,039	-$2,824 -$3,856
Middle Schools	**2011** **2015**	**$76,950** **$76,383**	$74,982 $73,113	$78,666 $79,278	-$3,684 -$6,165
High Schools	**2011** **2015**	**$77,580** **$78,396**	$77,118 $77,339	$78,066 $79,521	-$948 -$2,182
MCEA Salary Costs per Student					
Elementary Schools	**2011** **2015**	**$5,397** **$5,251**	$6,082 $5,847	$4,729 $4,631	$1,353 $1,216
Middle Schools	**2011** **2015**	**$5,090** **$5,097**	$5,223 $5,158	$4,984 $5,048	$239 $110
High Schools	**2011** **2015**	**$4,613** **$4,748**	$4,819 $4,925	$4,418 $4,579	$401 $346

Salaries per FTE Findings:

- At the elementary level, low-FARMS schools had higher salaries per FTE than high-FARMS schools. The salary gap was almost $3,000 per FTE in 2010-11; the salary gap increased to almost $4,000 per FTE in 2014-15.
- At the middle school level, low-FARMS schools also had higher salaries per FTE than high-FARMS schools. The 2010-11 salary gap of nearly $4,000 per FTE increased to over $6,000 per FTE in 2014-15.
- At the high school level, the low-FARMS schools had higher salaries per FTE than high-FARMS schools, but the magnitude of the difference was not as stark as the difference in elementary and middle schools. The salary gap was shy of $1,000 per FTE in 2010-11 and a little more than $2,000 per FTE in 2014-15.

Salary Costs per Student Findings:

- At the elementary level, high-FARMS schools had higher salary costs per student than low-FARMS schools. The per student salary gap was $1,350 in 2010-11 and diminished slightly to $1,200 in 2014-15.
- At the middle school level, high-FARMS schools also had higher salary costs per student than low-FARMS schools, but the magnitude of the difference was considerably less. The per student salary gap was $239 in 2010-11 and only $110 in 2014-15.
- At the high school level, high-FARMS schools also had higher salary costs per student than low-FARMS peers. The per student salary gap was $400 in 2010-11 and $350 in 2015-16.

Discussion: Although salary costs per professional are higher in low-FARMS schools, salary costs per student are higher in high-FARMS schools where MCPS allocates additional staff to help offset the impacts of poverty and English language acquisition on student performance among schools with high concentrations of students receiving FARMS and ESOL services.

The higher salary costs per MCEA professional in low-FARMS schools is probably indicative of higher levels of teaching experience in these schools and lower staff turnover compared to high-poverty schools. The difference in salary costs per FTE by school type also suggests that low-FARMS schools serve as destination points for MCEA staff with longer tenure from high-FARMS schools. Thus, while it is clear that MCPS expends more resources per student in high-FARMS schools and among elementary schools in particular, it's unclear whether the investments in additional staff at the high-FARMS schools offsets the benefits of the additional experience evident among MCEA members in low-FARMS schools.

To better match resources to student need to narrow the achievement gap, there are two approaches that MCPS could undertake. First, MCPS could assign more experienced staff to high-poverty schools. As noted in Table 8, the most experienced teachers are over-represented among the lowest poverty schools. For example, in FY15, 43% of teachers in low-poverty elementary schools had 15 or more years of experience v. 37% in high-poverty schools. Assigning more experienced (and highly compensated) teachers to high-poverty schools would target additional resources to the schools that disproportionately enroll low-income students.

A second approach would be to assign more low-income students to low-poverty schools to enable more FARMS and ESOL eligible students to reap the benefits of experienced personnel and the enriched learning environments that characterize lower poverty schools.[19] Assigning more FARMS and ESOL eligible students to the low-FARMS schools would in effect target additional resources to MCPS' ESOL and FARMS students that could help address the persistent achievement gaps by student income and English language proficiency.

[19] See May 12, 2014 presentation by Richard Kahlenberg to Montgomery County Civic Federation noting the benefits of socio-economic integration via academically engaged students and involved parents in low-FARMS schools on student achievement.

V. Comparing Differences in Compensation Costs per Student to Anticipated Costs

As noted in Section IV, MCPS expended more on professional salaries per student enrolled in high-poverty schools, and elementary schools in particular, than for professional salaries per student enrolled in low-poverty schools. This section is presented in three sections to compare actual differences in compensation costs per student to anticipated cost per student in three ways:

- Teacher and other MCEA average salaries (and tenures) are equal between high- and low-poverty schools.
- The costs and positions for implementing ESOL and compensatory education programs are allocated to MCPS schools based on their enrollment of ESOL and FARMS students.
- The state and federal revenue that MCPS receives based on its ESOL and FARMS enrollment are allocated to MCPS schools based on their ESOL and FARMS enrollment.

OLO's review of FY15 data suggests that the actual differences in MCEA compensation costs between high- and low-poverty schools is less than anticipated for at least three reasons: the gap in teacher salaries and tenure between high- and low-poverty schools, MCPS directs few additional compensatory education resources to high-poverty secondary schools, and MCPS spends less than the FARMS generated revenue it receives on school-based programs and services for low-income students (e.g. compensatory education programs).[20]

If MCPS closed the salary gap among professional staff in high- and low-poverty schools (e.g. raised salaries or re-assigned experienced staff to high-poverty schools), compensation costs would have been 10-25% higher per student in high-poverty schools compared to being only 3-21% higher in FY15. And if MCPS had targeted all of the additional state revenue it receives based on its FARMS enrollment on compensatory education to schools that serve low-income students, per student compensation costs would have been 18-37% higher among students in high-poverty schools.

A. Anticipated Compensation Costs per Student if Average Salaries were Equal

As noted in Table 12, MCEA salaries on average were $2,200 to $6,200 higher per FTE in low-FARMS schools in FY15 compared to their peers in high-FARMS schools. If the total cost of MCEA staff compensation – salaries plus benefits[21]– were considered, then MCEA compensation costs on average were $2,700 to $7,500 higher per FTE in FY15 in low-FARMS schools compared to high-FARMS schools. Table 13 on the next page describes the variance in average compensation costs per MCEA professional by school level between high- and low-FARMS schools.

[20] Another reason for a smaller than anticipated gap in per student expenditures between high- and low-FARMS schools are the budget cuts that preceded the FY15 MCPS Operating Budget. As noted in OLO Report 2013-1, http://www.montgomerycountymd.gov/olo/resources/files/FiscalPlanning_MOE.pdf, MCPS eliminated more than 500 school-based positions in FY11 and FY12 including positions that would have been concentrated in high-FARMS schools such as academic intervention and ESOL teachers. Yet, as noted in the same report, the Board of Education could have restored these positions with increases in the FY13 budget rather than fund the increases in compensation for existing staff.

[21] Estimated at 22% of salary costs.

Table 13: Average MCEA Compensation Costs by School Type, 2014-15

Data on…	All Schools	High-FARMS	Low-FARMS	Gap (H-L)	% Difference
Estimated MCEA Salaries and Benefits per FTE					
Elementary Schools	**$90,035**	$88,060	$92,768	($4,708)	-5.3%
Middle Schools	**$93,187**	$89,198	$96,719	($7,521)	-8.4%
High Schools	**$95,643**	$94,354	$97,016	($2,662)	-2.8%

As noted previously, the difference in salary costs per FTE between high- and low-poverty schools likely results from the greater experience that teachers and other MCEA professionals in low-poverty schools have relative their peers in high-poverty schools (see Table 9). Assuming that experienced teachers have a vital role in narrowing the achievement gap by student income, attracting more experienced teachers to high-poverty schools and in turn increasing the average salaries of teachers in high-poverty schools could be a policy goal.

This subsection considers the following question which relates to increasing the pool of experienced teachers in high-poverty schools and equalizing teaching resources across schools: If average salaries per FTE were equal among high- and low-FARMS schools, what would be the expected difference in compensation costs per student between high- and low-FARMS schools? This "expected difference" provides a baseline to better understand the full value of resources allocated to high-poverty schools.

To address this question, Table 14 presents data showing the impact of equalizing MCEA costs per student across high- and low-poverty schools in two ways:[22]

- Salary Scenario 1 equalizes average salaries across high- and low-FARMS schools by setting salaries across both school types to the district average in FY15; and
- Salary Scenario 2 equalizes salaries by setting salaries across both school types to the average for low-FARMS schools in FY15.

A review of the data in Table 14 shows that the gap in MCEA compensation costs between high- and low-poverty schools would:

- Increase by 4 percentage points (from 20.8% to 24.8%). More specifically, the compensation gap would increase by $321 per student at the elementary level (from $1,458 to $1,779) if both low-FARMS and high-FARMS salaries were set to the district average, and increase by $375 if salaries in high-FARMS schools were raised to their low-FARMS peers;
- Increase by 7.5 percentage points (from 2.5% to 10.0%). More specifically, the compensation gap would increase by $503 per student at the middle school level (from $154 to $657) if both low-FARMS and high-FARMS salaries were set to the district average, and increase by $528 per student if salaries in high-FARMS schools were raised to their low-FARMS peers; and

[22] See Appendix B for information on how OLO generated these per student cost estimates.

- Increase by 2.6 percentage points (from 7.0% to 9.6%). More specifically, the compensation gap would increase by $160 per student at the high school level (from $416 to $576) if both low-FARMS and high-FARMS salaries were set to the district average, or increase by $168 per student if salaries in high-FARMS schools were raised to their low-FARMS peers.

In sum, under either equalized salary scenario, the anticipated gaps in per student compensation costs would be wider at each school level, increasing from 21% to 25% at the elementary level, from 3% to 10% at the middle schools, and from 7% to 10% at the high school level.

