

A REVIEW OF MONTGOMERY COUNTY PUBLIC SCHOOLS' CLASS SIZE DATA

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EXECUTIVE SUMMARY

Elected officials and community members often cite reducing class size in Montgomery County Public Schools (MCPS) classrooms as a high priority issue. At the request of the County Council, this Office of Legislative Oversight (OLO) report explains how MCPS defines and calculates various class size statistics and describes MCPS' process for allocating instructional staff to each school. The report also illustrates, through six case studies, how individual principals decide to assign the staff allocated to their schools. This staff allocation process ultimately determines the number of staff members and students assigned to each classroom.

The Board's adopted staffing guidelines, published in the MCPS budget, outline the basis for allocating staff positions to individual schools. Enrollment based formulas in the staffing guidelines determine approximately 90% of MCPS' instructional staff allocation. The guidelines base other staff allocations on Educational Load calculations and the special programs at individual schools.

MCPS publishes various statistics and guidelines to describe class sizes and ratios of students to teachers. No single statistic adequately summarizes class sizes or illustrates the range of individual class sizes. When reviewing class size statistics, it is important to be aware of the assumptions behind any calculations and to understand both the value and limits of the data presented.

To enhance the Council's understanding of the class size issue, the Office of Legislative Oversight recommends that:

MCPS should provide the Council with an annual summary of key class size data. In addition to "average" class size data, MCPS should provide data that offer a good perspective on the range of individual class sizes throughout the school system. In addition, MCPS should identify specifically where class sizes vary from the Board's adopted maximum class size guidelines and by how much.

MCPS should calculate and publish a new statistic that relates the number of students in each school to the number of "instructional staff" in the school, defined to include all certified teachers and instructional assistants that work directly with students. MCPS' current calculations of student-to-staff ratios do not include instructional assistants, most of whom either help students within the classroom or provide more individualized instruction in small groups outside of the classroom.

Any requests for funds to lower class sizes should outline explicitly how and when the additional appropriation would change MCPS class sizes and the multi-year fiscal impact of the request. To enable the Council to understand the impact of funding requests related to lowering class size, any such request should include an explanation of how and when the initiative is expected to change, for example, the number of large classes, average class size statistics, and/or the ratio of instructional staff to students. MCPS should also describe the multi-year fiscal impact of the request.

I. INTRODUCTION

A. Authority

Council Resolution No. 130-939, FY 1998 Work Program of the Office of Legislative Oversight, adopted June 24, 1997.

B. Scope

Elected officials and community members often cite reducing class size in Montgomery County Public Schools (MCPS) classrooms as a high priority issue. At the request of the County Council, this Office of Legislative Oversight report explains how MCPS defines and calculates various class size statistics, and describes MCPS' process for allocating instructional staff to each school. Through the use of case studies, the report also illustrates how individual principals decide to assign the staff allocated to their schools. This process ultimately determines the number of staff members and students assigned to each classroom.

The report addresses the following questions:

- How does MCPS calculate average class size data?
- What are the Board of Education's maximum class size guidelines and how many classes are above the guidelines?
- What other data does MCPS generate on class size?
- What process does MCPS use to allocate school-based instructional staff and what are the MCPS staffing guidelines?
- How does the budget development process relate to the staff allocation process?
- What are MCPS' current initiatives to reduce the number of classes larger than the Board's maximum class size guidelines?

This report describes the allocation of school-based instructional staff, referred to as "instructional staff," including:

- regular classroom teachers;
- special support teachers;
- instructional assistants;
- career preparation and vocational support teachers;
- English for Speakers of Other Languages (ESOL) teachers;
- Head Start and Extended Elementary Education Program teachers;
- physical education, art, and music teachers;
- reading teachers; and
- Title I teachers.

This report describes the allocation of instructional assistants, but excludes all other support services staff. It also does not address how MCPS allocates principals/assistant principals, counselors, student support specialists, media specialists/assistants, or special education staff.

C. Organization of Report

Chapter II explains the different MCPS guidelines and statistics related to class size, including: average class size, the Board of Education's maximum class size guidelines, student/professional staff ratio, and service ratio. It also summarizes the sizes of individual MCPS classes.

Chapter III describes MCPS' process for allocating instructional school-based staff, and explains how this process relates to MCPS' annual budget process. This chapter also describes the Board adopted staffing guidelines, which define how MCPS allocates different staff positions.

Chapter IV describes current MCPS initiatives to lower class size.

Chapter V uses six County schools as case studies to illustrate the staff allocation process, the principals' decisions regarding staff use, and the number of students in selected classes.

Chapter VI presents OLO's findings and recommendations.

The last section of Chapter I defines relevant terms used throughout this report.

D. Methodology

Jennifer Kimball, a research assistant in the Office of Legislative Oversight (OLO), conducted this project, with guidance from Karen Orlansky, Director of OLO.

OLO collected information for this study from enrollment reports, class size reports, and other memos and reports produced and provided by MCPS. OLO supplemented the written documents with information gained from interviews with MCPS central administrative staff and individual principals.

E. Acknowledgments

The Office of Legislative Oversight appreciates the cooperation and assistance provided by MCPS staff during the course of this project. In particular, OLO extends special thanks to Mr. James Terrill in the Office of the Deputy Superintendent; Dr. Steven Seleznow and Dr. Jerrilyn Andrews in the Office of School Administration; Dr. Marshall Spatz in the Department of Management, Budget, and Planning; Mr. Bruce Crispell in the

Department of Educational Facilities Planning and Capital Programming; Dr. Marlene Hartzman in the Department of Educational Accountability; and the principals and other MCPS staff who provided information for the case studies.

F. Definitions of Terms

Academic Classes - Refers to middle and high school mathematics, foreign language, science, social studies, and required and non-required English courses. Required English courses are middle and high school English courses required for graduation.

Average Class Size - MCPS calculates average class size as the total number of students divided by the total number of classes. Technically, it is the “mean number” of students per class, calculated at a single point in time. MCPS publishes the average class size for a variety of grade levels and courses. Chapter II of this report provides additional information on average class size.

Board of Education Maximum Class Size Guidelines - The maximum class size guidelines indicate the Board of Education’s class size goals. The Board developed the maximum class size guidelines to describe and evaluate the class sizes of different MCPS courses and grade levels. MCPS tracks the number of classes that are above and below the guidelines to get a picture of class sizes across the school system and to identify where class sizes should be changed. Table 4 (page 14) lists the Board’s maximum class size guidelines.

Combination Classes - Combination classes are elementary level classes that include students from two grade levels. MCPS creates the following combination classes: grade 1/2, grade 2/3, grade 3/4, grade 4/5, and grade 5/6. Combination class teachers cover the curriculum requirements for both grade levels and develop lesson plans appropriate to students in both grade levels. Each school’s principal decides whether the school will have combination classes during the school year.

Educational Load - Educational Load identifies demographic features related to academic performance. The factors that MCPS may consider when calculating Educational Load include:

- Free and Reduced-priced Meals System (FARMS) participation;
- number of students older than the grade age;
- internal student mobility;
- external student mobility; and
- number of students with limited English proficiency.

For the 1997-98 school year, MCPS calculates Educational Load as the percentage of students who currently or ever participated in the Free and Reduced-priced Meals System (FARMS).

Education Management Team/School Admission, Review, and Dismissal (EMT/SARD) - Refers to the group of school-based and central office staff that determines what special services students need in order to succeed in the regular classroom and/or determines eligibility for special education programs and the appropriate level of special education services.

Extended Elementary Education Program (EEEP) - EEEP is a state supported program providing half day pre-kindergarten education to four year old children. The goal of the program is to help children develop skills necessary for future successful school performance. MCPS selects schools to participate based on the number of students eligible for Free and Reduced-price Meals System, demographic profiles, Maryland School Performance Assessment Program results, and the need for preschool programs. Currently, 13 schools house 24 half day EEEP classes. MCPS staffs each class of twenty students with a teacher and an instructional assistant.

Free and Reduced-price Meals System (FARMS) - Provides free and reduced-price meals in school cafeterias based on economic need.

Full Time Equivalent (FTE) - A FTE represents a position allocated to work 40 hours per week. The table below shows how portions of full time equivalent positions convert to hours worked.

Full Time Equivalents (FTEs) Converted to Hours

Professional Positions		Supporting Services Positions	
FTE Positions	Hours (Bi-Weekly)	FTE Positions	Hours (Daily)
1.000	80	1.000	8
.900	72	.875	7
.800	64	.750	6
.700	56	.625	5
.600	48	.500	4
.500	40	.375	3
.400	32	.250	2
.300	24	.125	1
.200	16		
.100	8		

Instructional System for Mathematics Program (ISM) - The ISM program consists of mathematics instruction and assessment, and data collection and reporting at the elementary and middle school levels. The ISM instructional assistants assess student performance of mathematics objectives, record data on student performance, support classroom mathematics instruction, and meet with groups of students to provide more individual mathematics assistance.

Mobility Rate - The sum of entrants and withdrawals from a school during the school year. Entrants are the number and percent of students who transferred into a school; withdrawals are the number and percent of students who transferred or dropped out of a school during the school year. The two percentages are added to calculate the total mobility rate.

Multidisciplinary Educational, Training, and Support Program (METS) - The METS program establishes small classes for ESOL students with interrupted education, to prepare them for instruction in a regular classroom. At the elementary level, students remain in the METS classroom for the entire school day. At the middle and high school level, students take mathematics, reading, and social studies in METS classes and the remainder of their courses in regular education classes. METS program classes contain approximately 15 students.

Quality Integrated Education Program (QIE) - The QIE policy establishes a means for identifying schools most in need of supplementary resources to support quality education as economically as possible. MCPS identifies schools and allocates QIE resources based on Educational Load calculations and academic achievement levels, including MCPS Criterion-Referenced Test and Maryland School Performance Assessment Program results, and the percentage of students who qualify for Algebra I in grade 9.

Regular Student Enrollment - Regular student enrollment includes all regular education students and students receiving intensity one, two, and three special education services.

Service Ratio - The service ratio represents the ratio of students to special support teachers in a school. MCPS calculates the service ratio by dividing the school enrollment by the number of special support teacher positions in the school. MCPS allocates special support teachers in addition to regular classroom teachers to serve a particular need or program area in a school. Special support teachers include:

- Quality Integrated Education (QIE)/ academic support teachers;
- cluster magnet/special program teachers;
- disadvantaged support/alternative teachers;
- English for Speakers of Other Languages (ESOL) support teachers;
- special needs teachers;
- mainstreaming support teachers; and
- instructional support teachers.

MCPS does not publish the service ratios in Schools at a Glance or the MCPS budget. Staff members use the ratio internally to verify that they allocated special support teachers appropriately.

Student/Professional Staff Ratio - The student/professional staff ratio is the number of students per professional staff member in a school. MCPS defines professional staff positions to include: principals, assistant principals, principal trainees, certified teachers, counselors, media specialists, and positions for professional special education related services. The professional staff category and the student/professional staff ratio do not include instructional support, building services, and other non-professional support positions.

II. CLASS SIZE DATA

This chapter explains how Montgomery County Public Schools defines and uses the following guidelines and statistics related to class size:

- average class size;
- maximum class size guidelines;
- student/professional staff ratio; and
- service ratio.

The end of this chapter summarizes MCPS data on individual class sizes for the 1997-98 school year.

A. Average Class Size

1. What is average class size and how is it calculated?

Individuals frequently cite average class size data to describe and evaluate the County's school system. MCPS calculates average class size as the total regular student enrollment divided by the total number of classes. Technically, it is the "mean number" of students per class, calculated at a single point in time. Over time, as enrollment changes, the average class size statistic changes as well.

MCPS calculates systemwide average class size statistics at the elementary school level for:

- kindergarten classes;
- each grade level (grades 1-6); and
- each combination class level (grades 1/2, 2/3, 3/4, 4/5, and 5/6).

Table 1 (page 10) shows the formula for calculating kindergarten and elementary school (grades 1-6) average class sizes. The table includes a sample calculation of average class size for kindergarten classes and for second grade classes.

At the middle and high school levels, MCPS calculates systemwide average class size statistics for:

- middle school (grade 6-8) required English courses;
- all middle school academic courses and each academic course;
- all middle school non-academic courses;
- high school (grade 9-12) required English courses;
- all high school academic courses and each academic course; and
- all high school non-academic courses.

Table 2 (page 11) shows the formulas that MCPS uses to calculate average class sizes at the middle and high school levels, including required English courses, academic courses, and non-academic courses. The table includes sample average class size calculations for middle school required English courses, all high school academic courses, and all high school non-academic courses.

While the average class size figure provides a valid overview of class size across the entire school system, additional information is needed to understand the sizes of individual classes and the instructional staff assigned to classrooms. For instance, average class size calculations reflect the number of students per class or classroom teacher, but do not indicate how many other instructional staff are assigned to the class. For example, when a classroom teacher and an instructional assistant are assigned to a classroom, only the teacher is reflected in the average class size data. The average class size does not account for the instructional assistant who also works in the classroom with the students.

Academic Course

The term “academic course,” in the middle and high school formulas, refers to mathematics, foreign language, science, social studies, and required and non-required English courses. Required English courses are those required for graduation. All other English courses (e.g., advanced composition or Journalism) are considered non-required English courses. MCPS calculates the systemwide average class size for all academic courses as well as for each individual academic course.

All of the MCPS courses not listed as “academic courses” above are included in the “non-academic course” average class size calculations. Examples of non-academic courses include: studio art, word processing, technical drawing, and music theory and composition. MCPS calculates one average class size for all the non-academic courses together.

Regular Student Enrollment and Students Receiving Special Education Services

The average class size formulas use the term “regular student enrollment,” which includes all regular education students and students receiving intensity one, two, and three special education services. The “regular student enrollment” **does not** include students receiving intensity four or five special education services.

MCPS defines intensity one, two, and three special education services as follows:

- intensity 1 - student receives a one time service or periodic indirect service such as assessment and consultation;
- intensity 2 - student receives up to five hours of direct special education services per week on an intermittent or regular basis;
- intensity 3 - student receives direct special education intervention not provided by the general education program on a continuous basis for at least one hour a day.

“Regular student enrollment” includes all intensity one through three students because MCPS always mainstreams those students in regular education classes. As a result, average class size data reflects students receiving intensity one through three special education services.

MCPS defines intensity four and five special education services as follows:

- intensity 4 - student receives services for more than three hours per day, including special education provided by a special education teacher and related services as described in the individualized education program;
- intensity 5 - student receives special class placement and comprehensive services for the entire school day.

The Department of Special Education supports an “inclusion” model for educating these students. This means that the Department places the students receiving intensity four and five special education services in regular classrooms for portions of the school day, as appropriate. Special education staff accompany the mainstreamed students in the regular classrooms. The case studies in Chapter V of this report further describes the impact on class size of mainstreaming students who receive special education services.

Table 1: Kindergarten and Elementary School Average Class Size Calculations

Kindergarten Average Class Size

$$\frac{\text{Regular Student Enrollment in Kindergarten}}{\text{Number of Kindergarten Attendance Sections}}^a$$

Example

On Oct. 31, 1997, there were 9,065 students enrolled in 425 MCPS kindergarten classes or attendance sections. The kindergarten average class size was:

$$\frac{9,065}{425} = 21.3$$

Elementary School Average Class Size

$$\frac{\text{Regular Student Enrollment in Grade 1-6}^b}{\text{Number of Elementary School Attendance Sections}}^a$$

Example

On Oct. 31, 1997, there were 9,406 students in grade two in 384 classes or attendance sections. The grade two average class size was:

$$\frac{9,406}{384} = 24.5$$

^a An attendance section is equivalent to a class.

^b Fifteen elementary schools and all of the County's 30 middle schools contain sixth grade classes. For this reason, the sixth grade appears in both the elementary and middle school average class size formulas.

Table 2: Middle and High School Average Class Size Calculations

Middle and High School Average Class Size for Required English Courses

$$\frac{\text{Regular Student Enrollment in Grade 6-8 Required English Courses}}{\text{Number of Required English Classes}}$$

or

$$\frac{\text{Regular Student Enrollment in Grade 9-12 Required English Courses}}{\text{Number of Required English Classes}}$$

Example

On October 31, 1997, there were 25,493 students enrolled in middle school required English courses in 1,059 classes. The average class size was:

$$\frac{25,493}{1,059} = 24.1$$

Middle and High School Average Class Size for Academic Courses

$$\frac{\text{Regular Student Enrollment in Grade 6-8 Academic Courses}}{\text{Number of Academic Classes}}$$

or

$$\frac{\text{Regular Student Enrollment in Grade 9-12 Academic Courses}}{\text{Number of Academic Classes}}$$

Example

On Oct. 31, 1997, there were 129,135 students enrolled in high school academic courses (includes mathematics, science, social studies, foreign language, and required and non-required English) in 5,136 different classes. The average class size was:

$$\frac{129,135}{5,136} = 25.1$$

Middle and High School Average Class Size for Non-Academic Courses

$$\frac{\text{Regular Student Enrollment in Grade 6-8 Non-Academic Courses}}{\text{Number of Non-Academic Classes}}$$

or

$$\frac{\text{Regular Student Enrollment in Grade 9-12 Non-Academic Courses}}{\text{Number of Non-Academic Classes}}$$

Example

On Oct. 31, 1997, there were 54,055 students enrolled in high school non-academic courses in 1,795 different classes. The average class size was:

$$\frac{54,055}{1,795} = 30.1$$

What average class size data does MCPS routinely publish?

The Board of Education's annual requested and approved operating budget documents include systemwide average class size data for kindergarten classes, elementary school classes (grades 1-6), middle school academic classes, and high school academic classes.

Every November, MCPS' Department of Educational Accountability publishes the Official Elementary and Secondary Class Size Report for the Board of Education. Appendix A includes a copy of the November 21, 1997 report. For the elementary level, the report includes the systemwide average class size data for:

- kindergarten classes;
- each grade level (grades 1-6);
- combination classes at each grade level;
- total grade 1-6 and combination classes; and
- total kindergarten - grade 6 and combination classes.

For the middle and high school levels, the report presents the systemwide average class size for:

- required English courses;
- each other academic course (mathematics, social studies, science, foreign language, and non-required English);
- all academic courses (mathematics, social studies, science, foreign language, required and non-required English);
- ESOL courses; and
- all non-academic courses.

Table 3 lists the average class sizes published in the November 1997 Official Elementary and Secondary Class Size Report.