Table 14: Actual and Estimated Difference in Per Student MCEA Compensation Costs assuming Equal Costs per FTE between High- and Low-FARMS Schools, 2014-15

Data on…	All Schools	High-FARMS	Low-FARMS	Gap (H-L)	% Difference
Current Per Student MCEA Compensation Costs per Student					
Elementary Schools	$6,290	$7,005	$5,547	$1,458	20.8%
Middle Schools	$6,177	$6,262	$6,108	$154	2.5%
High Schools	$5,738	$5,951	$5,534	$416	7.0%
Salary Scenario 1: Average Salaries = District Average					
Elementary Schools	$6,290	$7,162	$5,383	$1,779	24.8%
Middle Schools	$6,177	$6,542	$5,885	$657	10.0%
High Schools	$5,738	$6,032	$5,456	$576	9.6%
Salary Scenario 2: Average Salaries = Low-FARMS Average					
Elementary Schools	$6,481	$7,380	$5,547	$1,833	24.8%
Middle Schools	$6,411	$6,790	$6,108	$682	10.0%
High Schools	$5,821	$6,118	$5,534	$584	9.6%

B. Anticipated Compensation Costs per Student if ESOL and Compensatory Education Programs were allocated to Schools based on their ESOL and FARMS Enrollment

As noted in Table 4 in Section II of this report, MCPS expended approximately $64 million on ESOL programs in FY15 and another $91 million on compensatory education and other supports aimed at enhancing educational opportunities for low-income students. MCPS also expended another $13 million on preschool programs for low-income students.

This subsection considers the anticipated gap in per student compensation costs between high- and low-poverty schools if the budget of ESOL and compensatory education programs were allocated to schools based on their enrollment of English language learners and low-income students.

To consider anticipated per student compensation costs based on the FY15 budgets for MCPS' ESOL and compensatory education programs, this subsection considers two scenarios:

- Cost Scenario 1: Compensatory education programs are allocated to MCPS schools based on their FARMS enrollment. As such, both high- and low-FARMS schools receive compensatory education budget allocations based on their FARMS enrollments.

- Cost Scenario 2: Compensatory education programs are allocated solely to high-poverty schools. More specifically, 70% of compensatory education programs are allocated to high-poverty elementary schools and the remaining 30% to its high-poverty secondary schools (with 15% each at the middle and high school levels). [23]

To analyze anticipated per student costs, this subsection relies on instructional salary budget data allocated to State Budget Category 3 (SBC 3) within the MCPS Operating Budget. Using program budget data referenced in Section I, OLO calculated per student costs for general education, compensatory education, and ESOL services. OLO also added a factor of 22 percent to SBC 3 instructional salary costs to estimate the total compensation costs (salaries plus benefits) per student. Appendix B describes OLO's approach in greater detail (beginning on page 41).

Of note, use of SBC 3 data yields higher estimates of per student costs than those generated with data on salaries for MCEA school-based staff (see Tables 13 and 14). Per student costs based on SBC 3 data are often $1,000 higher than the MCEA estimate because SBC 3 includes SEIU and central office positions excluded from MCEA salary data. Nevertheless, the percent difference in per student compensation costs can be compared across MCEA- and SBC 3-based measures of staff compensation to consider whether the actual gap in per student expenditures aligns with the anticipated gap based on program expenditures and allocations to schools based on their FARMS and ESOL subgroup enrollments.

Table 15 compares per student costs between high- and low-FARMS schools based on MCEA salary data to predicted per student costs based on SBC 3 data and the two cost scenarios for how MCPS allocates its compensatory education budget across schools.

Table 15: Actual and Estimated Difference in Per Student Compensation Costs based on ESOL and Compensatory Education Program Costs, 2014-15

Data on…	High-FARMS	Low-FARMS	Gap (H-L)	% Difference
Current Per Student MCEA Compensation Costs				
Elementary Schools	$7,005	$5,547	$1,458	20.8%
Middle Schools	$6,262	$6,108	$154	2.5%
High Schools	$5,951	$5,534	$416	7.0%
Cost Scenario 1: Estimated Per Student Compensation Costs				
Elementary Schools	$8,046	$6,775	$1,271	15.8%
Middle Schools	$7,349	$6,434	$915	12.5%
High Schools	$7,077	$6,367	$710	10.0%
Cost Scenario 2: Estimated Per Student Compensation Costs - Targeted				
Elementary Schools (70%)	$8,825	$6,737	$2,088	23.7%
Middle Schools (15%)	$7,348	$6,513	$835	11.4%
High Schools (15%)	$6,958	$6,112	$846	12.2%

[23] This aligns with current practice in MCPS where about two-thirds of FARMS-focused/compensatory education programming and staffing are allocated to elementary schools (see Table 3).

The data show that the FY15 gap in per student costs between high- and low-FARMS schools is smaller than the anticipated gap based on MCPS' budgets for ESOL and compensatory education programs and current budget allocations.

More specifically, an analysis of the data under Cost Scenario 1 shows that the anticipated gaps in per student compensation costs would be wider for secondary students than the actual difference (10-16% difference v. 3-7%) if funding for ESOL and compensatory education programs were allocated to all schools based on their subgroup enrollments. Conversely, the anticipated gap in per student expenditures between high- and low-FARMS elementary schools would be smaller than the actual gap (16% v. 21%).

However, an analysis of the data under Cost Scenario 2 – which aligns with the MCPS practice of allocating the majority of its compensatory education programs to high-poverty elementary schools - shows that the spending gap between high- and low-FARMS schools would be wider for each school level if 70% of compensatory education costs were allocated to high-poverty elementary schools and the remaining 30% were targeted to high-poverty secondary schools. Under this scenario, the gap in per student compensation costs between high- and low-FARMS schools would have:

- Increased from 21% to 24% at the elementary level,
- Increased from 3% to 11% at the middle school level, and
- Increased from 7% to 12% at the high school level tinge.

C. Anticipated Compensation Costs per Student if ESOL and Compensatory Education Revenues were allocated to Schools based on their ESOL and FARMS Enrollments

MCPS received $151 million in state and federal revenue for compensatory education in FY15 and another $59 million for ESOL programs. This subsection considers the anticipated gap in per student compensation costs between high- and low-poverty schools if total state and federal revenues for ESOL and compensatory education programs were allocated to schools based on their enrollment of ESOL and FARMS students. To consider anticipated per student compensation costs here, this subsection also considers two scenarios.

- Revenue Scenario 1: All state and federal aid allocated to MCPS based on its ESOL and FARMS enrolled are allocated to MCPS schools based on their ESOL and FARMS enrollments. As such, both high- and low-FARMS schools receive compensatory education revenue allocations based on their FARMS enrollments.
- Revenue Scenario 2: 70% of state and federal revenue based on FARMS enrollments are allocated to MCPS' high-poverty elementary schools and the remaining 30% to its high-poverty secondary schools (15% each at the middle and high school levels). No compensatory education revenue is allocated to low-poverty schools.

To analyze anticipated per student compensation costs here, OLO calculated instructional costs per student using budget data allocated to State Budget Category 3 (SBC 3) and revenue data for ESOL, compensatory education programs to calculate per student revenues available for general education, compensatory education, and ESOL services. Appendix B describes OLO's approach in greater detail (beginning on page 41). Table 16 on the next page presents the data derived from these calculations.

Table 16: Actual and Estimated Difference in Per Student Compensation Costs based on ESOL and Compensatory Education Program Revenues, 2014-15

Data on…	High-FARMS	Low-FARMS	Gap (H-L)	% Difference
Current Per Student MCEA Compensation Costs				
Elementary Schools	$7,005	$5,547	$1,458	20.8%
Middle Schools	$6,262	$6,108	$154	2.5%
High Schools	$5,951	$5,534	$416	7.0%
Revenue Scenario 1: Estimated Compensation Per Student				
Elementary Schools	$8,336	$6,738	$1,598	19.2%
Middle Schools	$7,655	$6,338	$1,317	17.2%
High Schools	$7,262	$6,252	$1,010	13.9%
Revenue Scenario 2: Estimated Compensation Per Student – Targeted				
Elementary Schools (70%)	$9,631	$6,062	$3,569	37.1%
Middle Schools (15%)	$7,652	$5,860	$1,792	23.4%
High Schools (15%)	$7,064	$5,828	$1,236	17.5%

Taken together, the data in Table 16 show the current gap in per student expenditures between high- and low-poverty schools is in most cases smaller than the gap anticipated by (1) the revenue that MCPS receives to support ESOL and compensatory education programs and (2) the differences in FARMS and English language learner enrollment among high- and low-poverty schools.

More specifically, an analysis of the data under Revenue Scenario 1 shows that if the state and federal revenue MCPS generated based on its ESOL and compensatory education programs had been allocated to schools based on their ESOL and FARMS enrollments, the gap in per student compensation costs between high- and low-poverty schools in FY15 would have:

- Decreased from 21% to 19% at the elementary level,
- Increased from 3% to 17% at the middle school level, and
- Increased from 7% to 14% at the high school level.

And under Revenue Scenario 2, an analysis of the data shows that if the revenue for compensatory education programs were expended solely in high-poverty schools with 70% of these funds expended at the elementary level and the remainder at the secondary level, then the gap in per student expenditures between high- and low-poverty schools in FY15 would have:

- Increased from 21% to 37% at the elementary level,
- Increased from 3% to 23% at the middle school level, and
- Increased from 7% to 18% at the high school level.

VI. Summary of Findings and Recommended Issues for Discussion

The intent of this Office of Legislative Oversight (OLO) report is to improve the County Council's understanding and oversight of how MCPS funds its schools to help narrow the achievement gap. This report describes school funding and allocation patterns and trends in resources and staffing within MCPS between the half of comprehensive campuses with the lowest-poverty rates and the remaining half with the highest-poverty rates. This report also compares *actual* differences in resources between high- and low-poverty schools with *anticipated* differences in school resources based on schools' English learner and free and reduced priced meals (FARMS) enrollments.