Table 3: Systemwide Average Class Size Data - 1997-98 School Year

Classes	Average Class Size
Kindergarten	21.3
Grades 1-6 (includes combination classes)	24.2
Middle School - Required English	24.1
Middle School - All Academic	25.1
Middle School - Non-Academic	30.1
High School - Required English	25.4
High School - All Academic	26.5
High School - Non-Academic	27.5

MCPS' Department of Educational Accountability publishes the average class size by school annually in a document titled Schools at a Glance. For each elementary school, Schools at a Glance publishes the average class size for kindergarten classes and all grades 1-6 classes. For each secondary school, it includes the average class size of all the required English classes and of all the "other academic courses" (mathematics, science, social studies, and foreign language). Schools at a Glance also publishes systemwide average class size data.

B. Maximum Class Size Guidelines

One of the Board of Education's stated goals is to reduce the number of MCPS classes that exceed the Board's adopted maximum class size guidelines. The maximum class size guidelines indicate the Board of Education's target class sizes for different MCPS courses and grade levels. MCPS tracks the number of classes that are above and below the guidelines to get a picture of class sizes across the school system and to identify where class sizes should be changed.

Table 4 (page 14) lists the Board's maximum class size guidelines. The table also summarizes information on the number of classes above the maximum class size guidelines for the 1997-98 school year. These data are from MCPS' November 1997 class size report found in Appendix A. That report also shows the number of classes above the Board's maximum class size guidelines during the 1995-96 and 1996-97 school years.

Table 4: Maximum Class Size Guidelines - 1997-98 School Year

Class	Maximum Class Size Guideline	Classes Over Guideline	Percent of Total Classes
Elementary School			
Kindergarten	24 ^a	0	0%
Grades 1-3	28	50	4%
Grades 4-6	30	23	3%
Middle School			
Required English	28	160	15%
Other Academic ^b	32	189	5%
High School			
Required English	28	233	19%
Other Academic ^b	32	561	11%

^a Maximum class size guideline for kindergarten classes with an aide is 30.

^b Other Academic includes Science, Mathematics, Social Studies, Foreign Language, and non-required English courses.

C. Student/Professional Staff Ratio

In addition to average class size data, the Department of Educational Accountability's Schools at a Glance contains each school's student/professional staff ratio. The student/professional staff ratio is the number of students per professional staff member in a school. MCPS defines professional staff positions to include: principals, assistant principals, certified teachers, counselors, media specialists, and positions for professional special education related services. MCPS does not include instructional support, building services positions, and other non-professional positions in the student/professional staff ratio.

Table 5 (table 15) shows how MCPS calculates the ratio. The denominator only includes the school staff classified as "professional." The formula uses half of the Head Start and kindergarten enrollment because the majority of those classes last for half of a school day.

MCPS most recently published the student/professional ratio for the 1996-97 school year. The data indicated that the student/professional ratio ranged from:

- 10:1 to 18:1 at the elementary level;
- 12:1 to 16:1 at the middle school level; and
- 14:1 to 17:1 at the high school level.

Table 5: Student/Professional Staff Ratio Calculation

$$\frac{1/2 \text{ of Head Start enrollment} + 1/2 \text{ of kindergarten enrollment} + \text{total grade 1-12 enrollment}}{\text{Number of professional staff}}$$

Example

The student/professional staff ratio in an elementary school with 22.8 professional staff and the following enrollment is:

Head Start enrollment = 19

Kindergarten enrollment = 88

Grade 1-5 enrollment = 244

$$\frac{9.5 + 44 + 244}{22.8} = 13.03$$

D. Service Ratio

MCPS staff also calculate a statistic known as the service ratio. MCPS does not publish the service ratios in Schools at a Glance or the MCPS budget. MCPS staff use the service ratio internally to verify that they allocated special support teachers appropriately. MCPS allocates special support teachers in addition to regular classroom teachers to serve a particular need or program area in a school. Special support teachers include:

- cluster magnet teachers;
- disadvantaged support/alternative teachers;
- ESOL support teachers;
- instructional support teachers;
- mainstreaming support teachers;
- Quality Integrated Education (QIE)/academic support teachers;
- special needs teachers; and
- special program teachers.

Chapter III of this report further describes these staff positions.

MCPS staff calculate the service ratio by dividing the school enrollment by the number of special support teacher positions in the school. In general, the service ratio is lower (more special support teachers per student) in schools with high Educational Load calculations. For the 1997-98 school year, MCPS defines Educational Load as the percentage of students in the school who currently or ever participated in the Free or

Reduced-priced Meals System. The service ratio is also generally lower in schools with lower standardized test scores and in schools with special magnet programs. The service ratios vary widely across the school system.

E. Individual Class Sizes

Individual classes across the school system are either larger, smaller, or equal to the average class size. Information on individual class sizes provides a more detailed picture of actual class sizes throughout the school system.

MCPS' Official Elementary and Secondary Class Size Report shows the number of classes by different class size ranges. The charts and graphs on pages 17 through 24 summarize these data (as of October 31, 1997). They display the number of classes in the different class sizes ranges for the following classes:

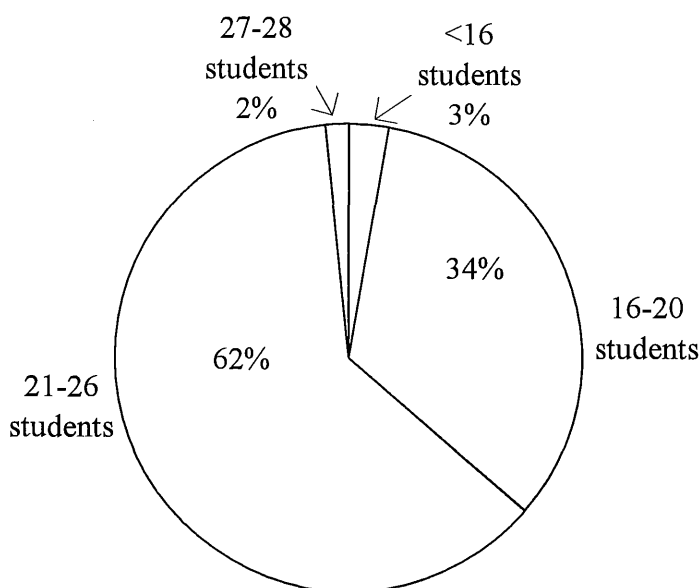
- kindergarten;
- grades 1-3;
- grades 4-6 (includes all grades 4 and 5 classes plus 17 sixth grade classes housed in elementary schools);
- combination (1/2 through 5/6);
- middle school academic;
- middle school non-academic;
- high school academic; and
- high school non-academic.

The 1997-98 school year data indicate that the majority of kindergarten and elementary level classes contain between 21 and 26 students. For academic classes at the middle and high school level, approximately one quarter of the classes fell into each of the following ranges: 21 to 25 students, 26 to 28 students, and 29 to 32 students. The majority of the middle and high school non-academic classes fell in the top two ranges: 29-32 students and more than 32 students.

Individual Class Size Data 1997-98 School Year

Distribution of Kindergarten Class Sizes

	Fewer than 16 students	16-20 students	21-26 students	27-28 students	29-30 students	More than 30 students	Total
# of Kindergarten Classes	12	143	263	7	0	0	425
% of Kindergarten Classes	2.8%	33.6%	61.9%	1.6%	0%	0%	100.0%

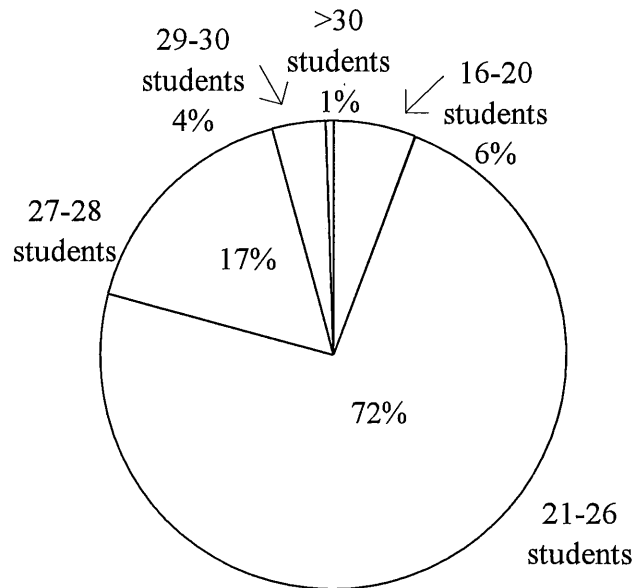


- More than half of the MPCS kindergarten classes contain between 21 and 26 students.
- Approximately one third of the classes contain between 16 and 20 students.
- No kindergarten classes contain more than 28 students.

Distribution of Grades 1-3 Class Sizes

	Fewer than 16 students	16-20 students	21-26 students	27-28 students	29-30 students	More than 30 students	Total
# of Grade 1-3 Classes	1	67	852	194	42	8	1164
% of Grade 1-3 Classes	0.1%	5.8%	73.2%	16.7%	3.6%	0.7%	100.0%

Does not include combination classes



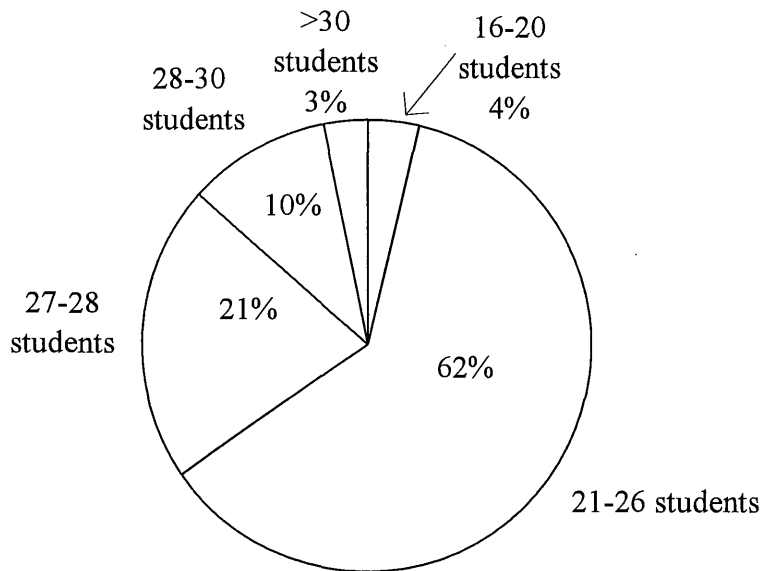
- Almost 75% of the grades 1 through 3 classes contain between 21 and 26 students.
- Another 17% of the classes contain between 27 and 28 students.
- Approximately 5% of the grades 1 through 3 classes contain more students than the Board's maximum class size guideline of 28 students.

Distribution of Grade 4-5* Class Sizes

	Fewer than 16 students	16-20 students	21-26 students	27-28 students	29-30 students	More than 30 students	Total
# of Grade 4-5 Classes	0	27	454	157	76	23	737
% of Grade 4-5 Classes	0.0%	3.7%	61.6%	21.3%	10.3%	3.1%	100.0%

* Includes all grade 4 and 5 classes, plus the 17 sixth grade classes housed in elementary schools.

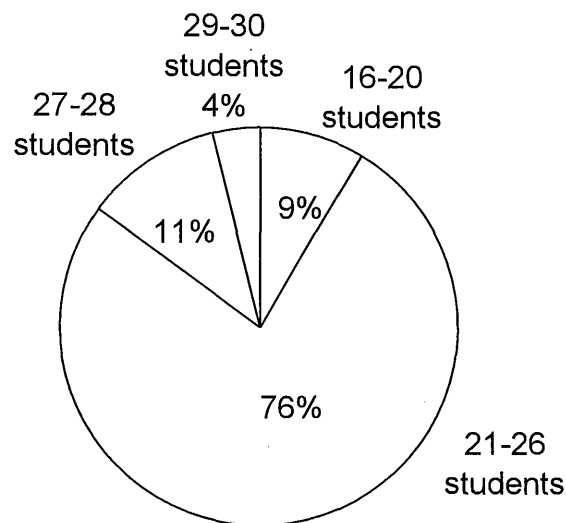
Does not include combination classes



- Approximately 60% of these classes contain between 21 and 26 students.
- Approximately 30% of the classes contain between 27 and 30 students.
- Only 3% of the classes are larger than the Board's guidelines of 30 students.

Distribution of Grade 1-6 Combination Class Sizes

	Fewer than 16 students	16-20 students	21-26 students	27-28 students	29-30 students	More than 30 students	Total
# of Combination Classes	0	7	61	9	3	0	80
% of Combination Classes	0.0%	8.8%	76.3%	11.3%	3.8%	0.0%	100.0%



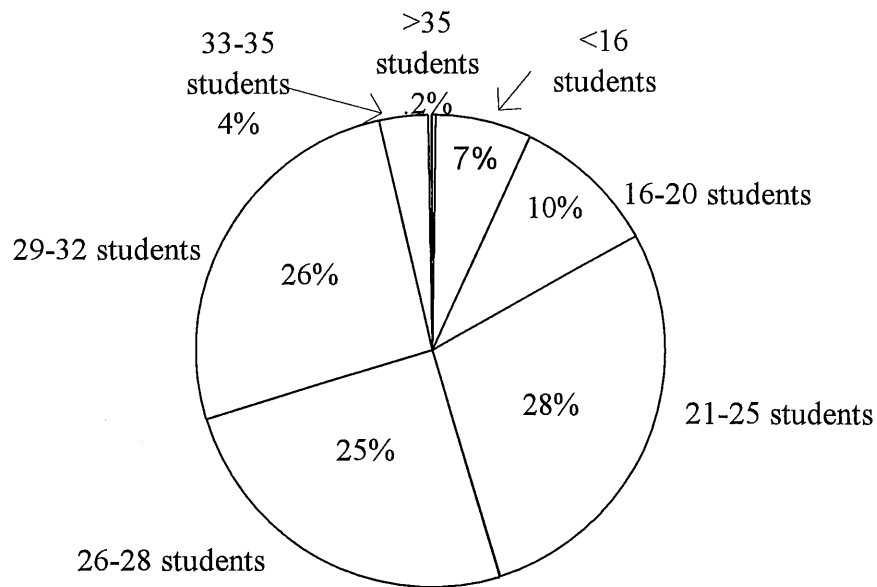
- Nine percent of the combination classes contain between 16 and 20 students.
- Approximately 75% of the combination classes contain between 21 and 26 students.
- The remaining 15% of the classes contain between 27 and 30 students.

Distribution of Middle School Academic Class Sizes*

	Fewer than 16 students	16-20 students	21-25 students	26-28 students	29-32 students	33-35 students	More than 35 students	Total
# of Middle School Academic Classes	353	520	1455	1277	1339	182	10	5136
% of Middle School Academic Classes	6.9%	10.1%	28.3%	24.9%	26.1%	3.5%	0.2%	100.0%

* Includes Foreign Lang., Social Studies, Mathematics, Science, and required and non-required English classes

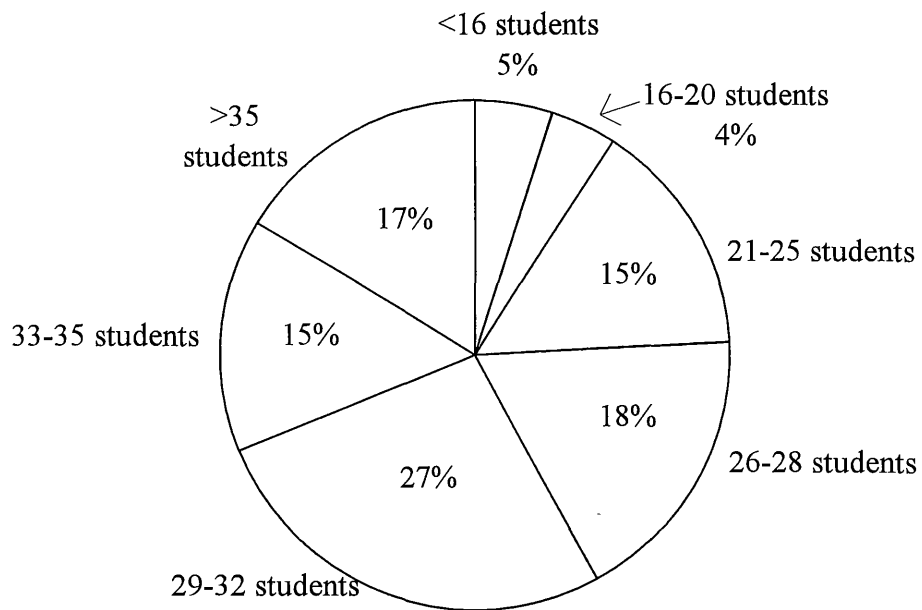
NOTE: MCPS uses different class size ranges to describe the middle and high school class sizes.



- Approximately one fourth of the classes fall into each of the following categories: 21-25 students, 26-28 students, and 29-32 students.
- The Board's maximum class size guideline for middle school academic classes (other than required English) is 32 students. Approximately 4% percent of the middle school academic classes contain more than 32 students.

Distribution of Middle School Non-Academic Class Sizes

	Fewer than 16 students	16-20 students	21-25 students	26-28 students	29-32 students	33-35 students	More than 35 students	Total
# of Middle School Non-Acadmic Classes	88	78	268	321	481	262	297	1795
% of Middle School Non-Academic Classes	4.9%	4.3%	14.9%	17.9%	26.8%	14.6%	16.5%	100.0%

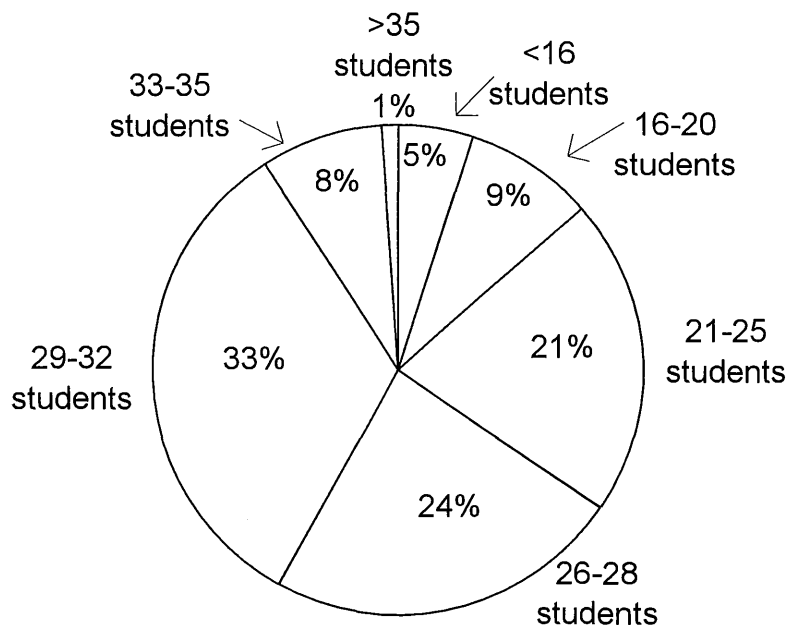


- Approximately 9% of the classes contain 20 or fewer students.
- Approximately 15% contain between 21 and 25 students.
- Another 18% and 27% of the middle school non-academic classes contain between 26-28 students and 29-32 students respectively.
- About 30% of the classes contain more than 32 students.

Distribution of High School Academic Class Sizes

	Fewer than 16 students	16-20 students	21-25 students	26-28 students	29-32 students	33-35 students	More than 35 students	Total
# of High School Academic Classes	314	535	1286	1464	2024	509	62	6194
% of High School Academic Classes	5.1%	8.6%	20.8%	23.6%	32.7%	8.2%	1.0%	100.0%

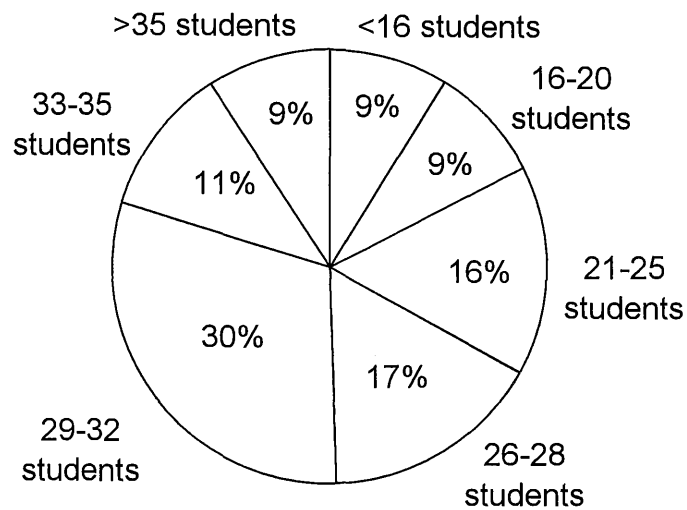
Includes Foreign Lang., Social Studies, Mathematics, Science and required and non-required English classes



- Forty five percent of the high school academic classes contain between 21 and 28 students.
- Another 33% of the classes contain between 29 and 32 students.
- Fourteen percent of the classes contain 20 or fewer students.
- Nine percent of the classes contain more than 32 students, the Board's maximum class size guideline for high school academic classes (except required English.)

Distribution of High School Non-Academic Class Sizes

	Fewer than 16 students	16-20 students	21-25 students	26-28 students	29-32 students	33-35 students	More than 35 students	Total
# of High School Non-Academic Classes	173	169	302	323	588	217	181	1953
% of High School Non-Academic Classes	8.9%	8.7%	15.5%	16.5%	30.1%	11.1%	9.3%	100.0%



- Approximately 30% of the high school non-academic classes contain between 21 and 28 students .
- Thirty percent of the classes contain between 29 and 32 students.
- Twenty percent of the classes contain more than 32 students.
- Approximately 18% contain 20 or fewer students.

III. MCPS STAFF ALLOCATION PROCESS

A. Introduction

MCPS staff in the Office of School Administration (OSA) and the Office of Instruction and Program Development (OIPD) allocate teacher and instructional assistant positions to individual schools based on the staffing guidelines adopted by the Board of Education. Principals then assign instructional staff and establish class sizes based on multiple factors, including the number of instructional staff allocated to the school, student enrollment, curriculum requirements, and student and teacher interests and abilities. This chapter reviews:

- the MCPS central offices that determine staff allocations to schools;
- the staffing guidelines; and
- the steps in the MCPS instructional staff allocation process.

The Office of School Administration (OSA) allocates the majority of the MCPS school-based positions. Divisions in the Office of Instruction and Program Development and the Office of Supportive Services also determine some position allocations. Table 6 (page 26) lists the positions that each office or division allocates according to established guidelines. For reference, Appendix B contains a MCPS organization chart.

This chapter reviews the allocation of the following school-based instructional positions:

- regular classroom teachers;
- special support teachers;
- instructional assistants;
- career preparation and vocational support teachers;
- ESOL teachers;
- Head Start and EEEP teachers;
- physical education, art, and music teachers;
- reading teachers; and
- Title I teachers.

This report does not describe the allocation of special education staff. The Department of Special Education allocates those positions, based on a separate set of staffing guidelines. This report also does not describe the allocation of principals/assistant principals, counselors, media specialists/assistants, and support staff other than instructional assistants.

MCPS staff base the staff allocations on the Board adopted staffing guidelines, which indicate how many positions should be distributed to each school. MCPS publishes the staffing guidelines annually in the operating budget. Appendix C contains a copy of

the staffing guidelines from the MCPS FY 98 approved budget. MCPS used these guidelines to allocate staff for the 1997-98 school year.

The MCPS staffing guidelines are not the same as the Board of Education's maximum class size guidelines. The **staffing guidelines** designate the basis for allocating staff positions to individual schools. The **maximum class size guidelines** indicate the Board's class size goals.

Table 6: Offices Responsible for Determining Staff Allocations

Office of School Administration determines the allocation the following positions:	Divisions in the Office of Instruction and Program Development determines the allocation the following positions:	Divisions in the Office of Supportive Services determines the allocation the following positions:
<ul style="list-style-type: none"> • classroom teachers • cluster magnet/special program support teachers • disadvantaged support/alternative teachers • ESOL support teachers • instructional support teachers • mainstreaming support teachers • QIE/Academic Support teachers • special needs teachers • physical education, music, and art teachers • reading teachers • instructional assistants ¹ • media specialists • media services technicians • media assistants • principals • assistant principals • counselors • secretaries 	<p>Division of Aesthetic, Health, and Physical Education²:</p> <ul style="list-style-type: none"> • elementary level art teachers • elementary level music teachers • elementary level physical education teachers <p>Division of ESOL:</p> <ul style="list-style-type: none"> • ESOL teachers • ESOL instructional assistants <p>Division of Early Childhood Services:</p> <ul style="list-style-type: none"> • Title 1 staff • Head Start staff • Extended Elementary Education Program (EEEP) staff <p>Department of Special Education:</p> <ul style="list-style-type: none"> • special education staff <p>Division of Career and Technology Education:</p> <ul style="list-style-type: none"> • vocational support positions • career prep teachers • career information assistants 	<p>Division of School Plant Operations:</p> <ul style="list-style-type: none"> • building services employees <p>Division of Food and Nutrition Services:</p> <ul style="list-style-type: none"> • food service employees

¹ Includes the following kinds of instructional assistants: regular, kindergarten, grade 1-2, Quality Integrated Education, Instructional System for Mathematics, English composition, computer lab, Success for Every Student.

² Staff in the Division of Aesthetic, Health, and Physical Education work with the Office of School Administration staff to determine the allocation of elementary level physical education, music, and art teachers to individual schools. The Office of School Administration determines the allocation of secondary level physical education, music, and art teachers and includes those positions in the classroom teacher allocation.

B. Steps in the Staff Allocation Process

The remainder of this chapter describes the steps in the staff allocation process. The flow chart in Table 7 (page 28) illustrates these steps. The flow chart also describes the operating budget development process, which takes place in conjunction with the staff allocation process. To illustrate the staff allocation process, this chapter refers to the 1997-1998 school year allocation and FY 1998 budget development process.

Step 1. Staff in the Department of Educational Facilities Planning and Capital Programming develop enrollment projections for the 1997-1998 school year

Enrollment is a key determinant of staff allocations. In fact, the staffing guidelines base the majority of the allocations on enrollment based formulas. The Superintendent completes his recommended budget in late November or early December, before actual student enrollment figures for the next school year are available. As a result, MCPS staff base the number of positions to include in the Superintendent's recommended budget on projected enrollment.

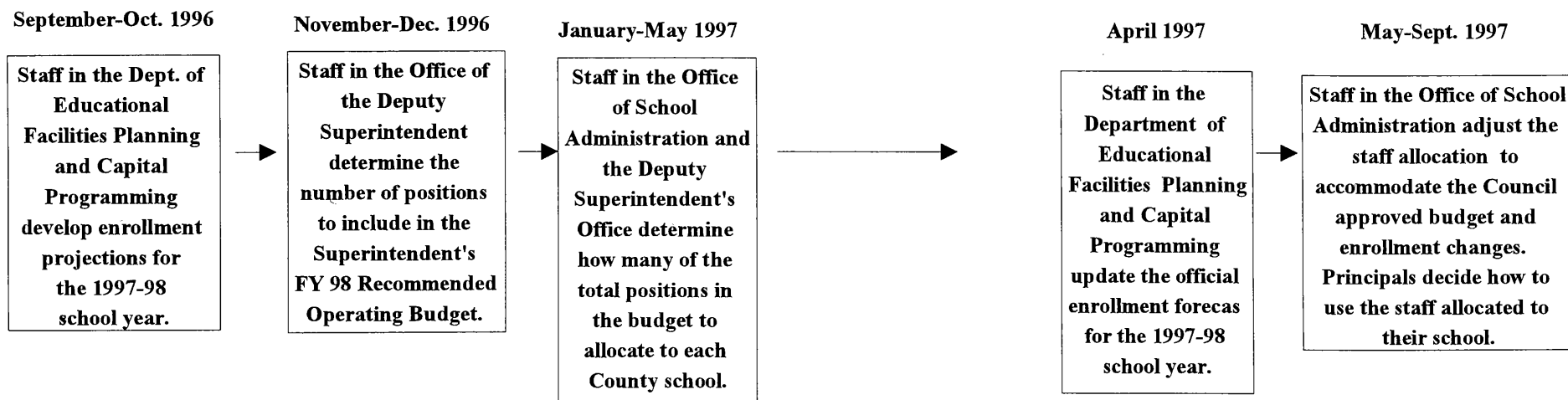
The MCPS Department of Educational Facilities Planning and Capital Programming forecasted projected enrollment for the 1997-98 school year during September and October 1996. Staff developed statistical forecasts of student enrollment in each of the next six school years, and for 10 and 15 years into the future. MCPS staff based the number of positions in the Superintendent's FY 1998 Recommended Operating Budget on this projected enrollment data.

According to MCPS staff, the statistical forecasts are based on a variety of information. MCPS compile a history of each school's enrollment and analyze patterns in the aging of students from one grade to the next. Identifying these patterns enables staff to forecast the number of students that will be in each grade in the future. The forecast also incorporates the demographics of the communities (e.g., births, migration, new housing developments), characteristics of the schools and the neighborhoods (e.g., the special programs offered at the schools), and economic activity at the local, regional and national levels (e.g., residential construction and sales activity).

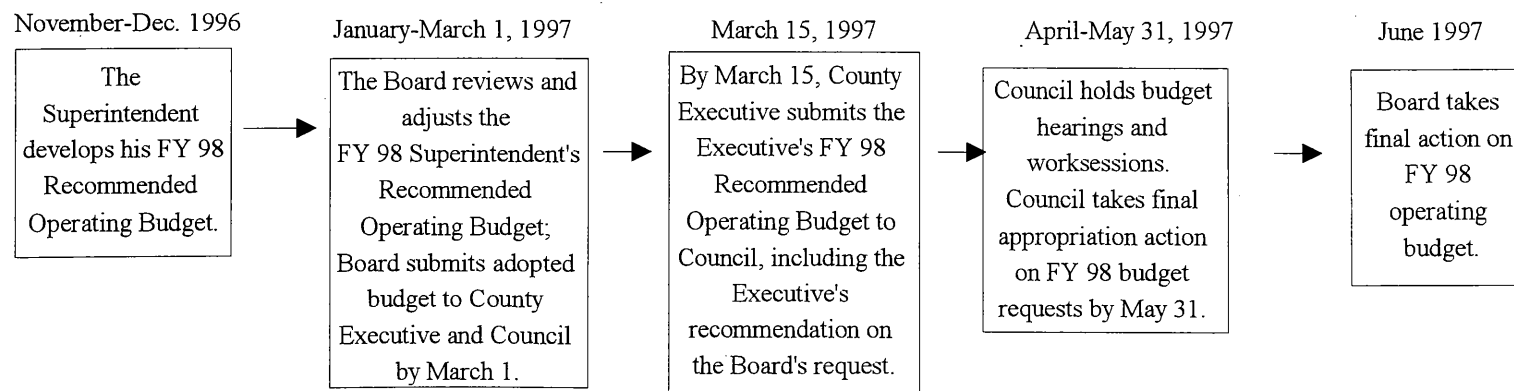
The Department of Educational Facilities Planning and Capital Programming publishes the results of the enrollment forecast in a memorandum to the Board of Education each October. The memorandum lists the projected enrollment for the next school year for each grade level in each County school.

Table 7:1997-98 School Year Staff Allocation Process and FY 98 Operating Budget Development Process

MCPS Staff Allocation Process: 1997-1998 School Year



FY 1998 Operating Budget Development Process



Step 2. Staff in the Office of the Deputy Superintendent determine the number of positions to include in the FY 1998 Superintendent's Recommended Operating Budget

The Superintendent issued the FY 98 Recommended Operating Budget in December 1996. MCPS staff determined the number of positions to include in the budget based on the projected enrollment for the 1997-98 school year and the staffing guidelines. They review each position and calculate the number of positions needed to staff all of the County's schools during the next school year. MCPS' Department of Management, Budget, and Planning include the funds for staff in the recommended operating budget.

a. Staffing Guidelines

MCPS publishes the staffing guidelines annually in the recommended and approved operating budgets. The guidelines include formulas that designate the number of students per staff member to allocate to the schools. The guidelines vary from position to position and may change from year to year based on resource availability or school needs. Appendix C contains the full text of MCPS' FY 1998 staffing guidelines.

While the staffing guidelines provide direction and consistency, actual class sizes often do not look precisely like the staffing guidelines prescribe. According to MCPS staff, "school staffing is not a science." While MCPS staff rely on the staffing guidelines for guidance, it is difficult to staff schools based solely on precise numbers and standards. The process requires consideration of a multitude of factors and some subjective decision making. In addition, as school characteristics and needs change, the guidelines or basis for allocating staff may also change. According to MCPS staff, the availability of resources each year also drives staff allocation decisions.

The remainder of this section describes the FY 98 MCPS staffing guidelines for classroom teachers, special support teachers, instructional assistants, and other teachers (including art, career preparation, ESOL, Head Start, music, physical education, reading, Title I, and vocational support teachers.)

Classroom Teachers

MCPS uses formulas in the staffing guidelines to determine how many classroom teachers the Superintendent should include in the recommended budget. Table 8 (page 30) shows the staffing guidelines for classroom teacher positions.

Table 8: FY 98 Classroom Teacher Staffing Guidelines

Position	Staffing Guideline Formula
Kindergarten Classroom Teachers	21.4:1 ^a
Elementary School Classroom Teachers	24.6:1 ^b
Middle School Classroom Teachers	<u>Regular Enrollment x 7 Periods/Day</u> Average Class Size of 28.9 x 5 Periods/Day
High School Classroom Teachers	<u>Regular Enrollment x 6.8 Periods/Day</u> Average Class Size of 31.1 x 5 Periods/Day

^a MCPS staffing guidelines indicate that Kindergarten teachers are allocated at a ratio of 21.4:1. For the 1997-98 school year, OSA allocated Kindergarten teachers a ratio of 25:1 to generate a teacher reserve.

^b MCPS staffing guidelines indicate that elementary classroom teachers are allocated at a ratio of 24.6:1. For the 1997-98 school year, OSA allocated elementary classroom teachers at a ratio of 25.3:1 to generate a teacher reserve.

Each year OSA establishes a teacher reserve by distributing the budgeted classroom teacher positions at a slightly higher ratio than indicated in the staffing guidelines. OSA uses the teacher reserve to later supplement the initial school staff in schools with higher than anticipated enrollment. The staffing guidelines explain the teacher reserve established for that school year.

In FY 98, MCPS budgeted kindergarten classroom teachers at a ratio of 21.4 student per teacher. OSA staff generated a kindergarten classroom teacher reserve for the 1997-98 school year by actually allocating classroom teachers at a ratio of 25 students per teacher. MCPS budgeted elementary school classroom teachers at a ratio of 24.6 students per teacher. OSA generated a small elementary school classroom teacher reserve by allocating positions at a ratio of 25.3 to 1.

The middle and high school teacher allocation formulas in the staffing guidelines take into account enrollment, number of class periods in the day, and an average class size of 28.9 in the middle schools and 31.1 in the high schools. The formulas essentially calculate how many classes the school needs if each middle school class contains 28.9 students and each high school class contains 31.1 students.

These middle and high school formulas determined how many FTE (full time equivalent) classroom teacher positions were included in the Superintendent's FY 98 budget. OSA did not initially allocate all of the budgeted middle and high school positions, in order to create a middle and high school classroom teacher reserve. OSA allocates the reserved teachers after schools determine their actual enrollment, when it is clear which schools experienced higher than anticipated enrollment and need additional staff.

While MCPS budgeted and allocated staff based on the formulas described here, the actual class sizes vary from these ratios. Steps taken later in the staff allocation process determine the sizes of individual classes in each school.

Special Support Teachers

MCPS hires teachers to provide specialized instruction, assist classroom teachers, and support special school programs and student needs. These special support teachers also impact class size. Each principal decides how to use these teachers in the school. Table 9 (page 33) lists the role of each special support teacher and the basis for allocating the teachers, as described in the staffing guidelines. The staffing guidelines base special support teacher allocations on one or more of the following factors:

- enrollment;
- special programs in the schools;
- measures of student academic achievement; and
- measures of poverty.

Measures of academic achievement include MCPS Criterion Reference Test results, Maryland School Performance Assessment Program results, and the number of students who complete Algebra I by the end of grade 9. MCPS measures poverty in terms of Educational Load data. For the 1997-98 school the Educational Load calculation is the percentage of students who currently or ever participated in the Free or Reduced-price Meals System.

Instructional Assistants

Like special support teachers, instructional assistants usually review and reinforce instruction with students in the classroom or with individuals and groups of students outside of the classroom. In some cases the instructional assistants help teachers with administrative tasks, grading, and lesson planning.