Overall, OLO finds that low-FARMS schools employ more experienced and expensive teachers than their high-FARMS peers but MCPS allocates additional staff to high-FARMS schools. On average, class sizes are smaller in high-FARMS schools, particularly at the elementary level, and the ratio of students to staff are also lower in high-FARMS schools. As such, MCPS expends more in staff compensation per student in high-FARMS schools compared to low-FARMS schools, ranging from a difference of 3-7% at the secondary level, to a difference of 21% at the elementary level.

Yet, the actual difference in per student costs between high- and low-FARMS schools in FY15 is less than what is anticipated given (a) the concentration of English learners and low-income students among MCPS' high-FARMS schools and (b) the additional state and federal aid that MCPS receives based on its FARMS and ESOL enrollments. Had MCPS allocated all of its compensatory education aid to schools based on their FARMS enrollment, the gap in per student compensation costs between high- and low-FARMS schools would have ranged from 14% to 19%. And if MCPS had allocated these resources exclusively to high-FARMS schools, the gap would have ranged from 18% to 37%.

This summary chapter is presented in two parts to describe this report's seven key findings and to offer three recommended issues for discussion for the County Council with the Board of Education and the staff leadership of MCPS.

A. Key Findings

1. MCPS receives additional state and federal aid for its ESOL, special education, and compensatory education programs.

According to FY15 operating budget data, MCPS received $291 million in federal and state aid for compensatory education, ESOL, and special education programs based on its enrollment of students receiving FARMS, English language learners, and students with disabilities. Of the $619 million in state aid that MCPS received, more than a third at $235.2 million was allocated to MCPS based on its enrollment of these three student subgroups.

Table 17 on the next page shows that if MCPS had allocated these additional state and federal resources to schools for compensatory education, ESOL, and special education programs, MCPS could have budgeted an extra $2,866 per FARMS student, an extra $2,906 per English language learner, and an extra $5,031 per student with disability to the schools serving these students in FY15.

Table 17: Total and Per Student State and Federal Revenue for MCPS Compensatory Education, ESOL, and Special Education Programs

Program/Population	Indicators	2010-11	2012-13	2014-15
Early Childhood Education/Head Start	***State & Federal Revenue (in millions)***	***$3.9***	***$4.2***	***$4.2***
	Enrollment	2,583	2,607	2,773
	Revenue per Student	**$1,510**	**$1,611**	**$1,515**
Compensatory Education/FARMS	***State & Federal Revenue (in millions)***	***$117.8***	***$136.2***	***$151.0***
	Enrollment	43,140	48,140	52,681
	Revenue per Student	**$2,735**	**$2,829**	**$2,866**
ESOL/Limited English Proficiency	***State & Federal Revenue (in millions)***	***$47.1***	***$58.9***	***$59.0***
	Enrollment	19,107	19,540	20,300
	Revenue per Student	**$2,465**	**$3,014**	**$2,906**
Special Education / Students with Disabilities	***State & Federal Revenue (in millions)***	***$88.5***	***$79.9***	***$80.8***
	Enrollment	15,598	15,805	16,059
	Revenue per Student	**$5,674**	**$5,055**	**$5,031**
All Special Programs	**Total Revenue (in millions)**	**$260.4**	**$271.5**	**$295.2**

**Actual revenue data for FY 11 and FY13 and budgeted revenue data for FY15*
Source: OLO analysis of MCPS budget data from Annual Operating Budgets and enrollment data provided by MCPS staff/referenced in Annual Operating Budgets.

2. MCPS budgets less on compensatory education programs than the federal and state aid it receives for these programs.

Table 18 shows that MCPS budgeted nearly $91 million on compensatory education programs designed to offset the effects of poverty on student achievement by allocating additional staff to schools based on their FARMS enrollment. MCPS also used another $13 million in state compensatory aid to fund its preschool programs for low-income children.

Table 18: Compensatory Education Supports for High-Poverty Schools & Students, 2014-15

Positions or programs allocated to schools or providing support to schools based on FARMS rate:	**Total FTE's**	**Elem. FTE's**	**Budget** (in millions)
Class Size Reduction Teachers	293.0	293.0	$27.4
Focus Teachers	239.8	169.8	$21.0
Title I Staff (e.g. Teachers & Paraeducators)	61.3	61.3	$11.6
Academic Intervention Teachers	97.1	47.7	$9.5
Special Program Teachers	66.0	14.8	$7.8
Alternative Program Teachers	76.4	-	$7.6
Middle School Extended Year &	1.0	-	$1.8
Title I Central Office	13.6	13.6	$1.3
Other Programs*	14.8	-	$2.7
Total	**862.8**	**600.2**	**$90.8**

**Includes Career Lattice, Linkages to Learning, Intervention School Network, Read 180, Excel Beyond the Bell, George B. Thomas Academy, ACES, and AVID*

Compared to the $151 million in state and federal revenue that MCPS received for compensatory education, MCPS budgeted $104 million for pre-K and compensatory education programs that target services to low-income students. Thus, MCPS expended about $47 million less on compensatory education than the additional state and federal revenue it received based on its FARMS enrollment.

This gap between program revenue and budgeting for compensatory education is permissible under state law, but questionable given the persistent achievement gap by student income. Alternatively, MCPS budgeted more for ESOL and special education programs than the federal and state revenue it received for these programs in FY15.

Since only a share of MCPS' compensatory education funding was allocated to additional staff to schools based on their FARMS enrollment, the budget per student for compensatory educations is far lower than those for ESOL or special education services. In FY15, MCPS budgeted:

- $1,724 per FARMS student for compensatory education;
- $3,143 per English language learner for ESOL services; and
- $23,445 per student with disability for special education.

3. Poverty disproportionately impacts half of MCPS' 194 comprehensive campuses, which serve 78% of the system's FARMS students and 74% of all ESOL students.

The demand for compensatory education and ESOL services to address the diverse learning needs of students is not evenly distributed across MCPS schools. In FY15, the half of MCPS campuses with the highest FARMS rates enrolled 78% of all FARMS students and 74% of all ESOL students. High-need students were especially concentrated among MCPS' high-poverty elementary schools that enrolled four out of five of low-income elementary students enrolled in MCPS and three out of four ESOL elementary students.

As a result, poverty disproportionately impacts high-FARMS elementary schools where on average more than half of all students are eligible for FARMS. For example, in FY15, 62% of students in high-poverty elementary schools received FARMS and 33% were eligible for ESOL services compared to the 15% of students in low poverty elementary schools that received FARMS and the 11% that were eligible for ESOL services. Thus, MCPS' high-poverty campuses are in need of greater resources and staffing to meet the educational needs of their student enrollments.

Table 19: Key Demographics by School Type, 2014-15

Data on…	All Schools	High-FARMS	Low-FARMS
Average FARMS Rate			
Elementary Schools	**39%**	62%	15%
Middle Schools	**35%**	53%	17%
High Schools	**29%**	43%	14%
Average ESOL Rate			
Elementary Schools	**23%**	33%	11%
Middle Schools	**9%**	14%	5%
High Schools	**8%**	11%	4%

4. MCPS allocates additional staff to high-poverty schools that reduces the number of students per staff and average class sizes, particularly in elementary schools.

MCPS allocates additional staff to its high poverty schools, resulting in a lower ratio of students per MCEA professional (e.g. teachers and counselors) as well as lower average class sizes. As shown in Table 20, the gap between high- and low-FARMS schools on these measures is widest at the elementary level where average class sizes and the ratio of students to MCEA staff among high-FARMS schools are four students fewer than low-FARMS schools on average.

Table 20: Students per MCEA Professionals and Average Class Size by School Type, 2014-15

Data on…	All Schools	High-FARMS	Low-FARMS	Gap (H-L)
Students per MCEA Professional				
Elementary Schools	**14.3**	12.6	16.7	-4.1
Middle Schools	**15.1**	14.2	15.8	-1.6
High Schools	**16.7**	15.9	17.5	-1.6
Average Class Size				
Elementary Schools	**20.6**	18.9	22.9	-4.0
Middle Schools	**26.0**	25.7	26.3	-0.5
High Schools	**26.2**	25.3	27.1	-1.8

The large magnitude of the difference in the students per MCEA staff ratios and average class sizes between high- and low-FARMS elementary schools results from two factors:

- The Class Size Reduction Initiative that reduces K-2 class sizes in the highest-poverty elementary schools; and
- The targeting of ESOL funds to schools disproportionately serving English Language Learners (i.e. high-poverty elementary schools).

Although MCPS allocates more focus and academic intervention teachers, as well as alternative program teachers and additional ESOL staff to the secondary schools with the highest FARMS rates, there is no "class size reduction" equivalent at the secondary level.

5. MCPS allocates more experienced MCEA staff to low-poverty schools that results in higher average salaries in low-poverty schools than in high-poverty schools.

As noted in Table 21 on the next page, MCPS allocates more experienced staff to its lowest poverty schools. For example, 46% of teachers in low-FARMS middle schools had 15 years or more of experience in FY15 compared to 37% of teachers in high-FARMS middle schools.

Table 21 also shows a higher teacher turnover rate among high-poverty schools, particularly at the middle school level. Because new teachers are often hired to fill positions vacated by experienced teachers, the teacher experience gap between high- and low-FARMS schools will likely persist without intervention.

Since teacher compensation increases with years of experience, by allocating the most experienced teachers to low-poverty schools, MCPS also allocates the most expensive teachers to its lowest-poverty schools. This is demonstrated in Table 22 that shows that average salaries in low-poverty schools were 3% to 8% higher than their peers in high-poverty schools.

Table 21: Teacher Experience and Annual Turnover by School Type, 2014-15

Data on…	All Schools	High-FARMS	Low-FARMS	Gap (H-L)
Low Experience (Less than 5 years)				
Elementary Schools	**21.6%**	24.0%	18.3%	5.7%
Middle Schools	**18.3%**	23.6%	13.6%	10.0%
High Schools	**13.8%**	15.8%	11.5%	4.3%
High Experience (15 years or more)				
Elementary Schools	**39.9%**	37.3%	43.4%	-6.1%
Middle Schools	**41.9%**	36.8%	46.4%	-9.6%
High Schools	**45.7%**	44.0%	47.5%	-3.5%
Annual Turnover Rate (FY14)				
Elementary Schools	**16.3%**	17.2%	15.1%	2.1%
Middle Schools	**17.5%**	20.5%	14.8%	5.7%
High Schools	**11.5%**	12.1%	10.8%	1.3%

Table 22: MCEA Salary Costs per FTE by School Type, 2014-15

Data on…	All Schools	High-FARMS	Low-FARMS	Gap (H-L)	% Difference
Elementary Schools	**$73,799**	$72,180	$76,039	-$3,856	5.3%
Middle Schools	**$76,383**	$73,113	$79,278	-$6,165	8.4%
High Schools	**$78,396**	$77,339	$79,521	-$2,182	2.8%

6. MCPS expends more per student on staff compensation in high-poverty schools than in low-poverty schools.

As noted in Finding 4, MCPS allocates additional staff to its high-poverty schools, particularly at the elementary level, but allocates more experienced and expensive staff to its low-poverty schools, as indicated in Finding 5. So, what is the net effect of the different staffing levels and salary costs on MCPS' overall compensation costs for high- and low-poverty schools?

Table 23 on the next page describes data on compensation costs per student, calculated as the ratio of the sum of the salaries and estimated benefits for school-based MCEA staff to the number of students for each school. In FY15, MCPS expended 21% more per student on MCEA compensation in high-poverty elementary schools compared to low-poverty schools. At the middle school level, the difference was 3% per student and at the high school level, the difference was 7% per student.

Table 23: MCEA Salary and Compensation Costs per Student by School Type, 2014-15

Data on…	All Schools	High-FARMS	Low-FARMS	Gap (H-L)	% Difference
MCEA Salary Costs per Student					
Elementary Schools	**$5,251**	$5,847	$4,631	$1,216	20.8%
Middle Schools	**$5,097**	$5,158	$5,048	$110	2.1%
High Schools	**$4,748**	$4,925	$4,579	$346	7.0%
MCEA Compensation Costs per Student					
Elementary Schools	**$6,290**	$7,005	$5,547	$1,458	20.8%
Middle Schools	**$6,177**	$6,262	$6,108	$154	2.5%
High Schools	**$5,738**	$5,951	$5,534	$416	7.0%

7. MCPS expends less per student in high-poverty schools than anticipated by the share of FARMS and ESOL students enrolled in these schools.

MCPS expends more on MCEA compensation per student enrolled in its high-poverty schools as noted in Finding 6. However, the actual difference in per student costs between high- and low-FARMS schools in FY15 is less than what is anticipated given the concentration of English learners and low-income students among MCPS' high-FARMS schools and the additional state and federal aid that MCPS receives based on its FARMS and ESOL enrollment. Additionally, higher average salaries in low-poverty schools effectively reduce the difference in per student costs.

To compare the actual difference in per student compensation costs between high- and low-FARMS schools to the anticipated difference in per student expenditures based on salary, revenue, program costs, and enrollment data, OLO generated FY15 estimates of per student compensation costs for MCEA staff in high- and low-FARMS schools under five assumptions:

- Assumption 1: Equal average salaries between high- and low-FARMS schools
- Assumption 2: Budgeted costs for compensatory education and ESOL programs allocated to schools based on their FARMS and English learner enrollments
- Assumption 3: Budgeted costs for compensatory education allocated exclusively to high-FARMS schools with high-FARMS elementary schools receiving 70% of program costs
- Assumption 4: All federal and state aid for compensatory education and ESOL programs allocated to schools based on their FARMS and English learner enrollments
- Assumption 5: All federal and state aid for compensatory education exclusively allocated to high-FARMS schools with high-FARMS elementary schools receiving 70% of revenue

Table 24: Actual and Estimated Differences in Per Student MCEA Compensation Costs between High- and Low-FARMS Schools, 2014-15

Assumptions **Data on…**	**-0- FY15 Salary Gap**	**1 Equal Average Salaries**	**2 Budget for All Schools**	**3 Budget for High-FARMS**	**4 Revenue for All Schools**	**5 Revenue for High-FARMS**
Elementary Schools	**21%**	25%	16%	24%	19%	37%
Middle Schools	**3%**	10%	13%	11%	17%	23%
High Schools	**7%**	10%	10%	12%	14%	18%

Table 24 shows that in a majority of scenarios, the anticipated gap in per student expenditures between high- and low-FARMS schools is wider than the actual gap. In every scenario considered among secondary schools, the anticipated gap is significantly wider than the actual gap in per student costs among both middle and high schools. And in three of five scenarios, the anticipated gap in per student expenditures is wider at the elementary level.

These observations strongly suggest that the actual difference in per student compensation costs between high- and low-FARMS schools noted in Finding 6 is lower than the gap anticipated if MCPS allocated (1) MCEA salaries more equitably among high- and low-FARMS schools and (2) its funding and budgets for compensatory education and ESOL programs to schools based on their FARMS and ESOL enrollments.

B. Recommended Discussion Issues

The achievement gap by student income in Montgomery County raises questions about whether the school system provides sufficient resources to schools to narrow the achievement gap. The County Council tasked OLO to investigate whether MCPS allocates more staffing and resources to its highest poverty schools aimed at narrowing the achievement gap.

OLO's review of the data found that MCPS allocates more staffing to its highest poverty schools yielding lower class sizes (particularly at the elementary school level) and higher personnel costs per student in high-FARMS v. low-FARMS schools. The difference in per student compensation costs between these schools, however, is dampened by three trends:

- Teachers in low-FARMS schools have more years of experience and earn higher salaries on average than their peers in high-FARMS schools.
- Only two-thirds of the state aid that MCPS receives based on its FARMS enrollment is allocated to compensatory education programs that target and benefit low-income students.
- Less than a third of MCPS' compensatory education budget is allocated to secondary students enrolled in MCPS' middle and high schools.

These findings suggest that MCPS could provide additional resources to its high-poverty schools to help narrow the achievement gap by allocating a greater share of its state compensatory education revenue to schools based on their FARMS enrollment. OLO recommends that the County Council discuss with MCPS and the Board of Education three issues described below to better understand MCPS' rationale for how compensatory education aid is currently used and the potential consequences of adopting any of the three alternative budget approaches presented.

Issue #1: Allocation of Additional State Aid for Compensatory Education to Schools

As noted in prior OLO reports, the achievement gap by student income persists in MCPS, impacting graduation and suspension rates and student performance on state assessments and measures of college and career readiness, such as Advanced Placement scores.[24] Further, the achievement gap by income combined with the concentration of low-income students among a subset of MCPS high schools translates to an achievement gap between low- and high-poverty high schools.[25]

[24] http://www.montgomerycountymd.gov/olo/resources/files/oloreport2013-4.pdf ; http://www6.montgomerycountymd.gov/content/council/olo/reports/pdf/2008-2.pdf

[25] http://www.montgomerycountymd.gov/OLO/Resources/Files/OLO%20Report%202014-7%20Final.pdf

MCPS received $151 million in federal and state aid for compensatory education programs in FY15 that were designed to narrow the achievement gap by student income. Yet, OLO's review of MCPS' FY15 Program Budget identifies only $104 million in expenditures that provided significant additional staffing and programs to schools based on their FARMS enrollment, including funding for preschool programs for low-income children.[26]

Unlike federal compensatory education requirements under Title I, the Maryland State Department of Education (MSDE) does not require that school systems allocate all of their compensatory education aid to programs that serve low-income students or schools. Instead, MSDE requires school systems to submit annual Master Plans and demonstrate progress among each student subgroup, including low-income students. As such, up to $47 million in state aid for compensatory education was expended on staff and programs that did not target low-income students or schools in FY15.

The persistent achievement gap by student income coupled with the concentration of poverty among a subset of MCPS schools suggest that spending all state aid for compensatory education on staffing and programs aimed at narrowing the achievement gap by student income is warranted.

Recommended questions for discussion include:

- What is the rationale for the current allocation of state aid for compensatory education to schools and high-FARMS schools in particular?
- What would be the budgetary consequences of allocating additional state aid for compensatory education to schools based on their FARMS enrollments? What would be the impact among high-FARMS schools? Low-FARMS schools?
- If the Board allocated additional state aid for compensatory education to schools based on their FARMS enrollment, what programs would MCPS recommend or endorse as effective investments for improving student outcomes and narrowing the achievement gap?

Issue #2: Allocation of Additional Compensatory Education Aid to Secondary Schools

Of the 863 positions that MCPS funded to provide compensatory education (i.e. additional supports and services to high-FARMS schools), two-thirds of these positions (586 FTE's) were allocated to elementary schools in FY15. Additionally, MCPS used state compensatory education dollars to fund an additional 148 of 197 pre-K positions in FY15. Thus compensatory education programs in MCPS are typically elementary school programs with limited additional resources allocated to middle and high schools based on their poverty rates. Yet, as noted in prior OLO reports, the achievement gap by student income is evident across the grade span and tends to widen as students' progress from elementary school into secondary school.

The persistence of the achievement gap by student income among MCPS secondary schools coupled with MCPS allocating few additional resources to high-FARMS secondary schools to offset the impacts on student poverty suggest that allocating a greater share of compensatory education resources to secondary schools based on their FARMS enrollment is warranted.