MCPS hires different kinds of instructional assistants, allocates instructional assistant positions based on different guidelines, and uses them for different purposes in the schools. Table 10 (page 34) summarizes the purposes of the different instructional assistants and the guidelines used to allocate the positions. Principals decide exactly how to use the positions in the school.

Other Teachers

This report includes the following teachers in a category referred to as "Other Teachers:"

- career preparation and vocational support;
- ESOL;
- Head Start and EEEP;
- physical education, art, and music;
- reading; and
- Title I.

The Office of School Administration allocates all reading teachers and includes the secondary level physical education, art, and music teachers in the classroom teacher allocation. The Office of Instruction and Program Development allocates ESOL, Title I, Head Start, and Extended Elementary Education Program (EEEP) teachers, as well as career preparation and vocational support teachers. OSA and OIPD staff work together to determine the allocations of elementary level physical education, art, and music teachers. The Board adopted staffing guidelines designate the basis for allocating the "other teachers." Table 11 (page 35) summarizes the staffing guidelines for these positions.

Step 3. Staff in the Office of School Administration and Deputy Superintendent's Office determine how many of the total positions in the FY 98 budget to allocate to each County school

a. Budget Process

The Superintendent completed his FY 98 recommended operating budget in December 1996. The Board of Education held a series of public hearings and worksessions on the Superintendent's Recommended Operating Budget in January 1997. The Board then submitted its final budget request for FY 1998 to the County Executive and County Council.

By March 15, 1997, the County Executive submitted the Executive's FY 1998 Recommended Operating Budget to the County Council. It included the Executive's recommendation on the Board of Education's budget request. During April and May 1997, the Council's Education Committee held worksessions to discuss the Board's requested budget and the County Executive's recommendations on the Board's request. The full Council takes final appropriation action on the operating budget request by May 31 of each year.

Table 9: FY 98 Special Support Teacher Staffing Guidelines

Teacher	Purpose	Staffing Guideline
Cluster Magnet/Special Program Support	Support magnet and other special programs in elementary, middle, and high schools	Based on the special programs in the school
Disadvantaged Support/Alternative	Support Success for Every Student outcomes and the success of low to average achieving students in the elementary, middle, and high schools	Based on Educational Load and allocated to special programs and centers at the high school level (Tahoma, Gateway, Journey, Karma, The Other Way, Lynbrook, Kingsley, New School)
ESOL Support	Provide instructional support and reduce class sizes in elementary and high schools with a high percentage of ESOL students	Based on percentage of ESOL students in the school
Instructional Support	Provide direct and indirect services to students in large elementary schools with no assistant principal	Schools with no assistant principal and between 464 and 600 students receive .5 FTE; schools with more than 800 students receive .5 FTE; schools with more than 900 students receive 1.0 FTE
Mainstreaming Support	Support efforts to mainstream students receiving intensity 4 special education services in regular middle school classrooms	Based on the number of mainstreamed students receiving intensity 4 special education services
Quality Integrated Education (QIE)/Academic Support	Support academic achievement in schools with high Educational Load and low academic achievement levels. Thirteen of the QIE teachers budgeted for the 1997-98 school year are used to support all day kindergarten	Based on Educational Load
Special Needs Support	Create smaller classes to support middle school students with behavioral and/or motivational problems that interfere with learning	Based on special student behavioral/motivational needs

Table 10: FY 98 Instructional Assistant Staffing Guidelines

Instructional Assistant	Purpose	Staffing Guidelines
Career Information	Support high school career information programs	1.0 FTE per high school
Computer lab	Provide computer lab assistance in middle and high schools	.75 FTE per middle and high school
English Composition	Assist high school English teachers	Based on the number of sections of Language Writing Workshops and Practical Writing courses
ESOL	Support ESOL classes, the elementary and middle school METS program and high school Intensive English Language Centers	Based on the number of ESOL students and METS program students in the school
Grades 1 and 2	Provide additional instructional support in schools with large grade 1 and 2 classes	Based on enrollment, number of teachers, and special needs
Head Start	Provide support in Head Start classes (elementary schools only)	Four or five hour instructional assistant per Head Start class of 17 to 20 students
Instructional System for Mathematics (ISM)	Assist with implementation of a program of mathematics instruction, assessment, data collection, and reporting in elementary and middle schools	Based on enrollment at elementary level. .75 FTE per middle school
Kindergarten	Provide additional instructional support in large kindergarten classes	Allocated to kindergarten classes with more than 25 students
Quality Integrated Education (QIE)	Support the Quality Integrated Education policy	Based on Educational Load, enrollment, and educational needs in the school
Regular	Provide additional instructional support in elementary and middle schools with large classes and special student and program needs	Based on enrollment, number of teachers, and special programs and needs
Success for Every Student	Support Success for Every Student outcomes on functional tests at the middle and high school level	Based on functional test scores
Teacher assistant	Assigned to comply with Americans with Disabilities Act accommodations for staff members and/or to support special school needs	Based on ADA requirements and/or enrollment and special school needs
Title I	Provide additional instruction assistance in elementary schools eligible for Title I staff	Based on a formula that weights the percentage of students approved for the Free and Reduced-price Meals System, actual number of students enrolled in the free and/or reduced priced lunch program, percentage of students receiving ESOL services, and mobility rate

Table 11: FY 98 Staffing Guidelines for Other Teachers

Teacher	Staffing Guideline
Career Preparation	Based on schools' special career and technology education programs and county wide career/intern programs
ESOL	OIPD allocates elementary school ESOL teachers at a ratio of 41:1, middle school at a ratio of 32:1, and high school at a ratio of 30:1. The Multidisciplinary Educational, Training, and Support program ¹ staff are allocated at ratios of 15:1.
Extended Elementary Education Program (EEEP) ²	Based on a student teacher ratio of 20 to 1
Head Start	.6 FTE teacher per Head Start class of 17 to 20 students
Physical Education, Art, Music	Based on a ratio of 557 students per teacher at the elementary level, with consideration of the number of Head Start, special education, and preschool classes in the school. The middle and high school level physical education, art, and music teachers are allocated based on the classroom teacher allocation formula (see Table 8).
Reading	Elementary schools with fewer than 400 students receive .5 FTE and schools with 400+ students receive 1.0 FTE. Each middle school receives 1.0 FTE. In some cases, OSA allocates reading teachers based on immediate reading needs at individual schools.
Title I	Based on a formula that weights the following factors in eligible schools: 1. percentage of students approved for the Free and Reduced-price Meals System; 2. actual number of students enrolled in the Free and Reduced-Price Meals System as of October 31; 3. percentage of students receiving ESOL services; 4. mobility rate of the student population.
Vocational Support	Based on the schools' career development programs, including cooperative work experience and internships

¹ The goal of the METS program is to prepare ESOL students with interrupted education for the regular classroom. At the elementary level, students remain in the METS classroom for the entire school day. At the middle and high school level, students take mathematics, reading, and social studies in METS classes and the remainder of their courses in regular education classes.

² EEEP is a state supported program providing half day pre-Kindergarten education for four-year-old children. The goal of the program is to help children develop skills necessary for future successful school performance.

b. Allocation Process

With assistance from the Deputy Superintendent's Office, the Office of School Administration, Office of Instruction and Program Development, and Office of Supportive Services determine how many and which budgeted positions to allocate to each school. Since the budget has not been approved yet, these allocations are tentative. The MCPS final staff allocation must reflect any changes to the Board's budget request after the Council takes final budget action.

While the budget is being developed, MCPS staff begin allocating positions to individual schools, based on the number of positions included in the recommended operating budget and the staffing guidelines. Staff also consider the Board's maximum class size guidelines and the specific needs of individual schools. According to OSA staff, MCPS uses a zero based allocation system. This means that they base each year's staff allocation on annual enrollment figures and school needs, not on the school's previous year allocation.

The Associate Superintendent for School Administration, the Associate Superintendent's assistant and the seven Directors of School Administration meet weekly between January and May to discuss how to allocate staff positions to the individual schools. OSA and OIPD work collaboratively to assign staff from the OIPD allocations to schools.

In May, the Office of School Administration completes a staffing grid for each school. The staffing grid shows which positions (FTEs) are allocated to the school, including the staff allocated by the Office of Instruction and Program Development and the Office of Supportive Services. This grid does not include the special education staff allocation to the school, determined by the MCPS Department of Special Education.

Principals received the staffing grids for the 1997-98 school year during the first week of May 1997. Each principal also received a memo from OSA explaining the process used to allocate the staff.

Step 4. Staff in the Office of Planning and Capital Programming update the enrollment projections for the 1997-1998 school year

Student enrollment changes between September and April as students move into and out of the County and within the County. Every April, the Office of Planning and Capital Programming updates the projected enrollment forecast produced in October. They produced an updated enrollment projections report for the 1997-98 school year in April 1997. The report shows the projected enrollment for each grade in each school for the 1997-98 school year.

Step 5. Staff in the Office of School Administration adjust the staff allocation to accommodate the Council approved FY 98 budget and enrollment changes, and the principals determine how to use the staff allocated to their school for the 1997-1998 school year

Staff Allocation Adjustments

MCPS staffing is dependent on the approved budget. The County Council takes final action on the Board of Education's operating budget by May 31 of each year. The Board takes final action in June. If the number of positions in the Board's adopted budget differs from the number proposed in the recommended budget, MCPS' staffing must reflect the changes.

The updated enrollment projections provide a more accurate picture of what the enrollment will be in the upcoming school year. OSA bases the remainder of its staff allocation decisions on the updated enrollment projections and adjusts previous allocations, if necessary, to account for the new enrollment projections.

Principals' Decisions

The last step in the staff allocation process involves the principals deciding how to use the staff allocated to their school. Principals assign the staff in ways that best suit the students' needs. This discretion partially explains why class sizes vary from school to school and why most schools' class sizes do not mirror the ratios established in the MCPS staffing guidelines. The case studies in Chapter V of this report examine how principals in six schools use their discretion to allocate staff within the school building and the affect that has on class sizes.

The principals begin deciding how many classes to establish in each grade level or subject area as early as January. They also initially decide how many students to assign to each class or teacher. Principals adjust the staff assignments and class sizes after they receive their staff allocation. The principal also decides how to assign the special support teachers and instructional assistants in the school building. Principals have less discretion in assigning physical education, music, art, reading, Head Start, and ESOL teachers. In these cases, MCPS already established what the teachers will teach and the principals only decide how to schedule the classes.

High school principals have more decisions to make than elementary or middle school principals because of the number of classes offered and the number of staff. Principals must handle the inherent conflict between offering more classes and reducing class sizes, given a set number of staff. As schools offer more classes to increase students' options, the sizes of other classes increase because the additional classes essentially take a teacher away from another place.

MCPS requires that elementary school principals submit an organizational plan to OSA on June 1, July 1, August 1, August 15, and September 6. The plan indicates which

classroom teachers the principal assigned to each grade level and how many students he or she assigned to each class. Secondary level principals also submit reports on the number of oversized and undersized classes in their schools on July 18 and August 1. OSA uses this information, in conjunction with school master schedules and data from the class scheduling system, to track secondary level class sizes throughout the County.

OSA requires that all principals describe how they will use the Quality Integrated Education (QIE)/academic support, disadvantaged support/alternative, and special needs teachers in the school. The principals must report this information to their Director of School Administration during the summer.

According to MCPS, principals often work with their Directors of School Administration to establish their staffing plans and to devise strategies to reduce class sizes and the number of classes larger than the Board's maximum class size guidelines. Principals have a lot of discretion in how staff are assigned, but MCPS requires that secondary classes contain at least 16.

A principal's staffing plan changes throughout the summer in response to:

- changes in enrollment, and
- changes to the Board's adopted budget.

Principals and central staff collect actual enrollment data throughout the summer and fall. Differences between projected enrollment and actual enrollment may require changes to the staff allocation. Principals request additional staff from OSA, if actual enrollment is higher than expected. The request must indicate why the additional staff is necessary and how the principal plans to use the additional positions. OSA may remove staff from a school's allocation if actual enrollment is lower than expected.

The Associate Superintendent for School Administration, the Associate Superintendent's assistant and the Directors of School Administration review the requests for additional staff. In some cases, the Directors work with the principals to attempt to devise a staffing plan that keeps class sizes down without requiring additional staff. In other cases, the Director chooses to "hold and monitor" the situation, or wait for more information or enrollment data before making a final decision.

If OSA approves the principal's request for additional staff, MCPS may move a position from the teacher reserve into the school. In other cases, OSA shifts staff from schools with lower than expected enrollment to schools with unexpectedly high enrollment. The Deputy Superintendent's Office, OSA, and principals coordinate these changes.

MCPS staff may also adjust allocations in response to changes made to the budget adopted by the Board of Education.

IV. CURRENT MCPS INITIATIVES TO LOWER CLASS SIZE

A. MCPS' Three-Year Initiative to Reduce the Number of Large Classes

In October 1996, the Board of Education adopted a three-year initiative to reduce the number of classes larger than the Board's maximum class size guidelines by restoring the 123.8 classroom teacher positions that were eliminated in 1995. The plan calls for budgeting \$1.7 million in fiscal years 1998, 1999, and 2000 for additional classroom teachers.

In FY 1998, the first year of the initiative, MCPS' approved budget included \$1,654,000 to add 41.2 classroom teachers to the school system. Of the teachers added, MCPS distributed 18.3 teachers to elementary schools, 9.1 teachers to middle schools, and 13.8 teachers to high schools. MCPS distributed the additional teacher positions based on the classroom teacher formulas in the staffing guidelines.

On August 25, 1997, the Board of Education adopted a resolution to request a FY 98 emergency appropriation of \$1.7 million from the Council to accelerate the Board's three year plan to reduce the number of oversized classes. The County Executive is reviewing the request and preparing a recommendation. The Council has not yet formally reviewed this request.

On October 27, 1997, the Superintendent reported to the Board of Education that he had identified additional resources to fund the emergency appropriation request. According to the Superintendent, end of fiscal year 1997 operating budget transactions resulted in a \$2.0 million fund balance. Since the County Council assumed a \$1.0 million fund balance in the FY 98 adopted operating budget, there is a \$1.0 million surplus that MCPS can use to fund the Board's emergency appropriation request. The Superintendent recommended that the Board request the Council move ahead with the emergency appropriation using this funding source. Again, the Council has not yet formally reviewed this request.

Meanwhile, the County Council's Education Committee requested that the Board submit a long term plan to reduce the number of classes larger than the Board's maximum class size guidelines. The Board of Education directed the Superintendent to consider enhancements to the current three year plan to reduce the number of oversized classes. MCPS intended to present the revised plan as part of the recommended FY 99 operating budget.

B. The Superintendent's FY 1999 Recommendations to Lower Class Size

In December 1997, the Superintendent presented his fiscal year 1999 Recommended Operating Budget to the Board of Education. The budget includes a \$9.2 million plan to add 238 classroom teaching positions in FY 99 to address large class sizes in elementary reading, middle school mathematics, and high school algebra classes. MCPS' description of the Superintendent's proposal stated that it is intended to "ensure independent reading by grade three, improve the opportunity for advanced studies in mathematics among middle school students, and increase the number of students completing Algebra 1 by the end of ninth grade."

The Superintendent's plan would:

- Add 104 classroom teachers in directed reading activities with students in Grades 1 and 2 next year and another 52 teachers in each of the following two years to reduce the size of directed reading instruction in Grades 1 and 2 to a student-teacher ratio of 15 to 1.
- Add 33 teachers in middle schools to improve mathematics proficiency and encourage more students to complete Algebra 1 before high school.
- Add 17 teaching positions to reduce class size in high school Algebra 1 classes to student-teacher ratio of 20 to 1.
- Add 43 classroom teaching positions to reduce oversized classes in the high schools.
- Add 41 classroom teaching positions to complete the Board's three-year class size reduction initiative.

According to the Superintendent's proposal, MCPS will allocate these additional teachers based on the MCPS staffing guidelines.

V. CASE STUDIES

This chapter illustrates the staff allocation process through case studies of six Montgomery County schools. To retain the anonymity of the schools selected for the case studies, the report refers to the schools as Elementary Schools A and B, Middle Schools A and B, and High Schools A and B.

Staff in the Office of the Deputy Superintendent and the Office of School Administration assisted OLO to select the six schools. The case study schools represent different geographic areas of the County, student populations, and types of staff allocations. OLO interviews with the school principal and/or assistant principal, plus relevant MCPS documents, served as the source of the information about each school.

This chapter does not present ideal staff allocation and assignment models, but provides examples of MCPS' staff allocation process.

Consistent with the first four chapters of this report, the case studies describe the allocation of:

- regular classroom teachers;
- special support teachers;
- instructional assistants;
- career preparation and vocational support teachers;
- English for Speakers of Other Languages (ESOL) teachers;
- Head Start and EEEP teachers;
- physical education, art, and music teachers;
- reading teachers; and
- Title I teachers.

For purposes of this report, these positions are referred to collectively as **“instructional staff.”** This chapter describes the allocation of instructional assistants, but excludes all other support staff positions. This chapter also does not describe the allocation of principals/assistant principals, counselors, media specialists/assistants, or special education staff. Appendix D lists all of the positions allocated to the case study schools (excluding special education staff).

For the 1997-98 school year, each case study explains:

- characteristics of the school (e.g., enrollment, Educational Load, mobility rate);
- the number of instructional staff positions (full time equivalents) allocated to the school and the basis for the allocation;
- how the principals decided to use the positions; and
- the resultant sizes of selected classes in the school.

A. Introduction

The following two steps summarize the MCPS staff allocation process:

- a) Staff in the Office of School Administration, Office of Instruction and Program Development, and Office of the Deputy Superintendent determine how many positions to include in MCPS' budget request and how many of the budgeted positions to allocate to each school.
- b) Given the staff allocation, enrollment data, and course requirements, the principals schedule classes and assign staff.

In general, the following factors drive staff allocation decisions in the first step:

- enrollment-based formulas;
- Educational Load calculations for each school;
- the presence of special programs at individual schools; or
- a combination of factors, including enrollment, number of teachers in the school, distribution of students across grade levels, and number of combination classes in the school.

These four categories summarize the many factors considered when allocating staff among the County schools. The staffing guidelines define the specific basis for allocating each position. According to MCPS staff, the staff allocation process is not a precise science and involves some professional decision making that balances available resources and individual school needs. As a result, actual school staffing may not mirror the formulas in the guidelines.

In the second step, principals incorporate specific knowledge about the school, students, and staff members into their decisions about which classes to offer, how many students to assign to each class, and how to use the staff allocated to the school. The principal has considerable discretion in assigning some staff positions. In general, principals assign all classroom teacher positions to teach discrete classes, based on the teachers' talents and preferences. Principals must assign reading, physical education, music, and art staff to positions in the appropriate subject area. The principal has more discretion in assigning special support teachers and instructional assistants.

1. Ratio of Students to Instructional Staff

It is important to recognize that average class size data only captures the number of students assigned to classroom teachers. Therefore, it only partially describes the ratio of students to instructional staff in the school because other teachers and instructional assistants also interact with students routinely.

Class size data, for example, describe the number of students assigned to a classroom teacher, but do not indicate whether special support teachers or instructional assistants also work with the students in the classroom. While these positions do not change the number of students in class, they increase the number of instructional staff teaching and/or assisting the students and teachers. In other words, these additional staff members reduce the ratio of students to instructional staff in the classroom.

The amount of time that the special support teachers and instructional assistants spend in the classrooms and the tasks that they complete vary from position to position and school to school. Some of these staff members spend time on administrative or planning tasks, rather than direct student instruction. The case studies explain how the principals use these staff members in the schools.

The number of mainstreamed students receiving special education services and the special education staff accompanying the students into the regular classrooms also affect the ratio of students to instructional staff in the classroom. MCPS mainstreams into regular classrooms those students receiving intensity one, two or three special education services. The regular enrollment and systemwide class size data include these students. MCPS often mainstreams students receiving intensity four or five special education services into regular classes for some or all of the school day. According to MCPS staff, system wide enrollment and class size data do not include mainstreamed students receiving intensity four and five services.

The impact of mainstreaming on class sizes depends on the number of students receiving intensity four and five special education services, the amount of time that they spend in the regular classroom, and the number of special education staff that accompany the student into the regular classroom. The specifics vary from school to school and year to year.

B. Case Study Elementary Schools

1. School Characteristics

Table 12 (page 44) lists characteristics of the two case study elementary schools. (Chapter I of this report defines the variables listed in the table.) In particular, the data indicate that the two schools differ in terms of enrollment and Education Load. As a result, the staff allocated to the two schools and the principals' decisions about how to use the staff also differ.

2. Staff Allocation

Based on the staffing guidelines, MCPS staff determined which positions and how many FTEs to allocate to each school. Staff in the Office of Instruction and Program Development determine the allocations of ESOL, Head Start, and Title I staff. OSA staff

determine the allocation of the remaining elementary school instructional staff, excluding special education staff which are allocated by the Department of Special Education.

Table 12: Case Study Elementary School Characteristics - 1997-98 School Year

Case Study School Characteristics	Elementary School A	Elementary School B
Total enrollment	461	563
Regular education students	428	516
Head Start education students	0	19
Special education	33	28
Educational Load ¹	4.6	65.6
Mobility rate ¹	7.7	25.1
Average class size - kindergarten	21.0	24.5
Average class size - grade 1-6	24.3	25.1
Number of classes above the maximum class size guidelines	0	0
Student/professional staff ratio	13.16	14.52

¹ Data is for the 1996-97 school year because MCPS based the current school year staff allocations on 1996-97 data.

Table 13 (page 45) lists the instructional staff FTEs allocated to Elementary Schools A and B for the 1997-98 school year. The table also indicates whether the positions are allocated according to:

- formula - refers to a ratio or other calculation based on enrollment;
- Educational Load - represents the percentage of students who ever participated in Free or Reduced-price Meals System (FARMS);
- special programs - refers to any magnet or other special academic program operating in a school; and
- a combination of factors - includes enrollment, number of teachers in the school, number of combination classes, and the distribution of students across grade levels.

Appendix C includes a full text of the staffing guidelines. Appendix D includes a table listing all of the staff allocated to Elementary Schools A and B.

MCPS publishes positions allocated to schools in terms of full time equivalents (FTEs). Table 14 (page 46) shows how MCPS' full time equivalents convert to hours.

Table 13: FTEs Allocated to Case Study Elementary Schools - 1997-98 School Year

Positions	Basis for Staff Allocation	Elementary School A Enrollment = 461 Ed Load = 4.6	Elementary School B Enrollment = 563 Ed Load = 65.6
Classroom and Other Teacher FTEs			
Kindergarten classroom	formula	1.500	2.500
Grade 1-5 classroom	formula	15.000	17.000
EEEP	formula	0	0
ESOL	formula	0.500	1.800
Head Start	formula	0	0.625
Physical Ed., Music, Art	formula	3.000	3.200
Reading	formula	1.000	1.000
Title I	formula	0	0.500
Subtotal		21.000	26.625
Special Support Teacher FTEs			
Academic support	Educational Load	0	2.500
Cluster magnet support	special programs	0	0
Disadvantaged support	Educational Load	0	0.500
ESOL support	formula	0	0.500
Instructional support	combination	0	1.000
Subtotal		0	4.500
Instructional Assistant FTEs			
Cluster magnet	special programs	0	0
EEEP	formula	0	0
ESOL	formula	0	0
Grade 1 and 2	combination	0	0.375
Head Start	formula	0	0.625
ISM	formula	0.625	0.750
Kindergarten	formula	0	0
QIE	combination	0	0
Regular	combination	0.625	1.625
Title I	formula	0	7.375
Subtotal		1.250	10.750
Total Instructional FTEs*		22.250	41.875

* Refers to the total FTEs of positions described in this report, including classroom teachers, special support teachers, all instructional assistants, reading, ESOL, Head Start, Title I, physical education, music, and art teachers.

Table 14: Full Time Equivalents (FTEs) Converted to Hours

Professional Positions		Supporting Services Positions	
FTE Positions	Hours (Bi-Weekly)	FTE Positions	Hours (Daily)
1.0	80	1.000	8
.9	72	.875	7
.8	64	.750	6
.7	56	.625	5
.6	48	.500	4
.5	40	.375	3
.4	32	.250	2
.3	24	.125	1
.2	16		
.1	8		

The data in table 13 indicate that, for the 1997-98 school year:

- Of the instructional staff FTEs allocated to Elementary School A, 21 FTEs (75% of instructional staff allocation) are classroom and other teachers (includes kindergarten, grade 1-5, EEEP, ESOL, Head Start, Title I, physical education, music, and art teachers.) Of the instructional staff FTEs allocated to Elementary School B, 26.625 FTEs (47% of instructional staff allocation) are classroom and other teachers.
- OSA allocated no special support teachers to Elementary School A and 4.5 FTE special support teachers to Elementary School B (11%).
- Elementary School A received 1.25 FTE instructional assistants (6%). Elementary School B received 10.75 FTE instructional assistants (26%).

Table 15 (page 47) shows the total number and percent of instructional FTEs allocated to the two case study elementary schools categorized by the basis of the allocation. The data indicate that:

- enrollment based formulas determined 97% and 88% respectively of Elementary School A's and B's staff allocation;
- Educational Load data determined none of Elementary School A's allocation and 7% of Elementary School B's allocation; and
- a combination of factors, including enrollment, number of teachers in the school, distribution of students across grade levels, and the number of combination classes in the school determined the remaining allocations.

Table 15: Basis for the Case Study Elementary Schools' Staff Allocation - 1997-98 School Year

Basis for Allocation	Number of FTEs	Percent of Total	Number of FTEs	Percent of Total
	Elementary School A		Elementary School B	
1. Formula/Enrollment (kindergarten, grade 1-5, EEEP, ESOL, ESOL support, Head Start, reading, and Title I teachers; Head Start, ISM, kindergarten, and Title I instructional assistants)	21.625	97%	36.875	88%
2. Educational Load (academic support and disadvantaged support teachers)	0	0%	3.0	7%
3. Special School Programs (cluster magnet teacher, cluster magnet instructional assistant)	0	0%	0	0%
4. Combination (instructional support teacher; grade 1 & 2 and regular instructional assistant)	.625	3%	2.0	5%
Total Instructional FTEs*	22.25	100%	41.875	100%

* Refers to the total FTEs of positions described in this report and the case studies, including classroom teachers, special support teachers, all instructional assistants, reading, ESOL, Head Start, Title I, physical education, music, and art teachers.

3. Principals' Decisions

OSA distributed the initial 1997-98 school year staffing grids in May 1997, listing the non-special education staff allocated to the school. (As explained earlier, these initial staffing allocation are considered tentative pending final budget approval.) The principal's discretion comes into play in deciding how to use that staff within the school. In general, the principals decide:

- the number of classes established at each grade level;
- the classroom teacher assignments;
- the number of students assigned to each class; and
- how to use the special support teachers and instructional assistants allocated to the school.

Based on OLO's interviews, the principals make their decisions in consultation with his/her school-based staff and their Director of School Administration in OSA.

a) Kindergarten and Classroom Teachers

In the case of kindergarten and grades 1 through 6 classroom teachers, principals begin by deciding how many classes to establish at each grade level. According to the principals of the two case study elementary schools, the number of students enrolled at each level primarily drives this decision. In general, principals divide the total number of students at each grade level equally among the classes. Principals may also take specific information about students and teachers into account.

Table 16 lists the kindergarten through grade five class sizes in Elementary Schools A and B. In summary, the 1997-98 school year data indicate that at Elementary School A:

- No classes are above the Board's maximum class size guidelines. The Board's maximum class guidelines are 24 students for kindergarten classes without an aide, 30 students for kindergarten classes with an aide, 28 students for grades 1-3 classes, and 30 students for grades 4-6 classes.
- As a result of the distribution of students across grade levels, the smallest class has 20 students (kindergarten class) and the largest classes have 27 students (grades 2 and 4 classes.)
- The average class size is 23.8 students.

For the 1997-98 school year at Elementary School B, the data indicate that:

- No classes are above the Board's maximum class size guidelines.
- As a result of the distribution of students across grade levels, the smallest classes have 23 students (kindergarten, grades 2, 4, and 5 classes) and the largest class has 28 students (grade 3.)
- There is one grade 1/2 combination class with 23 students.
- The average class size is 24.6 students.

Table 16: Case Study Elementary Schools' Class Sizes - 1997-98 School Year

Class	K		Gr 1		Gr 2		Gr 3		Gr 4		Gr 5	
	A	B ^a	A	B	A	B	A	B	A	B	A	B
#1	20	24	21	24	27	26	25	26	27	23	22	23
#2	22	23	21	26	27	26	25	28	27	23	21	23
#3	22	24	21	26	26	23	25	26	25	25	24	23
#4		25		26								
#5				12 ^b		11 ^b						
Total	64	96	63	114	80	86	75	80	79	71	67	69

^a OSA allocated 2.5 FTE kindergarten teachers and 1.5 FTE academic support teachers to teach four all day kindergarten classes at Elementary School B.

^b Grade 1/2 combination class

b) Special Support Teachers

Principals decide how to use the special support teachers allocated to their schools. The special support teachers allocated to Elementary School A and/or B include academic support, disadvantaged support, ESOL support, and instructional support teachers. Based on the information shared by the principals interviewed, the factors and questions considered when assigning these teachers include the following:

- Will the staff person teach a separate class, work with students in an existing class, assist classroom teachers, or a combination?
- Will the staff person work with students in the classroom or pull students out of the classroom for additional instruction?
- Will the staff person work in one or a combination of grade levels or subject areas?
- Which students will the staff person assist (for example, students who need extra help, advanced or accelerating students, students with language barriers, mainstreamed students receiving special education services?)

How the principal uses these positions may change from year to year or grading period to grading period, as the students' needs change.

According to the principals interviewed, they base these decisions more on the students' academic needs and less on the number of students enrolled. The background and qualifications of the staff members also influence the principal's decisions. In some cases the principal delegates decision making to the classroom teachers. For example, the principal may assign an instructional assistant to work in the second grade, while the second grade teachers determine what tasks the assistant completes.

Academic Support Teacher

Elementary School A did not receive an academic support teacher allocation for the 1997-98 school year. Elementary School B received 2.5 FTE academic support teachers. Of that allocation, 1.5 FTE positions teach kindergarten classes. According to the principal, the remaining 1.0 FTE academic support teacher acts as an dean of students or assistant principal and performs the following tasks:

- teach reading and language arts to supplement the regular classroom instruction;
- coordinate the gifted and talented program;
- coordinate the EMT/SARD process, and prepare for and attend the EMT/SARD meetings;

- coordinate CRT and MSPAP testing;
- develop curriculum and prepare lessons; and
- work with students on behavior management.

Disadvantaged Support Teacher

OSA did not allocate disadvantaged support teacher FTEs to Elementary School A. Elementary School B received 0.5 of a disadvantaged support teacher position for the 1997-98 school year. Elementary School B's principal indicated that the disadvantaged support teacher works with students in all grade levels, with an emphasis on first and second grade students. The teacher completes the following tasks:

- teach reading and mathematics to supplement the regular classroom teachers' instruction;
- prepare reading and mathematics curriculum and lessons plans with the regular classroom teachers;
- review MSPAP and CRT topics with students during classroom time; and
- observe students for SARD screening and assist with EMT/SARD follow-up.

ESOL Support and Title I Teacher

For the 1997-98 school year, OSA allocated a half time (0.5 FTE) ESOL support teacher to Elementary School B. The principal combined the half-time ESOL support teacher with a half-time Title 1 teacher and assigned the position to teach ESOL students in kindergarten, first, second, and third grade.

According to the principal of Elementary School B, the students' needs drive exactly how this teacher's time is spent from week to week. Three primary responsibilities include:

- teaching reading and mathematics skills to ESOL students either in the regular classroom or in small groups outside the classroom;
- teaching and assisting students who have just left or are preparing to leave the ESOL program, either in the classroom or in pull out groups; and
- coordinating staff development in the school (The principal assigned this responsibility because of the staff person's background and skills in staff development).

Instructional Support Teacher

OSA allocated one full-time instructional support teacher to Elementary School B for the 1997-98 school year and none to Elementary School A. The principal assigned the instructional support teacher to help the classroom teacher teach reading and mathematics to grades three, four, and five students. The instructional support teacher also prepares

reading and mathematics lesson plans with the classroom teachers. In addition, this teacher plans staff development and enrichment opportunities for the school's gifted and talented program.

c) Instructional Assistants

Principals also assign instructional assistants to tasks within the school. According to the principals interviewed, they consider similar questions as considered when assigning special support teachers, for example:

- Will the staff person assist teachers, students, or a combination?
- Will the staff person work with students in the classroom or pull students out of the classroom for additional instruction?
- Will the staff person work in one or a combination of grade levels or subject areas?
- Which students will the staff person assist (for example, students who need extra help, advanced or accelerating students, students with language barriers, mainstreamed students receiving special education services?)

Grade 1 and 2 Instructional Assistant

OSA allocated 0.375 FTE of a grade 1 and 2 instructional assistant position to Elementary School B and none to Elementary School A. The principal decided that this assistant would help the first and second grade classroom teachers to alleviate the effects of large first and second grade classes. Depending on the teachers' needs, the assistant reinforces reading and mathematics instruction, or helps the teachers prepare lesson plans.

Head Start Instructional Assistant

OIPD allocated 0.625 FTE to Elementary School B for the 1997-98 school year. The principal must use this instructional assistant in the school's Head Start classroom. The Head Start instructional assistant provides instructional support to students in the class and assists the Head Start teacher in all areas of instruction. This staff person also rides the bus with students to and from school and delivers the students' lunches to the classroom.

Instructional System for Mathematics (ISM) Instructional Assistant

Both Elementary Schools A and B received part-time ISM instructional assistant positions. The principal at Elementary School A assigned the 0.625 FTE ISM instructional assistant to manage mathematics assessments and student progress data. In addition, in classes with large disparities in mathematics performance, the ISM assistant reinforces instruction to groups of students at the top or bottom of performance. The assistant tailors the lessons to the students' needs.

Elementary School B's ISM instructional assistant also manages mathematics assessments and student progress data. Other responsibilities include testing and assessing students in mathematics skills, collecting instructional materials, tracking placement tests, assuring correct placement of students, and reporting to teachers and principals on individual student and class achievement.

Regular Instructional Assistant

Elementary School A received 0.625 FTE of a regular instructional assistant position for the 1997-98 school year. The principal at Elementary School A assigned the instructional assistant to work primarily with the second grade because those classes are particularly large this school year. The second grade teachers decide exactly how to use the assistant in the classrooms. Possible tasks include reinforcing mathematics lessons to small groups of students, assisting individual students with writing and editing tasks, and helping teachers with clerical work. Additionally, the regular instructional assistant helps with other general program needs throughout the school.

Elementary School B received 1.625 FTEs of a regular instructional assistants. The regular instructional assistant at Elementary School B reviews and reinforces instruction with students in the fifth grade classrooms. According to the principal, the fifth grade teachers determine when the assistant works in each classroom and what tasks are completed.

Title I Instructional Assistant

OIPD allocated 7.375 Title I instructional assistants to Elementary School B and none to Elementary School A. For the 1997-98 school year, Elementary School B's Title I instructional assistants work with students in kindergarten through fourth grade classrooms. Under the direction of the classroom teachers, they reinforce classroom instruction and provide other assistance as needed in the classroom.

d) Other Teachers

OSA allocated other instructional staff to the two case study elementary schools, including ESOL, Title I, Head Start, reading, physical education, music, and art teachers. The principal has less discretion in assigning these teachers within the school. The principal must use Head Start teachers to teach Head Start students, ESOL teachers to teach students who are speakers of other languages, and physical education, music, and art teachers to teach in their respective disciplines.

While principals must use reading teachers to teach reading, the principal can decide whether the teacher will teach in existing classrooms on a regular basis, pull students out of classrooms for reading instruction, or some other method of providing reading instruction. Principals also decide how to use the Title I teachers allocated to the school.

ESOL Teacher

OIPD allocated 0.5 FTE ESOL teacher to Elementary School A for the 1997-98 school year. The ESOL teacher instructs and supports 25 students in grades kindergarten through five. Primary responsibilities include:

- teaching groups of three to five children, based on their age and language needs, on a pull-out basis;
- consulting regularly with ESOL students' classroom teachers regarding the students' progress, instructional materials needs, parent questions and concerns, and other issues that affect the students' instructional program;
- consulting with the parents of ESOL students;
- participating in EMT meetings and conferences as needed; and
- ordering special materials to meet the needs of the ESOL students, in consultation with the media specialist and principal.