Recommended questions for discussion include:

[26] In FY15, $91 million was budgeted for K-12 compensatory education programs and another $13 million was budgeted to offset the costs of pre-K programs

- What is the rationale for the current allocation of state aid for compensatory education between elementary and secondary schools?
- What would be the budgetary consequences of allocating additional compensatory aid to secondary schools based on their FARMS enrollments? What would be the impact among middle schools? High schools? Elementary schools?
- If the Board allocated additional aid for compensatory education to secondary schools based on their FARMS enrollment, what programs would MCPS recommend or endorse as effective investments for improving student outcomes and narrowing the achievement gap at the secondary level?

Issue #3: Student-Based Budgeting

MCPS currently utilizes a school-based budgeting process via its K-12 budget staffing guidelines that allocates staff to schools based on the size and grade span of the school and the number of students enrolled. To enable students with special needs to receive the additional resources they often need to be successful, some school systems use a student-based budgeting approach that explicitly allocates additional funding to schools based on the differentiated needs of their student enrollments.

Under student-based budgeting, funds per student are weighted per the needs of students. Students eligible for FARMS, special education, and ESOL services typically receive greater weights – funding allocations – than their program ineligible peers. Through this approach, the "dollars follow the student" and schools enrolling students with greater weights receive more resources per student than schools enrolling fewer "high weight" students. Beyond eligibility for FARMS, special education, and ESOL services, other determinants of student weights can include grade level and academic needs as reflected by test scores or other measures.

Although MCPS targets additional staff to its highest poverty elementary schools and to a lesser extent to high-FARMS secondary schools, MCPS does not use an explicit student-based budgeting approach to allocate resources among schools. Nevertheless, student-based budgeting aligns well with how MCPS receives state and federal revenue – student subgroups that could receive greater weights in staffing allocations generate supplemental state and federal revenue that could be dedicated to the school system's special education, ESOL, and compensatory education programs.

Recommended questions for discussion include:

- What is the rationale for the school-based budgeting approach utilized by MCPS?
- Has the Board of Education and MCPS considered the use of student-based budgeting (weighted per student funding) to ensure that schools receive the resources they need to effectively serve low-income students? What would be the benefits of this approach? The drawbacks?
- What would be the budgetary consequences of utilizing a student-based budgeting approach to allocate resources to schools? What would be the impact on elementary, middle, and high schools? What would be the impact among low-FARMS vs. high-FARMS schools?
- If the Board utilized a student-based budgeting approach to allocate resources or staff to schools, what programs would MCPS recommend or endorse as effective investments for improving student outcomes and narrowing the achievement gap among schools?

VII. Agency Comments

OLO appreciates the feedback received from MCPS staff on interim versions of this report. This final report reflects a majority of the technical comments offered by MCPS staff on earlier drafts. Nevertheless, as the written comments from the Interim Superintendent of Montgomery County Public Schools indicate, several points of disagreement remain between OLO and MCPS staff on this report.

MCPS MONTGOMERY COUNTY PUBLIC SCHOOLS
www.montgomeryschoolsmd.org MARYLAND

September 17, 2015

Malcolm Baldrige National Quality Award 2010 Award Recipient

Dr. Chris Cihlar, Director
Montgomery County Office of Legislative Oversight
Stella B. Werner Council Office Building
100 Maryland Avenue
Rockville, Maryland 20850

Dear Dr. Cihlar:

Thank you for the opportunity to comment on the Office of Legislative Oversight (OLO) report: *Resources and Staffing Among MCPS Schools*. Montgomery County Public Schools (MCPS) has collaborated with the OLO over the years on a variety of reports that have helped us improve as a district. Together, we share a commitment to excellence and equity to make certain that we are giving the children of this county the best possible education and that we are providing this education in an efficient and effective manner. This report furthers this work as it relates to teacher equity; however, we have several concerns about the report. Our main concerns fall into the following areas:

- OLO has not accurately presented the purpose and use of Bridge to Excellence (BTE) revenue in Maryland school districts, leading to an incomplete analysis of resource allocation.
- OLO's analysis is based on a methodology that groups schools into only two groups—50 percent of schools that are above the median FARMS rate and 50 percent that are below the median. Similar schools that differ by less than a percentage point are placed in separate groups—those with "high" FARMS rates and those with "low" rates. As a result, the report does not accurately capture the way MCPS differentiates resources based on an incremental model used for allocations.
- OLO implies that student-based budgeting models provide for more differentiation in resource allocation in school districts. This analysis does not accurately present student-based budgeting or the MCPS approach to resource allocation to support its schools with greater needs. There also is no research that shows there are better student outcomes in school systems that use student-based budgeting models.
- OLO's suggestions to address staffing and compensation costs do not reflect a viable solution for MCPS.

The suggestions made in the report would require shifting millions of dollars in resources from schools with lower FARMS rates (those below the median) to those with higher FARMS rates at a time when the county's contributions have decreased by $1490 per student since 2009. The shift that is suggested would create dramatic reductions in resources from schools that have already experienced significant reductions since 2009 and would greatly impact our ability to maintain the high quality of instruction across the district. As this response will illustrate, our funding strategies target more resources to higher need schools. For example, it is not uncommon to have 20 additional positions in a more impacted elementary school than in a less impacted school of the same size. The cost per student also varies depending on the staffing levels with the investment in higher poverty schools being $3,000 to $4,000 more per student than a school less impacted by poverty. Instead of recognizing such investments, the report suggests going further, which would make it impossible at current funding levels to meet the basic needs of all schools.

Bridge to Excellence Compensatory Funding

At the crux of the analysis in this report is OLO's description of how MCPS and other school districts use state and federal funding designated as compensatory funding. Throughout the analysis, OLO suggests that MCPS should allocate compensatory funding exclusively to what OLO is referencing as compensatory programs.

However, as noted in the Bridge to Excellence Act Fact Sheet 63 (January 2012), "(s)chool systems can decide how to spend the money, as long as the system demonstrates improvement in student achievement and develops a satisfactory 'master plan,'" noted as a "five-year master plan that documents the school system's goals and strategies for improving achievement among *all* students."

Indeed, this state aid is *unrestricted* funding that school districts across Maryland apply to support their master plans and strategic plans to increase student achievement. We are not aware of school districts in Maryland that use compensatory funding in the way OLO suggests it should be used, because that is not consistent with how the funding is intended for local education agencies (LEAs). LEAs treat state and local revenue as general revenue in support of the overall operating budget and then utilize the operating budget to implement strategies for equitable funding of schools as we do in MCPS. One of the many reasons we do not use compensatory aid as suggested by OLO is the data in Table 4 on page 8 of the report. As OLO can see, MCPS spent ($295.5M) more on at-risk populations than the revenue received based on those populations. The vast majority of this funding gap is in special education. Special education funding is guided by the Individualized Education Program (IEP) for students with disabilities and by a federal requirement for Maintenance of Effort (MOE). The federal law stipulates that a district for the upcoming fiscal year must equal or exceed expenditures in special education from the preceding fiscal year for which actual expenditures are available. If we were to use the same logic for special education funding as proposed with compensatory funding, the district would only spend $80M on special education. This would not only violate federal law but this level of funding would be insufficient to meet the needs of special education students.

It is important to note that federal, state, and local funding all work together in service of our strategies aimed directly at closing the achievement gap and improving student achievement. Our Strategic Planning Framework, *Building Our Future Together: Students, Staff, and Community*, makes clear that "MCPS is committed to educating each and every student so that academic success is not predictable by race, ethnicity, or socioeconomic status. We will continue to strive until the achievement gap has been eliminated for all groups." This is the core strategic challenge of MCPS, and our work for many years has been focused on eliminating this gap. As noted in our District Implementation Plan, *Equitable Funding and Support* is a core strategy to ensure equity and excellence across our schools. In short, as we stress in our plan, we invest greater resources and supports to schools with greater need. We combine the funding sources we have, including compensatory funds, to support a plan focused on equity and excellence for all students, specifically closing the achievement gap. There are a plethora of programs and strategies that are part of our plan whereby we differentiate funds to ensure that students with greater needs—often those impacted by poverty—have greater supports. Examples of this support range from lower class size to academic intervention teachers, from extended programs to minority achievement programs. Thus, while we do not separate the compensatory funding and allocate it dollar for dollar to students impacted by poverty, our work is intensely focused on ensuring we have differentiated support for students based on needs. The *Equitable Funding and Support* core strategy employed by MCPS drives how allocations, supports, and resources are provided to schools. MCPS can provide examples of the numerous programs and supports that are differentiated based on needs. Our work in this area must continue, and we look forward to discussing ways in which we can differentiate funding to support our most impacted students.

Methodology for Grouping Schools

In an effort to create a construct for analysis, OLO grouped schools into only two categories—those impacted versus those not impacted by poverty. As a result, we are concerned that the report uses an overreliance on averages leading to distorted conclusions. By drawing a single line differentiating impacted and not-impacted schools, the reality of the numbers is distorted. Since we allocate on a continuum of FARMS rates rather than just low or high, our schools with very high FARMS rates receive the most resources. We allocate this way because of the impact high concentrations of poverty have on educational outcomes, not just poverty itself. In fact, when the federal government allocates Title I dollars, it does not look at total poverty, but it looks at concentrations of poverty in a jurisdiction. Therefore, when the line is drawn to include schools with a range of FARMS rates, the average for both impacted and not-impacted schools are more accurately reflected. In other words, OLO's analysis has not accurately captured the true differentiation occurring in MCPS.

To illustrate these important points more clearly, the following three charts outline how differentiated staffing formulas apply to schools with similar enrollment but different FARMS rates. They clearly delineate how the differentiated formulas address different levels of impacted schools and why using averages—as OLO does for its methodology—does not accurately depict the reality of how differentiated formulas impact resource allocations.