OIPD allocated two ESOL teachers to Elementary School B for the 1997-98 school year. They teach language acquisition skills in two ESOL classes for kindergarten through grade five students. One of the two teachers teaches the primary level students (K- grade 3) and the other teaches the grades four and five students.

Head Start Teacher

Elementary School B received 0.625 FTE Head Start teacher for the 1997-98 school year. This teacher serves as a regular classroom teacher for the 4 year old Head Start students in the school. The Head Start teacher also maintains communication with parents on the students' progress.

Physical Education, Art, and Music Teachers

In both Elementary School A and B, these teachers teach physical education, art, and music classes to all of the students in the school. They meet with the students in their regular classroom groups. In some cases, Elementary School A and B mainstream intensity four and five special education students into these classes.

Reading Teacher

OSA allocated one full-time reading teacher position to both Elementary Schools A and B. According to Elementary School A's principal, the reading teacher at the school works on a regular basis with all the classroom teachers to prepare and teach reading lessons during regular classroom time. The reading teacher also assesses and analyzes the performance of students who need help with reading and provide extra reading instruction for those students.

Elementary School B's reading teacher also works on a regular basis with all the classroom teachers to prepare and teach reading lessons. The reading teacher and classroom teachers plan and teach at least one reading/writing unit per year in all classrooms. Each reading/writing unit lasts between two and three weeks. The reading teacher also assesses student performance, identifies students who need extra instruction, and develops plans to improve the students' performance.

4. Summary

Each elementary school principal determines how many classes to create at each grade level and how many students to assign to each class. The principals base these decisions on student enrollment and the number of classroom teacher FTEs allocated to the school, as well as other specific information about the staff members and students. The principal also decides how to use the special support teachers and instructional assistants in the school. He/she considers the students needs and the staff members background and qualifications in assigning these staff members. The staff allocated to the schools, and the tasks assigned, change from school year to school year as the school characteristics and student needs change. As the staff allocation and enrollments changes from year to year, the sizes of individual classes in the schools also change.

C. Case Study Middle Schools

1. School Characteristics

Similar to the two case study elementary schools described earlier, the two case study middle schools differ in terms of enrollment, mobility, and Educational Load. These different characteristics result in different staff allocations. Table 1 lists characteristics of Middle Schools A and B.

Table 17: Case Study Middle School Characteristics - 1997-98 School Year

Case Study School Characteristics	Middle School A	Middle School B
Total enrollment	707	996
Regular education students	673	937
Special education students	34	59
Educational Load ¹	18.1	66.8
Mobility rate ¹	6.1	19.6
Average class size - required English classes	26.3	21.7
Average class size - other academic classes	26.1	23.6
Number of classes above the maximum class size guidelines	6	11
Student/professional staff ratio	14.92	13.58

¹ Data is for the 1996-97 school year because MCPS based the current school year staff allocations on 1996-97 data.

2. Staff Allocation

Staff in the Office of School Administration (OSA) and Office of Instruction and Program Development (OIPD) base staff allocations to middle schools on the Board's adopted staffing guidelines. At the middle school level, OSA allocates the majority of instructional staff and OIPD allocates the ESOL staff.

Table 18 (page 57) lists the instructional staff FTEs allocated to the two case study middle schools for the 1997-98 school year. The table includes classroom teachers, special support teachers, instructional assistants, reading teachers, and ESOL teachers.

The table summarizes the basis for each allocation, including:

- formula - refers to a ratio or other calculation based on enrollment;
- Educational Load - represents the percentage of students who ever participated in Free or Reduced-price Meals System (FARMS);
- special programs - refers to any magnet or other special academic program operating in a school; and
- a combination of factors - includes enrollment, number of teachers in the school, and distribution of students across grade levels.

Appendix C includes a full text of the staffing guidelines that indicate the basis for allocating all positions. Appendix D includes a list of all the staff allocated to Middle Schools A and B for the 1997-98 school year, including administrators and all support staff. (See Table 14 at page 46 for the conversion of FTEs to hours worked.)

The data in table 18 indicate that for the 1997-98 school year:

- At Middle School A, 34.8 FTEs (92% of the total instructional staff allocation) are classroom teachers, ESOL teachers, and reading teachers. At Middle School B, 51.1 FTEs (85% of the total instructional staff allocation) are classroom teachers, ESOL teachers, and reading teachers.
- OSA allocated 0.700 FTE (2%) special support teachers to Middle School A. OSA allocated 5.2 FTE (9%) special support teachers to Middle School B.
- Of the instructional staff FTEs allocated to Middle School A, 2.375 FTE (6%) are instructional assistants. Of the instructional staff allocated to Middle School B, 4 FTEs (7%) are instructional assistants.

Table 19 (page 58) shows the total number and percent of instructional FTEs allocated to the two case study middle schools categorized by the basis of the allocation. The data indicate that for the current school year:

- Formulas determined 96% of Middle School A's instructional staff allocation and 89% of Middle School B's staff allocation;
- Educational Load data formed the basis of 1% of Middle School A's allocation and 7% of Middle School B's allocation;
- Special programs did not determine the instructional staff allocation of any positions in either of the case study middle schools; and
- A combination of factors determined 2% of Middle School A's and 5% of Middle School B's instructional staff allocations.

Table 18: FTEs Allocated to Case Study Middle Schools - 1997-98 School Year

Position	Basis for Staff Allocation	Middle School A Enrollment=707 Ed Load=18.1	Middle School B Enrollment=996 Ed Load=66.8
Classroom, ESOL, and Reading Teacher FTEs			
Grade 6-8 classroom ¹	formula	33.800	46.100
ESOL	formula	0	4.000
Reading	formula	1.000	1.000
Subtotal		34.800	51.100
Special Support Teacher FTEs			
Academic Support	Educational Load	0	1.000
Alternative	Educational Load	0.500	1.500
Cluster Magnet	special programs	0	0
Disadvantaged Support	Educational Load	0	1.500
Mainstreaming Support	formula	0.200	0.200
Special Needs	combination	0	1.000
Subtotal		0.700	5.200
Instructional Assistant FTEs			
Computer lab	formula	0.750	0.750
ESOL	formula	0	0.750
Instructional System for Mathematics (ISM)	formula	0.750	0.750
Regular	combination	0.875	0.500
Success for Every Student	combination	0	0.500
Teacher assistant	combination	0	0.750
Subtotal		2.375	4.000
Total Instructional FTEs ²		37.875	60.300

¹ Each middle school classroom teacher allocation includes 0.2 FTE release time for the school's gifted and talented program coordinator and 0.2 FTE release time for the school's Success for Every Student program coordinator. The principals select classroom teachers to serve as the coordinators, who use the allotted release time for planning.

² Refers to the total FTEs of positions described in this report, including classroom teachers, special support teachers, all instructional assistants, reading teachers, and ESOL teachers.

Table 19: Basis for the Case Study Middle Schools' Staff Allocation - 1997-98 School Year

Basis for allocation	Number of FTEs	Percent of Total	Number of FTEs	Percent of Total
	Middle School A		Middle School B	
1. Formula/Enrollment (grade 6-8, reading, ESOL, and mainstreaming support teachers; computer lab, ESOL, and ISM instructional assistants)	36.500	96%	53.550	89%
2. Educational Load (academic support, alternative, and disadvantaged support teachers)	0.500	1%	4.000	7%
3. Special School Programs (cluster magnet teacher, cluster magnet instructional assistant)	0	0%	0	0%
4. Combination (special needs teacher, regular instructional assistant, SES instructional assistant, and teacher assistant)	0.875	2%	2.750	5%
Total Instructional FTEs*	37.875	100%	60.300	100%

* Refers to the total FTEs of positions described in this report, including classroom teachers, special support teachers, all instructional assistants, reading teachers, and ESOL teachers.

3. Principals' Decisions

Each middle school principal, with input from his/her teaching staff, decides which courses will be taught, who will teach the courses, and how many students will be assigned to each class. The principals of Middle Schools A and B both reported that they begin the process of scheduling and assigning students to classes by determining how many students will take each required course and how many sections of each required course the school needs to offer. After scheduling the required courses, the principal turns his/her attention to scheduling elective courses. The principals continually revise the master schedule in response to changes in enrollment, student needs, and staffing.

In May, the principals receive the staffing grid that lists all of the non-special education staff allocated to their schools. At that point, the principals can make tentative staff assignments for the next school year. If the staff required to implement a principal's master schedule differs from the staff allocated to the school, the principal must change the master schedule or request additional staff.

The remainder of this section describes how the two principals in the case study middle schools decided to use the allocated classroom teachers, special support teachers, instructional assistants, ESOL teachers, and reading teachers. For classroom teachers, this section focuses on how principals use the classroom teachers at the 7th grade level. For illustration purposes, this section focuses on the actual class sizes of required 7th grade academic classes at Middle Schools A and B for the 1997-98 school year. MCPS requires all 7th grade students to take the following academic courses:

- English;
- Mathematics;
- Science; and
- World Studies.

A middle school may offer honors level or remedial level classes in these required courses. In addition to the required courses, students take two electives and a physical education class each semester.

a) Classroom Teachers

According to the principals of Middle Schools A and B, most middle school principals organize the classroom teachers into teaching teams that parallel the four required academic classes. At the 7th grade level, the teams typically consist of an English teacher, mathematics teacher, science teacher, and world studies teacher. The team members plan lessons and activities together, and for the most part, teach the same group of students.

According to the principals interviewed, some middle schools also assign other teachers to the teams, such as physical education, foreign language, and special education teachers. In some cases, the schools also “cross team” teachers, meaning that teachers plan and teach with staff from more than one team.

Based on the projected 7th grade enrollment for the 1997-98 school year, the principal of Middle School A created two 7th grade teacher teams. At Middle School A, each team includes an English teacher, mathematics teacher, science teacher, and world studies teacher. The principal also assigned a special education teacher to each team because Middle School A mainstreams all of its students receiving special education services. Instead of having a separate special education classroom, the special education teacher on the team works with the students receiving special education services in the other 7th grade teachers’ classrooms.

The principal of Middle School B also created two 7th grade teacher teams for the 1997-98 school year. At Middle School B, each team includes an English teacher, mathematics teacher, world studies teacher, reading teacher, arts teacher, and physical education teacher.

For the two case study middle schools, Table 20 (page 61) lists the number of students in the required 7th grade academic courses (English, mathematics, science, and world studies). In summary, the 1997-98 school year data in Table 4 indicate that for the 7th grade at Middle School A:

- two of the ten required English classes are larger than the Board's maximum class size guideline of 28 students;
- none of the remaining 38 required academic classes (mathematics, accelerated mathematics, science, world studies) are larger than the Board's maximum class size guideline of 32 students;
- the class sizes range from 21 to 30 students;
- the average class size of all the classes listed in Table 4 is 25.8 students; and
- the average class size by course ranges from 25 students for mathematics classes to 27.5 for accelerated mathematics classes.

The 1997-98 school year data indicate that for the 7th grade at Middle School B:

- two of the thirteen required English classes are larger than the Board's maximum class size guideline of 28 students;
- none of the remaining 37 classes listed in Table 20 (mathematics, accelerated mathematics, science, world studies) are larger than the Board's maximum class size guideline of 32 students;
- seven of the classes contain 32 students, the largest number of students in a class;
- four classes contain 18 students, the smallest number of students in a class;
- the average class size of all the classes listed in Table 4 is 26.7.
- the average class size by course ranges from 24.3 students for English classes to 28.5 for accelerated mathematics classes.

Table 20: Case Study Middle Schools' Academic Class Sizes - 1997-98 School Year

Class		# of students		Class		# of students	
		Middle School A	Middle School B			Middle School A	Middle School B
English	#1	24	18	Science	#1	24	29
	#2	22	18		#2	30	26
	#3	25	28		#3	23	32
	#4	26	29		#4	29	31
	#5	23	29		#5	25	27
	#6	28	20		#6	26	24
	#7	22	28		#7	24	30
	#8	30	23		#8	25	26
	#9	30	28		#9	22	26
	#10	27	25		#10	28	32
	#11		28		#11		28
	#12		18		#12		29
	#13		24				
Mathematics	#1	26	21	Accelerated Mathematics	#1	25	27
	#2	25	21		#2	27	30
	#3	29	22		#3	30	
	#4	24	31		#4	28	
	#5	21	30				
	#6	25	31				
	#7		32				
	#8		20				
	#9		30				
	#10		18				
	#11		27				
World Studies	#1	22	24				
	#2	30	30				
	#3	23	30				
	#4	26	32				
	#5	23	26				
	#6	29	23				
	#7	29	32				
	#8	26	32				
	#9	28	27				
	#10	21	32				
	#11		27				
	#12		25				

b) Special Support Teachers

Like the elementary school staff allocations, the middle school allocations include special support teachers. The special support teachers allocated to one or both of the case study middle schools include, academic support, alternative, disadvantaged support, mainstreaming support, and special needs teachers.

OSA allocates special support teachers to address student needs or special programs at all grade levels in a school, with the principals deciding how to assign the allocated teachers. These teachers generally teach students in the regular classrooms. Middle school principals base staff assignment decisions on the same factors that the elementary school principals consider, including:

- Will the staff person teach a separate class, work with students in an existing class, assist classroom teachers, or a combination?
- Will the staff person teach students in the classroom or pull students out of the classroom for additional instruction?
- Will the staff person work in one or a combination of grade levels or subject areas?
- Which students will the staff person assist (for example, students who need extra help, advanced or accelerating students, students with language barriers, mainstreamed students receiving special education services?)

This section describes how the principals at Middle School A and B decided to use all the special support teachers allocated to their schools for the 1997-98 school year.

Academic Support Teacher

The academic support teacher provides instructional support in schools with high Education Load calculations. Based on Middle School B's Educational Load calculation, OSA allocated 1.0 FTE academic support teacher. OSA did not allocate an academic support teacher to Middle School A.

Middle School B's principal uses this position for a variety of tasks, which change from one marking period to the next, depending on the needs in the school. Currently, the academic support teacher, with the assistance of the classroom teachers, identifies students with special instructional needs and pulls those students out of the regular classroom for extra individual or small group instruction. The academic support teacher also helps the principal handle student behavior and discipline issues.

Alternative Teacher

Based on Educational Load calculations, OSA allocates alternative teachers to support the success of low to average achieving students,. Middle School A's principal decided to add the school's 0.5 FTE alternative teacher allocation to the regular classroom teacher allocation, thereby lowering class sizes in the school. According to Middle School B's principal, the school's 1.5 FTE alternative teachers teach the mainstreamed sixth grade students receiving intensity 3 special education services in the regular classroom.

Disadvantaged Support Teacher

Disadvantaged support teachers teach low to average achieving students in the school. OSA allocated 1.5 FTE disadvantaged support teachers to Middle School B and no disadvantaged support FTEs to Middle School A for the 1997-98 school year. According to Middle School B's principal, these teachers supplement reading and writing instruction to students in regular classrooms receiving intensity 3 and 4 special education services.

Mainstreaming Support Teacher

These teachers support efforts to mainstream students receiving special education services. OSA allocated 0.2 FTE to Middle School A and B. Since Middle School A's 7th grade teaching teams already include a special education teacher, the principal decided not to also assign a mainstreaming support teacher to those classrooms. Instead, the principal added the 0.2 FTE of mainstreaming support to the school's regular classroom teacher allocation to provide additional classroom teacher time in the school.

At Middle School B, the mainstreaming support teacher and a special education teacher team teach English and reading to mainstreamed students who receive intensity 3 special education services. This teacher also teaches regular 6th grade Reading/English classes, thereby reducing the sizes of the other 6th grade reading/English classes.

Special Needs Teacher

Middle School B received 1.0 FTE special needs teacher for the 1997-98 school year. Middle School A did not receive a special needs teacher allocation. According to the principal at Middle School B, the special needs teacher teaches a Mathematics Functional Skills Support class. The school offers this class each semester for 7th and 8th grade students who have not passed or may have difficulty passing the Maryland Functional Mathematics Test. This teacher also teaches 6th grade mathematics, thereby reducing the sizes of other 6th grade mathematics classes taught by classroom teachers.

c) Instructional Assistants

Computer Lab Instructional Assistant

When MCPS wires schools for Global Access, MCPS requires principals to freeze allocated supporting services positions (or non-professional positions) to free up resources to hire a user support specialist. The principals decide which positions to freeze. In order to meet this Global Access requirement, both Middle Schools A and B froze the 0.75 computer lab instructional assistant FTE assigned to their schools. The computer lab instructional assistant allocations still appear on the schools' staffing grids, with a notation indicating that the principal chose to use the allocation toward hiring the user support specialist.

ESOL Instructional Assistants

The 0.750 FTE ESOL instructional assistant allocated to Middle School B works in the school's ESOL (English for Speakers of Other Languages) and METS (Multidisciplinary Education, Training, and Support program) classes. The METS program prepares ESOL students with interrupted education for regular classroom instruction. The ESOL instructional assistant reviews and reinforces instruction for the students and provides other general classroom assistance as needed. The ESOL teachers determine when the assistant works in each classroom and exactly how the assistant's time is spent.

Instructional System for Mathematics (ISM) Instructional Assistant

OSA allocated 0.750 FTE ISM instructional assistant to Middle Schools A and B. At both schools the ISM instructional assistant completes ISM program tasks, including testing, data collection, and data dissemination. At Middle School A, ISM assistant also assists classroom teachers and students in the computer lab.

Regular Instructional Assistant

Middle School A's principal decided to assign a portion of the 0.875 FTE instructional assistant allocation to each of the school's teaching teams at all grade levels. The instructional assistant spends two hours of every school day working with the 7th grade teams. The teachers on the team decide when the instructional assistant will work in each classroom and how the time is spent. The regular instructional assistant may review and reinforce instruction, assist the teacher with lesson planning, and complete other tasks in the classrooms as needed.

OSA allocated 0.5 FTE instructional assistant time to Middle School B. The principal froze one hour (0.125 FTE) of the regular instructional assistant time to provide FTEs to hire a user support specialist. The principal uses the remainder of the regular

instructional assistant allocation to review or reinforce lessons with students in the 7th grade English classrooms and to provide other general assistance in the classrooms as needed.

Success for Every Student (SES) Instructional Assistant

Middle School B is one of six County middle schools to receive a 0.5 FTE Success for Every Student instructional assistant to help prepare students for the Maryland Functional Tests. Middle School A did not receive a SES instructional assistant. According to Middle School B's principal, the SES instructional assistant reviews and reinforces lessons in the 8th grade English classrooms as students prepare for the Maryland School Performance Assessment Program (MSPAP) assessments, the Maryland Functional Reading Test, and the 8th grade criterion-referenced test.

Teacher Assistant

OSA did not allocate any teacher assistant time to Middle School A for the 1997-98 school year and allocated 0.750 FTE to Middle School B. The principal decided to freeze five hours (0.625 FTE) of the teacher assistant time allocated to the school in order to hire the user support specialist. According to the principal, the remaining 0.125 FTE reviews and reinforces lessons in 7th and 8th grade mathematics classes to help students prepare for the Maryland Functional Mathematics Test.

d) Other Teachers

MCPS also allocates reading teachers and ESOL teachers to middle schools. For the 1997-98 school year, every middle school received 1.0 FTE reading teacher to provide reading instruction in the schools. The Office of Instruction and Program Development allocates ESOL teachers based on the number of ESOL students in the school.

Reading Teacher

According the Middle School A's principal, for the 1997-98 school year, the 1.0 FTE reading teacher allocated to the school teaches regularly scheduled classes. The reading teacher teaches four periods of reading/writing workshops each day to 6th grade students.

During the 1997-98 school year, Middle School B's reading teacher teaches students with special reading needs and low reading test scores exclusively. These students are not in the special education program, but require special accommodations and assistance in order to succeed in the regular classroom. The reading teacher assesses students' performance, identifies the students who need extra instruction, and devises an

instructional plan to improve reading skills. The teacher may work with those students during the regular classroom reading time or pull individuals or groups of students out of the classroom for additional instruction.

ESOL Teacher

For the 1997-98 school year, the Office of Instruction and Program Development allocated four ESOL teachers to Middle School B and none to Middle School A. According to Middle School B's principal, these four teachers make up the school's ESOL team. One teacher teaches the METS class and the other three teach ESOL levels one through three classes. The principal designated one of the teachers as the team leader, who is responsible for the overall operation of the ESOL program and the ESOL computer lab.

4. Summary

In summary, the two case study middle schools differ in terms of enrollment, Educational Load, mobility rate, and percent of students participating in the Free and Reduced-price Meals System (FARMS). These different characteristics led OSA and OIPD to allocate different staff to the two case study schools. The case study principals assigned tasks to staff members based on student and program needs, as well as the staff abilities. The staff allocated to the schools, and the tasks assigned, change from school year to school year as the characteristics of the schools and needs of the students change. As the staff allocation changes from year to year, the sizes of individual classes in the schools also change.

D. Case Study High Schools

1. School Characteristics

Table 21 lists characteristics of case study High Schools A and B. High schools are generally larger and more complex than elementary and middle schools in terms of enrollment, staffing, and course offerings. For the 1996-97 school year, enrollments at individual County high schools ranged from approximately 546 students to 2,400 students.

High schools offer more required and elective courses and magnet and other special academic programs than elementary and middle schools. As a result, MCPS allocates more instructional and non-instructional staff to high schools. These factors complicate the scheduling and staffing process at the high school level.

While the two case study high schools differ from elementary and middle schools, they also differ from each other in terms of enrollment, mobility, and Educational Load. As a result of these differences, OSA allocated different instructional staff FTEs to the two schools. In addition, OSA allocated positions to High School B to staff a magnet program at the school.

Table 21: Case Study High School Characteristics - 1997-98 School Year

Case Study School Characteristics	High School A	High School B
Total enrollment	1,698	1,339
Regular education students	1,628	1,196
Special education students	70	143
Educational Load ¹	11.4	57.1
Mobility rate ¹	5.1	28.4
Average class size - required English classes	26.4	25.1
Average class size - other academic classes	28.3	26.3
Number of academic classes above the maximum class size guidelines	40	15
Student/Professional staff ratio	18.59	15.94

¹ Data is for the 1996-97 school year because MCPS based the current school year staff allocations on 1996-97 data.

2. Staff Allocation

MCPS bases each high school's instructional staff allocation on the Board's adopted staffing guidelines. The Office of School Administration (OSA) allocates the majority of the instructional staff. For high schools, staff in the Office of Instruction and Program Development (OIPD) allocate the ESOL staff, vocational support teachers, career preparation teachers, and career information assistants. The Guidance Unit in the Office of Pupil and Community Services provides input to the career information assistant

allocation decisions. In May, principals receive a staffing grid that lists all the staff allocated to their school for the next school year (excluding the special education staff.)

Table 22 (page 69) lists the instructional staff FTEs allocated to High Schools A and B for the 1997-98 school year. The table includes classroom teachers, special support teachers, instructional assistants, ESOL teachers, career preparation teachers, and vocational support teachers. The table also indicates whether the positions are allocated according to:

- formula - refers to a ratio or other calculation based on enrollment;
- Educational Load - represents the percentage of students who currently or ever participated in the Free or Reduced-price Meals System (FARMS);
- special programs - refers to any magnet or other special academic program operating in a school; and
- a combination of factors - includes enrollment, number of teachers in the school, and special needs in the school.

Appendix C includes the staffing guidelines describing the basis for allocating all of the positions referred to in this report. Appendix D includes a list of all the staff allocated to the two case study high schools for the 1997-98 school year (excluding special education staff.)

The data in Table 22 indicate that for the 1997-98 school year:

- At High School A, 78.3 FTEs (91% of the instructional staff allocation) are classroom teachers, career preparation teachers, ESOL teachers, and vocational support teachers. At High School B, 66.2 FTEs (81% of the instructional staff allocation) are classroom teachers, career preparation teachers, ESOL teachers, and vocational support teachers.
- At High School A, 0.5 FTE is a special support teacher. At High School B, 7.5 FTEs (9%) are special support teachers.
- OSA allocated 7.125 instructional assistant FTEs (8%) to High School A. OSA allocated 8.438 instructional assistant FTEs (10%) to High School B.

Table 22: FTEs Allocated to Case Study High Schools - 1997-98 School Year

Position	Basis for Staff Allocation	High School A Enrollment=1,698 Ed Load=11.4	High School B Enrollment=1,339 Ed Load=57.1
Classroom and Other Teacher FTEs			
Grade 9-12 classroom	formula	77.300	57.200
Career Preparation	special programs	0.500	2.000
ESOL	formula	0	6.000
Vocational Support	special programs	0.500	1.000
Subtotal		78.300	66.200
Special Support Teacher FTEs			
Academic Support	Educational Load	0	1.000
Alternative	Educational Load	0.500	2.000
Disadvantaged Support	Educational Load	0	1.000
ESOL Support	formula	0	1.000
Special Programs	special programs	0	2.500
Subtotal		0.500	7.500
Instructional Assistant FTEs			
Career Information	formula	1.000	1.000
Computer lab	formula	0.750	0.750
English Composition	formula	2.625	2.188
ESOL	formula	0	1.500
Regular	combination	2.750	1.500
Success for Every Student	combination	0	0.500
Teacher assistant	combination	0	1.000
Subtotal		7.125	8.438
Total Instructional FTEs*		85.925	82.138

* Refers to the total FTEs of positions described in this report, including classroom teachers, special support teachers, all instructional assistants, career preparation teachers, ESOL teachers, and vocational support teachers.

Table 23 (page 70) shows the total number and percent of instructional FTEs allocated to the two case study high schools categorized by the basis of the allocation. The data indicate that for the 1997-98 school year:

- Formulas determined 95% of High School A's and 85% of High School B's allocation.
- Educational Load determined less than 1% of High School A's staff allocation and approximately 5% of High School B's staff allocation.
- Special programs determined 1% of High School A's and 6% of High School B's staff allocation.

Table 23: Basis for the Case Study High Schools' Staff Allocation - 1997-98 School Year

Basis for Allocation	Number of FTEs	Percent of Total	Number of FTEs	Percent of Total
	High School A		High School B	
1. Formula/Enrollment (grade 9-12, ESOL, and ESOL support teachers; career information, computer lab, English composition and ESOL instructional assistants)	81.675	95%	69.638	85%
2. Educational Load (academic support, alternative, and disadvantaged support teachers)	0.500	0.6%	4.000	5%
3. Special School Programs (career prep., special programs, vocational support teachers)	1.000	1%	5.500	6%
4. Combination (regular instructional assistant, SES instructional assistant, teacher assistant)	2.750	3%	3.000	4%
Total Instructional FTEs*	85.925	100%	82.138	100%

* Refers to the total FTEs of positions described in this report, including classroom teachers, special support teachers, all instructional assistants, career preparation teachers, ESOL teachers, and vocational support teachers.

3. Principals' Decisions

High school principals direct the long and complicated process of deciding which courses a school will offer, developing a master schedule, assigning staff, and assigning students to individual classes. At the elementary level, principals determine the number of classes to offer primarily on the number of students enrolled at each grade level. At the middle and high school levels, principals must consider the courses that students are required to take, as well as the electives that they select. In some schools, magnet and other special programs must also be considered.

The relatively large number of students and courses offered at the high school level make the scheduling process more complicated than at the elementary and middle school levels. According to the principal at High School A, the development of the high school master schedule, the staff teaching assignments, and student class assignments, begins as early as January.

In May of each year, the principals receive the staffing grid that lists the staff FTEs allocated to the schools. (These initial staffing allocations are considered tentative pending final budget approval.) Before this time, the principals work on a tentative master schedule and list of staff assignments. If the FTEs required to implement the principals'

tentative master schedule differ from the staff allocated to the school, the principal must request additional staff or change the master schedule.

The remainder of this section describes how the two principals decided to use the classroom teachers, special support teachers, instructional assistants, and other teachers. For classroom teachers, this section focuses on teachers at the 9th grade level. To illustrate a sample of class sizes, this section describes the 1997-98 school year (first semester) class sizes of the following courses taken by a majority of 9th grade students:

- Algebra 1;
- English 9;
- Matter and Energy; and
- U.S. History.

a) Classroom Teachers

Typical courses for ninth graders include: algebra, English, Matter and Energy, U.S. History, and a foreign language or technology or art class. Principals organize high school classroom teachers into departments by these subject areas. For example, all of the science classroom teachers in a school comprise the science department and work together to develop and plan for the school's science courses.

Table 24 (page 72) shows the sizes of the "standard" required courses that most 9th grade students take for the 1997-98 school year (first semester) at the two case study high schools. In some cases, students take other English, mathematics, science, or social studies classes offered at the school. For example, a student who took Algebra in 8th grade would take a higher level mathematics course in 9th grade.

Table 24: Case Study High Schools' Academic Class Sizes - 1997-98 School Year

Class	# of students		Class	# of students	
	High School A	High School B		High School A	High School B
English 9			Honors English 9		
#1	27	27	#1	29	32
#2	23	28	#2	26	30
#3	27	27	#3	31	26
#4	27	28	#4	26	29
#5	28	22	#5	28	
#6	27	25	#6	30	
#7	26	23	#7	31	
#8	20	28	#8	30	
Matter and Energy			Honors Matter and Energy		
#1	33	29	#1	34	30
#2	29	32	#2	34	29
#3	28	21	#3	34	26
#4	33	29	#4	35	28
#5	34	29			
#6	35	31			
#7	30	31			
#8	33				
#9	34				
U.S. History			Honors U.S. History		
#1	27	32		29	32
#2	32	31	#1	32	32
#3	24	34	#2	31	29
#4	32	32	#3	32	27
#5	22	32	#4	28	
#6	30	31	#5	21	
#7	32	32	#6	31	
#8	29		#7		
Algebra 1					
#1	27	32			
#2	28	31			
#3	30	34			
#4	25	32			
#5	31	32			
#6	27	31			
#7	28	32			
#8	33				
#9	33				

In summary, the 1997-98 school year data indicate that for High School A's 9th grade required academic classes:

- five of the eight honors level English classes are larger than the Board's maximum class size guideline of 28 students. None of the regular English classes are larger than the Board's maximum class size guideline;
- twelve of the remaining 37 required academic classes in the table are larger than the Board's maximum class size guideline of 32 students. Of the twelve classes, 2 are algebra classes, 6 are matter and energy classes, and 4 are honors matter and energy classes;
- the smallest class is an English class with 20 students;
- the two largest classes (matter and energy and honors matter and energy) contain 35 students;
- the average class size of the academic classes listed in Table 24 is 29.4 students; and
- the average class size by course ranges from 25.6 students for English classes to 34.3 for honors matter and energy classes.

High School B's 1997-98 school year data indicate that for 9th grade classes in Table 24:

- three of the 9th grade honors English classes are larger than the Board's maximum class size guideline of 28 students. None of the regular English classes are larger than the Board's maximum class size guideline;
- two of the remaining 29 required academic classes (algebra, honors and regular matter and energy, honors and regular U.S. history classes) are larger than the Board's maximum class size guideline of 32 students;
- the smallest class is a matter and energy class with 21 students;
- the largest classes are a U.S. history class and an algebra class with 34 students each;
- the average class size of the academic classes listed in Table 24 is 29 students; and
- the average class size by course ranges from 26 students for English classes to 32 for U.S. History classes.

b) Special Support Teachers

In addition to assigning classroom teachers, the principals also decide how to use the special support teachers in the school. OSA allocated academic support, alternative, disadvantaged support, ESOL support, and special programs teachers to case study High School A and/or B for the 1997-98 school year.

OSA allocates special support teachers to support specific needs and programs at all grade levels in the schools. Generally, these teachers teach students in the regular classroom or small groups of students outside the classroom. The following paragraphs

describe how the principals at High Schools A and B assigned the special support teachers for the 1997-98 school year.

Academic Support Teacher

OSA allocated 1.0 FTE academic support teacher to High School B and no academic support teacher FTEs to High School A. According to High School B's principal, the academic support teacher spends about half time coordinating the ninth grade students transition from middle to high school. For example, the teacher organizes ninth grade parent conferences and orientations; communicates with the middle schools about the needs of the incoming group of ninth grade students; and works closely with the ninth grade teachers to identify potential student problems and needs.

The academic support teacher spends the other half of the time teaching and coordinating academic support for a group of 25 to 30 ninth grade students, who are identified as struggling with the transition from middle to high school. For example, the teacher teaches the students skills such as studying and notetaking and communicates with the regular classroom teachers on the students' progress and needs.

Alternative Teacher

OSA allocated a 0.5 FTE alternative teacher position to High School A for the 1997-98 school year. This teacher works with the 70 students in the school who are coded as needing special accommodations and assistance to succeed in the regular classroom. The alternative teacher teaches and counsels these students, works with parents and teachers to develop and monitor the students' educational programs, and runs a special learning center. The learning center provides a "home base" for the students, where instructional staff can help them understand, accept, and cope with their learning difficulties.

OSA allocated 2.0 FTEs to High School B. The principal uses the alternative teachers in three departments: 0.8 FTE in the Science Department, 1.0 FTE in the English Department, and 0.2 FTE in the Foreign Language Department. In the science and foreign language departments, the teachers provide instruction to at-risk students who have difficulty with science and foreign language classes. In the English department, the alternative teacher provides additional English instruction to ninth grade students in the regular English classrooms.

Disadvantaged Support Teacher

OSA did not allocate disadvantaged support teacher time to High School A for the 1997-98 school year. OSA allocated 1.0 FTE disadvantaged support teacher to High School B for the 1997-98 school year. According to the principal, half of the allocation supplements guidance office staff time spent on ninth grade student counseling because the school has a large ninth grade this year. The disadvantaged support teacher spends the

other half of the time teaching ninth grade students in the Matter and Energy classes. The principal chose to use the teacher in the Matter and Energy classes because many of High School B's students have difficulty with that class.

ESOL Support Teacher

For the 1997-98 school year, OSA allocated 1.0 FTE ESOL support teacher to High School B and none to High School A. High School B's ESOL support teacher acts as a regular classroom teacher in classes with a large number of ESOL students. The principal decided to use 0.8 of the FTE to teach mathematics and 0.2 FTE to teach science.

Special Program Teacher

OSA allocates these teachers to support special programs in the County schools. The 2.0 FTEs allocated to High School B teach the magnet program classes at all grade levels. OSA did not allocate special program teachers to High School A.

c) Instructional Assistants

Career Information Assistant

OSA allocates 1.0 FTE career information assistant to each County high school. This assistant develops and implements a career guidance and information program at the school. Examples of the career information assistant's responsibilities include:

- maintain a career/college information library;
- instruct students in career/college exploration, job seeking/keeping, and financial aid;
- organize career/employment fairs;
- coordinate visits by college representatives; and
- provide information and applications for college testing programs.

Computer Lab Instructional Assistant

OSA allocates a 0.75 computer lab instructional assistant at each high school. In High School A, the computer lab instructional assistant keeps computer equipment in order and fixes computer problems. This staff person may also provide technical assistance to students in the computer labs. High School B's principal froze this position for the 1997-98 school year to provide the FTEs needed to hire a user support specialist. As explained earlier, when schools become part of the Global Access program, MCPS requires principals to freeze allocated support services positions to free up resources to hire a user support specialist. The principals decide which positions to freeze.

English Composition Assistant

High School A received 2.625 FTE English Composition Assistants for the 1997-98 school year. The principal assigned the English composition assistants to help 9th and 11th grade students with writing assignments and to provide feedback on graded papers. The English composition assistants also help teachers grade writing assignments.

High School B received 2.188 FTE English Composition Assistant. High School B's principal also assigned the assistant to help 9th and 11th grade students with writing assignments and to provide feedback on graded papers. High School B's English composition assistants also provide remedial reading and writing assistance to students who have not taken or have not passed the Maryland Functional Reading and Writing Test.

ESOL Instructional Assistant

The 0.750 FTE ESOL instructional assistant allocated to High School B helps the ESOL teachers and students in the school's ESOL classrooms. The assistant may reinforce and review instruction to individuals and small groups of students in the ESOL classes. High School A did not receive ESOL instructional assistants for the 1997-98 school year.

Regular Instructional Assistant and Teacher Assistant

OSA allocated 2.750 FTEs to High School A for the 1997-98 school year. Consistent with the requirements of Global Access, the principal froze 0.875 FTE of this position in order to hire a user support specialist. High School A's principal divides the remaining 1.875 FTE regular instructional assistants' time among the academic departments in the school. The instructional assistants do not provide direct instruction, but may set up laboratories for the science department and assist teachers in the other departments with clerical tasks. An instructional assistant spends four hours on average each week in each department.