Elementary School Allocations			
	Enrollment=600 FARMS=6% ESOL = 37	**Enrollment=615 FARMS=50% ESOL = 113**	**Enrollment=609 FARMS=82% ESOL = 317**
Kindergarten	4.000	6.000	6.000
Classroom teacher 1–5	21.600	24.000	24.000
Non-teaching	4.000	4.000	4.500
AMPE	3.000	3.900	3.900
Clerical	2.500	2.500	2.500
Focus/ Academic Intervention	0	2.700	5.800
ESOL	.700	2.000	7.200
Educational Assistant	3.750	6.000	5.177
	39.550	**51.100**	**59.077**

Middle School Allocations		
	Enrollment=920 FARMS=9% ESOL = 31	**Enrollment=921 FARMS=64% ESOL = 119**
Classroom Teachers and Teacher Leaders	47.800	49.400
Non-teaching	5.800	5.800
Clerical/Security	7.250	7.250
Educational Assistant	1.625	2.375
Focus/ Academic Intervention	0	3.200
ESOL	.800	4.000
Alternative Programs	.400	1.000
Special Programs	0	.800
	63.675	**73.825**

High School Allocations		
	Enrollment=1600 FARMS= 5% ESOL=31	Enrollment=1591 FARMS=47% ESOL=268
Classroom Teachers and Teacher Leaders	76.100	77.700
Non-teaching	9.100	9.700
Clerical/ Security/ Technology	14.000	14.500
Educational Assistant	6.000	7.250
Focus/ Academic Intervention	0	4.800
ESOL	.800	10.400
Alternative Programs	.400	1.000
Special Programs	1.600	3.000
	108.000	**128.350**

Finally, it is evident that a large data component is missing from this analysis. This data would include how many FARMS students also fall into another subcategory (i.e., special education, English for Speakers of Other Languages (ESOL), etc.), because it is important to understand the additional resources that help support students who come from circumstances of poverty. Clearly, additional resources would be provided to serve those students who are not captured in the analysis of resources to schools with high FARMS populations. In school year 2014–2015, 41.3 percent of special education students were FARMS eligible and 71.2 percent of ESOL students were FARMS eligible.

Student-based Funding Formula Analysis

As OLO has noted in the report, LEAs approach equitable funding of schools in different ways. Prince George's County Public Schools (PGCPS) for example, utilizes a student-based budgeting approach to school funding which was highlighted in the report. In practice, PGCPS uses the compensatory funding from the state in exactly the same way we do; however, OLO suggests in the report that it is a more differentiated approach to allocating resources to schools. In PGCPS, state and local funding contribute to a general pot of money which supports the school system's strategic plan. From that general pot, this method basically distributes dollars based on the number of students in the school and the characteristics of those students. What is important to note is that the state compensatory funding that OLO suggests should be used for compensatory programs is actually used to build the general pot that funds schools, not in addition to it. This is a critical point that OLO does not discuss in the report. In PGCPS, of the $450 million allocated through the student-based budgeting process (benefit costs for employees are paid centrally and not part of the allocation), $377 million went to the base allocation leaving $73 million for additional allocations based on student and school characteristics. Yet, the district is anticipating $277 million in compensatory education revenue in Fiscal Year (FY) 2016. Thus, when OLO states that "some school systems use a student-based budgeting approach that allocates additional funding to schools based on the differentiated needs of their student enrollments" (p. 35), it is important to note that PGCPS uses the compensatory funding from the state to build its general pot and then distributes resources to schools according to student factors. In addition, in PGCPS for example, FARMS is not a factor in the weighted formula. Page 59 of the FY 2016 PGCPS Requested Budget Document shows that PGCPS has a large base allocation and weights grade level, student performance, ESOL, school size, as well as a hold-harmless provision.

We take a very similar differentiated approach to allocations in MCPS but not through a student-based budgeting model. Instead, we build a general pot, like PGCPS, and then allocate resources according to school need. So, as noted in our staffing guidelines, positions including academic intervention teachers,

focus teachers, and alternative program teachers are allocated based on FARMS rates. In addition, class sizes in identified focus schools (those with higher FARMS rates) are calculated at lower numbers for Grades K–2. Schools with higher numbers of FARMS students receive more money, as in PGCPS and elsewhere. However, we should point out that we have a core instructional program to which we believe all students are entitled. Thus, while we offer flexibility to schools to meet the needs of students, we will not compromise core beliefs that all students should have access to a guidance counselor or be exposed to art and music. While many districts that implement student-based budgeting allow that type of flexibility, MCPS will not permit decisions to be made that are contrary to the core educational program that all students should receive.

To suggest that districts in Maryland using a student-based budgeting model utilize state compensatory funding in significantly different ways than those that do not use a student-based budgeting approach is not accurate. It also is inaccurate to imply that student-based budgeting models are the only budgeting models that can differentiate resources in an equitable way. Therefore, while student-based budgeting is one approach to differentiating support to schools, the PGCPS example makes it clear that it does not mean additional funding is allocated for FARMS students specifically. The funding is used, and was always intended to be used, in unrestricted ways to improve student achievement.

Staffing and Compensation Costs

The following examples demonstrate how we implement our differentiated funding strategy within MCPS. The charts illustrate actual teacher and paraprofessional budgets from schools with the highest and lowest FARMS rates in the district. What we see across the board are lower student/teacher ratios in the higher FARMS schools and a much higher cost per student in the higher FARMS schools. For example, Sargent Shriver Elementary School (Shriver) (FARMS rate is 81.6 percent) which has an enrollment of 755 students, spends approximately $8,714 per student on teachers and paraprofessionals with a student/teacher ratio of 12.4. Meanwhile, Wyngate Elementary School (Wyngate) (FARMS rate of less than 5 percent) in Bethesda has a slightly higher enrollment of 770 students and spends about $5,620 per student on teachers and paraprofessionals with a student/teacher ratio of 19.2. There are overall 23 more professionals in Shriver working for students than at Wyngate. Shriver's budget exceeds Wyngate's by nearly 49 percent. As stated earlier, using averages as the OLO analysis has done masks the true differentiation of schools of similar type (elementary) with comparable enrollments.

Highest FARMS Rate Elementary Schools

School	Enrollment	Farms %	Total FTE	Total $	Cost/ Student	Student Teacher Ratio
JoAnn Leleck Elementary School	749	≥95.0	75.975	7,270,707	9,707	11.162
New Hampshire Estates Elementary	517	91.3	59.575	5,595,084	10,822	10.423
Harmony Hills Elementary School	730	87.7	69.175	6,574,390	9,006	12.207
South Lake Elementary School	850	83.5	78.825	7,370,351	8,671	13.138
Wheaton Woods Elementary School	534	83.1	51.575	4,923,328	9,220	11.814
Summit Hall Elementary School	627	82.3	61.014	5,832,386	9,302	11.676
Sargent Shriver Elementary School	755	81.6	68.538	6,578,967	8,714	12.357
Gaithersburg Elementary School	802	81.3	74.475	7,173,794	8,945	11.952
Highland Elementary School	541	81.3	53.625	5,136,741	9,495	11.389
Georgian Forest Elementary School	574	79.4	51.675	4,898,106	8,533	12.957
Total	**6,679**		**644.452**	**61,353,854**		

Lowest FARMS Rate Elementary Schools

School	Enrollment	FARMS %	Total FTE	Total $	Cost/ Student	Student Teacher Ratio
Wayside Elementary School	531	≤5.0	31.800	2,383,459	5,778	18.438
Cold Spring Elementary School	335	≤5.0	21.825	1,635,063	6,279	17.005
Darnestown Elementary School	309	≤5.0	19.500	1,459,724	6,071	17.657
Westbrook Elementary School	455	≤5.0	28.700	2,147,769	6,064	17.704
Bradley Hills Elementary School	632	≤5.0	38.750	2,903,295	5,911	18.057
Wood Acres Elementary School	714	≤5.0	40.100	2,991,658	5,359	20.342
Burning Tree Elementary School	492	≤5.0	30.000	2,246,607	5,871	18.222
Bannockburn Elementary School	407	≤5.0	27.450	2,049,879	6,451	16.818
Wyngate Elementary School	770	≤5.0	45.075	3,371,331	5,620	19.154
Potomac Elementary School	474	≤5.0	30.050	2,253,264	6,123	17.363
Total	**5,119**		**313.250**	**23,442,049**		

With respect to OLO's analysis of teacher experience, we commend OLO for examining what educators refer to as teacher equity—an issue that we have already begun to address. In July 2014, U. S. Secretary of Education Arne Duncan, issued a letter to all Chief State School Officers requiring state education agencies (SEAs) to develop "educator equity plans." These plans have been designed to ensure that SEAs and LEAs put strategies and practices in place to provide effective educators for all students. The OLO report rightly points out that higher poverty schools in MCPS have, on average, less experienced teachers. This is data that we have been examining as we design and implement our human capital management strategy. We do not agree, however, with the assertion made by OLO that less experience automatically means that someone is less effective. Experience is not the only measure of educator effectiveness, but it is a measure that we believe is tied to educator equity and one that is important to analyze as we consider our practices moving forward.

Regarding educator equity more broadly, one of our five core district improvement strategies is *Human Capital Management*, and we have taken steps already to implement some of the strategies referenced in Maryland's educator equity plan and others' plans to address this issue. Our career lattice, for example, is a human capital strategy that provides incentives for high performing teachers to work in high poverty schools and exercise teacher leadership in service of broad scale school improvement. While this is a strong start, we believe we can do more, and we look forward to designing and implementing additional strategies based on our data.

The Impact of Reallocating Resources from Lower FARMS Schools

Regarding OLO's assertion that differences in compensation costs between higher and lower poverty schools are less than anticipated, we are concerned about the approach OLO has taken to reach this conclusion. OLO again suggests that MCPS could effect greater differentiation if only it allocated the BTE Compensatory Aid to higher FARMS schools. As previously stated, any reallocation would have drastic impacts on other programs that serve all students in MCPS. There is no recognition in this section that

there are finite resources and that to offer a baseline educational program for all students requires a significant amount of resources that MCPS and school districts provide. As it stands, Montgomery County spends $1490 less per student than it did in FY 2009, even though the needs of MCPS students have continued to intensify. We think it is important to consider some scenarios adopting the logic of the OLO report showing the reallocations from lower FARMS schools. Importantly, the report includes no discussion on the actual—and likely negative—impact on lower FARMS schools that also serve FARMS students. By showing only the per pupil difference, the report masks the fact that we will see class sizes increase significantly in half of our schools. Earlier in our response, we presented a chart that outlined the significant differentiation between higher FARMS schools and lower FARMS schools. Following the suggestion made in the report MCPS could reduce funding from lower FARMS schools, and reallocate these funds to higher FARMS schools. The impact would be dramatic in the lower FARMS schools. For example, the 10 schools noted in the lowest FARMS chart would lose 39 teachers at a cost of almost $3 million. Schools would lose funding, equating to a student/teacher ratio increase and class size increase of between two and four students per class. In real terms, this means the elementary schools would be forced to eliminate programs, such as the media program, reading program (reading specialist), and school-based professional development (staff development teacher) program, to maintain class sizes. Conversely, in order to keep the instructional support positions in the school, schools would have to increase class sizes by two to three students per class.

Conclusion

MCPS appreciates the efforts of OLO to help us and other governmental entities improve. We are certainly committed to providing the best possible education for our students and an outstanding value for our community stakeholders. It is always important to carefully examine what you are doing so that you can improve. Our commitment to differentiating resources to meet the varied needs of our students is clear and evidenced by all that we do as a district. In this report, however, it appears that OLO has relied on a premise that school districts, including MCPS, are not using compensatory aid properly to achieve equity in school funding and support. We believe that we have been using our resources appropriately and that we have maintained our investments in our most impacted schools despite years of budgetary challenges. With limitations on our funding, the only way to provide more funding in one place at this point is to take from someplace else—beyond the significant equitable distribution of funding and support we already provide to our schools. The evidence is clear that MCPS has had a long standing commitment to this issue and has invested heavily to improve student performance in our most impacted schools. We do not believe the approach advocated for in this OLO report is sustainable or realistic for MCPS. We look forward to discussing this report with the County Council in greater detail as well as how best to approach differentiating limited resources across our 202 schools to serve all students.

Sincerely,

Larry A. Bowers
Interim Superintendent of Schools

LAB:AMZ:sln

Copy to:

Mr. Leggett
Mr. Leventhal
Members of the Board of Education
Dr. Navarro
Dr. Statham
Dr. Zuckerman
Dr. Kindt
Mr. Klausing
Ms. Diamond
Mr. Ikheloa

Appendix A: Descriptive Data on High- and Low-FARMS Schools[27]

Table A-1. School FARMS-Rate Category Characteristics

	Year	All Schools	High-FARMS	Low-FARMS
Elementary Schools				
# of Schools		**131**	66	65
# of Students Enrolled	**2011**	**63,387**	31,279	32,108
	2015	**68,673**	35,005	33,668
# of ESOL Students	**2011**	**13,376**	10,264	3,112
	2015	**15,455**	11,627	3,828
Total FARMS Rate	**2011**	**35.3%**	57.4%	12.4%
	2015	**40.2%**	63.0%	15.1%
Lowest Per-School FARMS Rate	**2011**	**0.6%**	29.6%	0.6%
	2015	**0.9%**	31.6%	0.9%
Highest Per-School FARMS Rate	**2011**	**90.9%**	90.9%	30.0%
	2015	**95.0%**	95.0%	31.3%
Middle Schools				
# of Schools		**38**	19	19
# of Students Enrolled	**2011**	**29,486**	13,042	16,444
	2015	**32,028**	14,225	17,803
# of ESOL Students	**2011**	**1,461**	931	530
	2015	**2,896**	2,009	887
Total FARMS Rate	**2011**	**29.9%**	48.5%	15.0%
	2015	**33.0%**	53.5%	16.5%
Lowest Per-School FARMS Rate	**2011**	**0.9%**	35.4%	0.9%
	2015	**1.2%**	38.3%	1.2%
Highest Per-School FARMS Rate	**2011**	**60.6%**	60.6%	32.5%
	2015	**65.5%**	65.5%	36.6%
High Schools				
# of Schools		**25**	13	12
# of Students Enrolled	**2011**	**43,412**	21,198	22,214
	2015	**43,925**	21,528	22,397
# of ESOL Students	**2011**	**2,190**	1,450	740
	2015	**3,283**	2,440	843
Total FARMS Rate	**2011**	**24.1%**	36.7%	11.9%
	2015	**28.3%**	42.4%	14.5%
Lowest Per-School FARMS Rate	**2011**	**1.9%**	26.5%	1.9%
	2015	**2.5%**	31.8%	2.5%
Highest Per-School FARMS Rate	**2011**	**61.6%**	61.6%	25.8%
	2015	**54.4%**	54.4%	30.2%

[27] This data excludes pre-K students, students with disabilities in LRE B and C settings, and special centers.

Table A-2. High-FARMS Elementary Schools

School Name	2015 FARMS	School Name	2015 FARMS Rate
Arcola	75.5%	Lake Seneca	51.8%
Bel Pre	70.5%	Maryvale	44.1%
Broad Acres - JoAnn Leleck	95.0%	Meadow Hall	54.6%
Brookhaven	67.4%	Mill Creek Towne	48.7%
Brown Station	68.5%	Montgomery Knolls	64.6%
Burnt Mills	68.0%	New Hampshire Estates	91.1%
Burtonsville	52.3%	Oak View	76.8%
Cannon Road	66.1%	Oakland Terrace	31.6%
Capt. James Daly	70.5%	Pine Crest	50.3%
Clopper Mill	69.7%	Piney Branch	34.9%
Cresthaven	72.5%	Rock Creek Valley	38.2%
Dr. Charles Drew	51.0%	Rock View	52.2%
Dr. Sally K. Ride	48.8%	Rolling Terrace	70.5%
East Silver Spring	58.7%	Roscoe R. Nix	74.3%
Fairland	57.7%	Rosemont	61.6%
Fields Road	38.8%	S. Christa McAuliffe	50.8%
Flower Hill	64.1%	Sargent Shriver	81.9%
Forest Knolls	40.5%	Sequoyah	56.7%
Fox Chapel	51.2%	South Lake	82.3%
Gaithersburg	81.9%	Stedwick	56.4%
Galway	58.7%	Strathmore	62.6%
Georgian Forest	79.9%	Strawberry Knoll	46.8%
Glen Haven	61.7%	Summit Hall	81.1%
Glenallan	65.4%	Takoma Park	34.3%
Goshen	43.3%	Twinbrook	67.0%
Great Seneca Creek	38.1%	Viers Mill	65.4%
Greencastle	64.0%	Washington Grove	74.2%
Harmony Hills	87.0%	Waters Landing	53.0%
Highland	81.0%	Watkins Mill	71.4%
Highland View	46.5%	Weller Road	76.7%
Jackson Road	74.3%	Wheaton Woods	83.0%
Judith A. Resnik	56.8%	Whetstone	65.3%
Kemp Mill	78.5%	William Tyler Page	54.1%

Table A-3. Low-FARMS Elementary Schools

School Name	2015 FARMS Rate	School Name	2015 FARMS Rate
Ashburton	12.7%	Laytonsville	17.1%
Bannockburn	2.7%	Little Bennett	16.5%
Beall	26.1%	Lois P. Rockwell	22.3%
Bells Mill	9.5%	Lucy V. Barnsley	29.4%
Belmont	6.8%	Luxmanor	15.7%
Bethesda	6.7%	Monocacy	16.1%
Beverly Farms	5.5%	North Chevy Chase	14.1%
Bradley Hills	1.6%	Olney	21.3%
Brooke Grove	26.1%	Poolesville	12.9%
Burning Tree	4.1%	Potomac	1.1%
Candlewood	21.9%	Rachel Carson	20.5%
Carderock Springs	1.4%	Ritchie Park	19.6%
Cashell	21.4%	Rock Creek Forest	24.4%
Cedar Grove	12.5%	Ronald A. McNair	26.3%
Chevy Chase	14.0%	Rosemary Hills	27.5%
Clarksburg	15.3%	Seven Locks	5.5%
Clearspring	24.5%	Sherwood	16.8%
Cloverly	16.5%	Sligo Creek	13.3%
Cold Spring	0.9%	Somerset	7.4%
College Gardens	15.1%	Spark M. Matsunaga	18.5%
Damascus	25.3%	Stone Mill	9.2%
Darnestown	4.8%	Stonegate	22.0%
Diamond	8.9%	Thurgood Marshall	30.3%
DuFief	14.9%	Travilah	6.5%
Fallsmead	8.5%	Wayside	3.9%
Farmland	9.0%	Westbrook	2.9%
Flower Valley	24.4%	Westover	23.3%
Garrett Park	17.4%	William B. Gibbs, Jr.	31.1%
Germantown	31.3%	Wood Acres	3.1%
Greenwood	8.7%	Woodfield	19.2%
Jones Lane	27.4%	Woodlin	24.7%
Kensington-Parkwood	6.4%	Wyngate	3.2%
Lakewood	6.6%		

Table A-4. High-FARMS Middle Schools

School	2015 FARMS Rate
A. Mario Loiederman	61.1%
Argyle	60.9%
Benjamin Banneker	52.0%
Briggs Chaney	46.5%
Col. E. Brooke Lee	65.5%
Dr. Martin Luther King	46.7%
Eastern	45.1%
Forest Oak	58.7%
Francis Scott Key	63.2%
Gaithersburg	47.8%
Montgomery Village	62.3%
Neelsville	64.2%
Newport Mill	54.0%
Parkland	50.1%
Redland	38.3%
Shady Grove	41.6%
Silver Spring International	43.5%
Sligo	46.7%
White Oak	57.5%

Table A-5. Low-FARMS Middle Schools

School	2015 FARMS Rate
Cabin John	8.8%
Earle B. Wood	36.6%
Herbert Hoover	4.7%
John Poole	14.1%
John T. Baker	16.9%
Julius West	29.7%
Kingsview	17.0%
Lakelands Park	22.2%
North Bethesda	6.1%
Ridgeview	25.9%
Robert Frost	5.4%
Roberto Clemente	33.4%
Rocky Hill	20.7%
Rosa M. Parks	10.2%
Takoma Park	26.5%
Thomas W. Pyle	1.2%
Tilden	12.4%
Westland	12.6%
William H. Farquhar	11.8%

Table A-6. High-FARMS High Schools

School	2015 FARMS Rate
Albert Einstein	45.3%
Col. Zadok Magruder	34.0%
Gaithersburg	43.7%
James Hubert Blake	33.0%
John F. Kennedy	54.2%
Montgomery Blair	37.8%
Northwood	47.9%
Paint Branch	36.0%
Rockville	31.8%
Seneca Valley	38.2%
Springbrook	45.1%
Watkins Mill	53.6%
Wheaton	54.4%

Table A-7. Low-FARMS High Schools

School	2015 FARMS Rate
Bethesda-Chevy Chase	11.7%
Clarksburg	30.2%
Damascus	16.7%
Northwest	27.6%
Poolesville	7.2%
Quince Orchard	22.5%
Richard Montgomery	20.5%
Sherwood	16.9%
Thomas S. Wootton	5.1%
Walt Whitman	2.5%
Walter Johnson	6.9%
Winston Churchill	4.7%

Appendix B:
Methodology for Section V

The OLO dataset referenced and compiled in Appendix A excludes some student groups (e.g. students with disabilities in LRE B and C students) that needed to be added to the dataset for Section V to enable OLO to compare actual differences in per student expenditures between low- and high-FARMS schools to anticipated differences. Toward this end, OLO merged data describing the allocation of students and subgroups among low- and high-FARMS students as described in Appendix A with 2014-15 enrollment data described by MCPS in Schools at a Glance.

Table B-1. Estimated Demographic Data on Schools for Anticipated Cost Analysis, FY15

	All Schools Enrollment	High-FARMS Share of Students	Low-FARMS Share of Students	High-FARMS Enrollment	Low-FARMS Enrollment
Elementary Schools (131)					
Total Enrollment	**71,076**	51.0%	49.0%	36,249	34,827
FARMS Students	**28,715**	71.4%	29.6%	20,502	8,213
ESOL Students	**16,490**	75.2%	24.8%	12,400	4,090
Middle Schools (38)					
Total Enrollment	**33,169**	44.4%	55.6%	14,727	18,442
FARMS Students	**10,979**	72.0%	28.0%	7,905	3,074
ESOL Students	**2,886**	69.4%	30.6%	2,003	883
High Schools (25)					
# of Schools	**25**			13	12
Total Enrollment	**45,254**	49.0%	51.0%	22,174	23,080
FARMS Students	**12,852**	73.4%	26.6%	9,433	3,419
ESOL Students	**3,304**	74.3%	25.7%	2,455	849

B-2. Costs for general education, compensatory education, and ESOL programs per student

- Per student general education costs calculation:

  In FY15, this is calculated across all school levels as

  $898 million (Instructional Salaries) * 1.22 for benefits
  Minus $17.3 million (Preschool)
  Minus $90.8 million (Compensatory Education)
  Minus $63.8 million (ESOL programs)
  Divided by 154,048 (budgeted enrollment)
  Equals $5,754 per student

- Per student compensatory education costs calculation:

  In FY15, this is calculated across all school levels as

  $90.8 million (Compensatory Education)
  Divided by 52,861 (FARMS Enrollment)
  Equals $1,724 per K-12 FARMS student

- Per student ESOL costs calculation:

  In FY15, this is calculated across all school levels as

  $63.8 million (ESOL Programs)
  Divided by 20,300 (ESOL Enrollment)
  Equals $3,143 per ESOL student

B-3. Revenue for general education, compensatory education, and ESOL programs per student

- Per student general education revenue calculation:

  In FY15, this is calculated across all school levels as

  $898 million (Instructional Salaries) * 1.22 for benefits
  Minus $4.2 million (State and Federal Aid for Preschool)
  Minus $151.0 million (State & Federal Aid for Compensatory Education)
  Minus $59.0 million (State & Federal Aid for ESOL Programs)
  Divided by 154,048 (budgeted enrollment)
  Equals $5,723 per student

- Per student compensatory education revenue calculation:

  In FY15, this is calculated across all school levels as

  $151.0 million (State & Federal Aid for Compensatory Education)
  Divided by 52,681 (FARMS Enrollment)
  Equals $2,866 per FARMS student

- Per student ESOL revenue calculation:

  In FY15, this is calculated across all school levels as

  $59.0 million (State & Federal Aid for ESOL Programs)
  Divided by 54,225 (budgeted enrollment*13.9% ESOL Rate)
  Equals $2,755 per ESOL student

B-4. Costs for compensation in high- and low-poverty schools based on salaries per student

- Per student compensation costs calculation based on gap in average compensation between high- and low-poverty schools:

  For high-poverty elementary schools in FY15, for example, this was calculated as

  $72,180 * 1.22 for benefits
  Divided by 12.6 (Average number of students per MCEA staff)
  Equals $7,005 per student

  While for low-poverty elementary schools this was calculated as

  $76,039 * 1.22 for benefits
  Divided by 16.7 (Average number of students per MCEA staff)
  Equals $5,547 per student

- Per student costs with equal teacher salaries set to district average calculated as:

  For high-poverty elementary schools in FY15, for example, this was calculated as

  $73,799 * 1.22 for benefits
  Divided by 12.6 (Average number of students per MCEA staff)
  Equals $7,162 per student

  While for low-poverty elementary schools this was calculated as

  $73,799 * 1.22 for benefits
  Divided by 16.7 (Average number of students per MCEA staff)
  Equals $5,383 per student

- Per student costs with equal teacher salaries set to low-FARMS average calculated as:

  For high-poverty elementary schools in FY15, for example, this was calculated as

  $76,039 * 1.22 for benefits
  Divided by 12.6 (Average number of students per MCEA staff)
  Equals $7,380 per student

  While for low-poverty elementary schools this was calculated as

  $76,039 * 1.22 for benefits
  Divided by 16.7 (Average number of students per MCEA staff)
  Equals $5,547 per student

B-5. Costs for compensation in high- & low-poverty schools based on program costs per student

- Per student costs with Compensatory Education (and ESOL) costs allocated to schools based on their FARMS (and ESOL) Enrollment

  For high-poverty elementary schools in FY15, for example, this was calculated as the sum of

  36,249 students * 5,996 (general education per student costs) +
  20,502 FARMS students * 1,724 (compensatory ed. per student costs) +
  12,400 ESOL students * 3,143 (ESOL per student costs)
  Divided by 36,249 students
  Equals $8,046 per student

  While for low-poverty elementary schools this was calculated as the sum of

  34,827 students * 5,996 (general education per student costs) +
  8,213 FARMS students * 1,724 (compensatory ed. per student costs) +
  4,090 ESOL students * 3,143 (ESOL per student costs)
  Divided by 34,827 students
  Equals $6,775 per student

- Per student costs with Compensatory Education (and ESOL) costs allocated solely to *high-poverty schools* based on their FARMS (and ESOL) Enrollment

  For high-poverty elementary schools in FY15, where 70% of Compensatory Education costs are allocated, this was calculated as the sum of

  36,249 students * 5,996 (general education per student costs) +
  63,560,000 (70% of $90.8 million in comp ed. costs) +
  12,400 ESOL students * 3,143 (ESOL per student costs)
  Divided by 36,249 students
  Equals $8,825 per student

While for low-poverty elementary schools, where no Compensatory Education costs are allocated, this was calculated as the sum of

34,827 students * 5,996 (general education per student costs) +
8,213 ESOL students * 3,143 (ESOL per student costs)
Divided by 34,827 students
Equals $6,737 per student

B-6. Revenues for compensation in high- and low-poverty schools per student

- Per student costs with Compensatory Education (and ESOL) revenue allocated to schools based on their FARMS (and ESOL) Enrollment

  For high-poverty elementary schools in FY15, for example, this was calculated as the sum of

  36,249 students * 5,721 (general education per student revenue) +
  20,502 FARMS students * 2,866 (compensatory education per student revenue) + 12,400 ESOL students * 2,906 (ESOL per student revenue)
  Divided by 36,249 students
  Equals $8,336 per student

  While for low-poverty elementary schools this was calculated as the sum of

  34,827 students * 5,721 (general education per student revenue) +
  8,213 FARMS students * 2,785 (compensatory ed per student revenue) +
  3,828 ESOL students * 2,906 (ESOL per student revenue)
  Divided by 33,668 students
  Equals $6,738 per student

- Per student costs with Compensatory Education (and ESOL) revenue allocated solely to *high-poverty schools* based on their FARMS (and ESOL) Enrollment

  For high-poverty elementary schools in FY15, this was calculated as the sum of

  36,249 students * 5,721 (general education per student revenue) +
  105,700,000 (70% of $151 million in comp. ed revenue) +
  12,400 ESOL students * 2,906 (ESOL per student revenue)
  Divided by 36,249 students
  Equals $9,631 per student

  While for low-poverty elementary schools, this was calculated as the sum of

  34,827 students * 5,721 (general education per student revenue) +
  4,090 ESOL students * 2,906 (ESOL per student revenue)
  Divided by 34,827 students
  Equals $6,062 per student