OSA allocated 1.5 FTE regular instructional assistants and 1.0 FTE teacher assistant to High School B for the 1997-98 school year. High School B froze 0.750 FTE of its regular instructional assistant allocation in order to hire a user support specialist. The different academic departments in the school share the remaining 0.750 FTE regular instructional assistant and the 1.0 FTE teacher assistant, with the majority of the time spent in classrooms with ESOL and students receiving special education services.

Success for Every Student (SES) Instructional Assistant

OSA allocated 0.5 FTE to High School B and no FTEs to High School A. The principal at High School B decided to use this instructional assistant to coordinate

preparation and administration of the Maryland Functional Tests. This involves preparing students, communicating with parents about the tests, and coordinating the logistics of administering the tests.

d) Other Teachers

OIPD allocates ESOL teachers, career preparation teachers, and vocational support teachers to high schools. Generally, high school principals use the ESOL teachers to support the ESOL students in the school, and the career preparation and vocational support teachers to teach career oriented classes and to coordinate work study and internship programs.

ESOL Teacher

OIPD allocated 6.0 FTE ESOL teachers to High School B and no ESOL teachers to High School A for the 1997-98 school year. According to the principal at High School B, the ESOL teachers are regular classroom teachers in the school's ESOL classes.

Career Preparation Teacher

OSA allocated a 0.5 FTE career preparation teacher to High School A. The teacher coordinates career oriented programs and teaches courses. The teacher's duties include:

- teaching the school's career course;
- teaching a career preparation course for at risk students;
- monitoring the performance of the students in the career preparation course in all their courses; and
- coordinating and monitoring the internship program and helping students find jobs and internships.

OSA allocated 2.0 FTEs to High School B. The principal assigned these teachers to the following tasks for the 1997-98 school year:

- teach medical careers classes; and
- supervise medical careers internships.

Vocational Support Teacher

During the 1997-98 school year, High School A's principal assigned the 0.5 FTE vocational support teachers to teach two economics classes and one consumer mathematics course. The vocational support teacher also coordinates programs for students interested in business and marketing careers and the on-the-job training program.

High School B's 1.0 FTE vocational support teacher:

- teaches an Office Technology and Communication class;
- implements the work study, cooperative work experience, and on-the-job training programs;
- coordinate the vocational support services team; and
- teaches students in the career and vocational classrooms.

3. Summary

High enrollments and large number of course offerings complicate the scheduling and staff assignment process at the high school level. The principals direct the process of deciding which classes to offer and how many students to assign to each class, as well as assigning tasks to the schools' staff members. The staff allocated to the high schools, the courses offered, enrollment, and other characteristics of the student population change from school year to school year. As a result, the sizes of individual classes and the way the principal uses the staff members also varies.

VI. SUMMARY OF FINDINGS AND RECOMMENDATIONS

A. Summary of Findings

Elected officials and community members often cite reducing class size in Montgomery County Public School (MCPS) classrooms as a high priority issue. An accurate picture of the class size situation requires understanding:

- the process that MCPS uses to allocate staff to individual schools;
- the various statistics MCPS uses to describe class size; and
- the Board of Education's maximum class size guidelines.

1. MCPS Staff Allocation Process

The MCPS staff allocation process ultimately determines the number of staff members and students assigned to each classroom. The Office of School Administration (OSA) and the Office of Instruction and Program Development (OIPD) allocate teacher and instructional assistant positions to individual schools based on staffing guidelines adopted by the Board of Education. Principals then decide individual class sizes based on multiple factors, including the number of instructional staff allocated to the school, student enrollment, curriculum requirements, and student and teacher interests and abilities.

Staffing Guidelines

The Board's adopted staffing guidelines outline the basis for allocating staff positions to individual schools. MCPS publishes the staffing guidelines annually in the Board's recommended operating budget. The staffing guidelines indicate that MCPS bases most staff allocations on enrollment. According to MCPS staff, enrollment based formulas determine how MCPS allocates approximately 90% of the instructional staff. ("Instructional staff" include certified teachers and instructional assistants that work directly with students.)

In addition to enrollment based formulas, the staffing guidelines base staff allocations on:

- Educational Load calculations for each school;
- the presence of special programs at individual schools; or
- a combination of factors, including enrollment, number of teachers in the school, the number of combination classes, and the distribution of students across grade levels.

Appendix C includes the MCPS' FY 98 staffing guidelines.

Budget Development Process

The staff allocation process parallels MCPS' operating budget development and approval process. Staff base the majority of the positions included in the Superintendent's recommended budget on enrollment projections from the Department of Planning and Capital Programming. OSA and OIPD staff then base the positions and number of FTEs allocated to individual schools on the number of positions included in the recommended budget and the staffing guidelines. Staff later adjust allocations to accommodate enrollment changes and budget changes resulting from the Council's final budget action.

Principals' Decisions

While the staffing guidelines indicate which positions (full-time equivalents) to allocate to each school, individual principals decide how to assign the positions allocated to their school. Given a set number of staff positions, each principal determines how many students and instructional staff to assign to each classroom.

The Office of School Administration (OSA) oversees the principals' decisions regarding use of staff and class size. OSA requires elementary school principals to submit organizational plans that list the number of students in each class. Middle and high school principals must submit regular reports on the number of classes in their school that are larger than the Boards' maximum class size guidelines (the maximum class size guidelines define the Board's class size goals). In addition, principals receiving certain special support teacher allocations (Quality Integrated Education/academic support, disadvantaged support/alternative, and special needs teachers) must describe to OSA how they plan to use those teachers in the school.

Generally, the bottom-line number of teachers and number of students drive many of the principals' decisions on class size. Principals decide how to use the special support teachers and instructional assistants based on enrollment and students' specific needs. For example, lower mathematics test scores might lead a principal to use a special support teacher to re-group or pull-out lower-scoring students for more individualized instruction. The principal of a school with large third grade classes might decide to assign an instructional assistant to review lessons with students in the third grade classrooms.

2. MCPS' Class Size Data

As a result of the staff allocation process, class sizes vary from school to school, grade level to grade level, and course to course. The sizes of classes in different schools depends on the characteristics of the school and how the principal uses the staff allocated to the school.

MCPS calculates and publishes a number of statistics and guidelines to describe the class sizes and the ratios of students to teachers in a school. An accurate picture of class sizes in MCPS schools requires an understanding of these guidelines and measures, including:

- average class size data;
- data on systemwide class sizes by class size ranges;
- data on the number of classes with enrollment above the Board's maximum class size guidelines; and
- student/professional staff ratio calculations.

Average Class Size

Average class size data describe the average number of students assigned to each classroom teacher. An average class size calculation does not take into account any other instructional staff assigned to the classroom. MCPS' annual Elementary and Secondary Class Size Report includes average class size data for:

- kindergarten classes;
- each elementary grade level (grades 1-6);
- each combination class level (grades 1/2, 2/3, 3/4, 4/5 and 5/6);
- middle school (grades 6-8) required English courses;
- all middle school academic courses combined and each academic course separately;
- all middle school non-academic courses combined;
- all high school (grades 9-12) required English courses;
- all high school academic courses combined and each academic course separately; and
- all high school non-academic courses combined.

MCPS' average class size calculations are based on "regular student enrollment," which includes all regular education students and students receiving intensity one, two, or three special education services. The average class size calculations exclude students receiving intensity four or five special education services. MCPS always mainstreams students receiving intensity one, two, or three special education services in the regular classroom, and sometimes mainstreams students receiving intensity four or five special education services in the regular classroom.

Table 25 summarizes MCPS' average class size data for the 1997-98 school year:

Table 25: Systemwide Average Class Size Data - 1997-98 School Year

Grade Levels/Classes	Average Class Size
Kindergarten	21.3
Grades 1-6 (includes combination classes)	24.2
Middle School - Required English	24.1
Middle School - All Academic	25.1
Middle School - Non-Academic	30.1
High School - Required English	25.4
High School - All Academic	26.5
High School - Non-Academic	27.5

Individual Class Size Data

Individual classes across the school system are either larger, smaller, or equal to the average. Data on the numbers of students in individual classrooms provide a more detailed picture of the range of actual class sizes in different grade levels and courses.

MCPS' Elementary and Secondary Class Size report includes data on the number of classes that fall into different class size ranges. Table 26 (page 83) provide an example of the data available in this report. The 1997-98 school year class size data indicate that:

- For the 1,164 classes in grades 1-3: 6% contain 16-20 students; 73% contain 21-26 students; 17% contain 27-28 students; and 4% contain more than 28 students.
- For the 5,136 middle school academic classes: 17% contain fewer than 21 students; 28% contain 21-25 students; 25% contain 26-28 students; 26% contain 29-32 students; and 4% contain more than 32 students.
- For the 6,194 high school academic classes: 14% contain fewer than 21 students; 21% contain 21-25 students; 24% contain 26-28 students; 33% contain 29-32 students; and 9% contain more than 32 students.

Table 26: Sample Individual Class Size Data - 1997-98 School Year

Distribution of Grades 1-3 Class Sizes

	Fewer than 16 students	16-20 students	21-26 students	27-28 students	29-30 students	More than 30 students	Total
# of Grade 1-3 Classes	1	67	852	194	42	8	1164
% of Grade 1-3 Classes	0.1%	5.8%	73.2%	16.7%	3.6%	0.7%	100.0%

Does not include combination classes

Distribution of Middle School Academic Class Sizes*

	Fewer than 16 students	16-20 students	21-25 students	26-28 students	29-32 students	33-35 students	More than 35 students	Total
# of Middle School Academic Classes	353	520	1455	1277	1339	182	10	5136
% of Middle School Academic Classes	6.9%	10.1%	28.3%	24.9%	26.1%	3.5%	0.2%	100.0%

* Includes Foreign Lang., Social Studies, Mathematics, Science, and required and non-required English classes

NOTE: MCPS uses different class size ranges to describe the middle and high school class sizes.

Distribution of High School Academic Class Sizes

	Fewer than 16 students	16-20 students	21-25 students	26-28 students	29-32 students	33-35 students	More than 35 students	Total
# of High School Academic Classes	314	535	1286	1464	2024	509	62	6194
% of High School Academic Classes	5.1%	8.6%	20.8%	23.6%	32.7%	8.2%	1.0%	100.0%

Includes Foreign Lang., Social Studies, Mathematics, Science and required and non-required English classes

Number of Classes Above the Board's Adopted Maximum Class Size Guidelines

Table 27 lists the Board of Education's current maximum class size guidelines. The Board developed these guidelines to serve as a target for class sizes across the school system. One of the Board's stated goals is to reduce the number of MCPS classes that exceed the adopted maximum class size guidelines.

The Board's adopted maximum class size guidelines are not the same as the Board's adopted staffing guidelines. The **maximum class size guidelines** indicate the Board's class size goals. The **staffing guidelines** designate the basis for allocating staff positions to individual schools.

Table 27 also lists the number and percent of classes with enrollment above the maximum class size guidelines for the 1997-98 school year. Similar to average class size data, these class counts include all regular education students and students receiving intensity one, two, and three special education services. The data on the number of classes above the Board's class size guidelines for the 1997-98 school year indicate that:

- the Board's maximum class size guideline for grades 1-3 is 28 students. For the 1997-98 school year, 50 classes, or 4% of the total number of grade 1-3 classes, contain more than 28 students.
- the Board's maximum class size guideline for required middle school English classes is 28 students. For the 1997-98 school year, 160 middle school required English classes, or 15% of the total, contain more than 28 students.
- the Board's maximum class size guideline for high school academic classes (other than English) is 32 students. For this school year, 561 of these classes, or 11%, contain more than 32 students.

Table 27: Maximum Class Size Guidelines - 1997-98 School Year

Class	Maximum Class Size Guidelines	Classes Over Guideline	Percent of Total Classes
Elementary School			
Kindergarten	24 ^a	0	0%
Grades 1-3	28	50	4%
Grades 4-6	30	23	3%
Middle School			
Required English	28	160	15%
Other Academic ^b	32	189	5%
High School			
English	28	233	19%
Other Academic ^b	32	561	11%

^a Maximum class size guideline for kindergarten classes with an aide is 30.

^b Other Academic includes science, mathematics, social studies, foreign language, and non-required English courses.

Student/Professional Staff Ratio

MCPS also calculates the ratio of students to “professional” staff by individual school. MCPS defines professional staff to include: principals, assistant principals, certified teachers, counselors, media specialists, and positions for professional special education related services. This calculation does not include instructional support, building support, or other non-professional positions.

The Department of Educational Accountability (DEA) publishes the student/professional staff ratio by school each year in Schools at a Glance. The 1996-97 Schools at a Glance publication indicates that for the 1996-97 school year:

- In elementary schools, the ratio of students to professional staff ranged from 10:1 to 18:1;
- In middle schools, the ratio of students to professional staff ranged from 12:1 to 16:1; and
- In high schools, the ratio of students to professional staff ranged from 14:1 to 17:1.

B. Recommendations

Recommendation #1: To enhance the Council’s general understanding of the class size issue, MCPS should provide the Council with an annual summary of key class size data.

The number of students in individual MCPS classes is a significant policy and budget issue in the County. Data on class size is complex and no single statistic adequately describes the status of class sizes across the school system. At the same time, too much data can also be confusing.

To provide a baseline of information and enhance the Council’s understanding of the class size issue, MCPS should provide the Council with a summary of key class size data currently published in the Elementary and Secondary Class Size Report. OLO recommends that in lieu of “average” class size data, MCPS concentrate on providing the Council with:

- Data that highlight where in the system and to what extent actual class sizes vary from the Board’s adopted guidelines; and
- Data that offer a good perspective on the range of class sizes throughout the school system.

Specifically, OLO recommends that MCPS package the following summary data in a user-friendly, easily interpreted format:

1. **Number of classes with enrollment above the Board of Education maximum class size guidelines.** MCPS staff should present the table currently available that lists the Board's adopted class size guidelines, along with the number and percent of all MCPS classes with enrollment above the Board's maximum class size guidelines.
2. **Aggregate data on the range of individual class sizes.** The summary data provided to the Council should present in table and graph form the number and percent of classes by class size ranges, e.g., under 20 students, 21-24 students, 25-28 students, 29-32 students, over 32 students.

For both of these data sets, the information should be reported by consistent categories of grades or classes. OLO recommends the following nine categories:

- Kindergarten
- Grades 1-3 (including combination classes)
- Grades 4-5 (including combination classes)
- Middle School - Required English
- Middle School - All Academic
- Middle School - Non-Academic
- High School - Required English
- High School - All Academic
- High School - Non-Academic

Recommendation #2: MCPS should calculate and publish a new statistic that relates the number of students in each school to the number of "instructional staff" in the school.

MCPS currently calculates the ratio of students to professional staff for each school. MACS defines professional staff to include: principals, assistant principals, certified teachers (including classroom teachers, special support teachers and other teachers assigned to a school), counselors, media specialists, and staff for special education related services. However, this ratio does not include instructional assistants, most of whom provide some form of instruction to students either in the regular classroom or in small groups outside of the classroom.

OLO recommends that MCPS develop and calculate a new statistic that relates the number of students in each school to the number of "instructional staff," that includes all certified teachers and instructional assistants that work directly with students. The ratio would not include administrators, counselors or other school-based staff who do not teach students.

MCPS' annual summary of key class size data should include this new "student to instructional staff ratio," summarized by school level, e.g., elementary, middle, and high schools.

Recommendation #3: Any requests to the Council for funds to reduce class size should outline explicitly how the additional appropriation would change the various class size statistics over time and the multi-year fiscal impact of the request.

To enable the Council to understand the potential impact of funding requests related to reducing class size, the request should include:

- an explanation of how and when the initiative is expected to change the various class size guidelines and statistics; and
- a multi-year fiscal impact.

The class size statistics that a class size initiative may affect include:

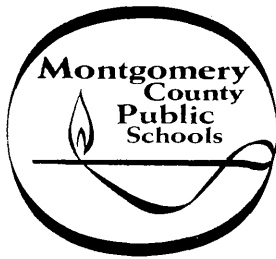
- average class size;
- the number of classes above the Board's maximum class size guidelines;
- the number of classes in different class size ranges;
- the student/professional staff ratios; and
- the student/instructional staff ratios.

MCPS should explain the impact on each group(s) of students and/or courses, e.g., grades 1-3, grades 4-5, middle school academic classes, high school required English classes, etc. MCPS should also explain any changes in the adopted MCPS staffing guidelines.

Principals make many class size decisions at the school level. As a result, the Council should understand how principals use staff resources associated with new initiatives at the school level. For example, it would be helpful for a sample of principals to describe how they use additional teachers within their school and the impact on specific class sizes.

VII. Agency Comments on the Draft Report

OLO circulated a draft of this report in December 1997 to the Superintendent of the Montgomery County Public Schools. This chapter includes the written comments received on the draft report in their entirety, beginning on the next page. The final report reflects all of the technical corrections received from MCPS staff.



850 Hungerford Drive * Rockville, Maryland * 20850-1747

Telephone (301)

279-3381

January 14, 1998

Mrs. Karen Orlansky, Director
Office of Legislative Oversight
100 Maryland Avenue
Rockville, Maryland 20850

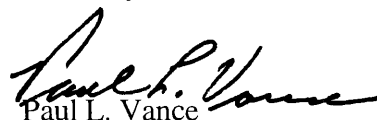
Dear Mrs. Orlansky:

Thank you for providing me an advanced copy of your report entitled *A Review of Montgomery County Public Schools' Class Size Data*. I find it to be very thorough and balanced in describing a very complex process. Indeed, the report reflects much preparation and investigative work.

It is important that the public understand the way schools are staffed and what is meant by "class size." I appreciate your mentioning my class size initiatives in your report. It is my hope that addressing class size for key instructional areas will raise educational performance in Montgomery County Public Schools (MCPS).

Thank you for including input from MCPS staff. Staff will be available to review the report with the Education Committee and the County Council.

Sincerely,


Paul L. Vance
Superintendent of Schools

PLV:jtt

Copy to:
Mrs. Gemberling
Mr. Bowers
Dr. Seleznow

Appendices

Appendix A: Official Elementary and Secondary Class Size Report

Appendix B: MCPS Organization Chart


Appendix C: MCPS Staffing Guidelines - FY 1998

Appendix D: Total Staff Allocation to Case Study Schools

Office of the Superintendent of Schools
MONTGOMERY COUNTY PUBLIC SCHOOLS
Rockville, Maryland 20850

November 21, 1997

MEMORANDUM

To: Members of the Board of Education
From: 
Paul E. Vance, Superintendent of Schools
Subject: Official Elementary and Secondary Class Size Reports

Attached is the official class size report that is produced annually by the Department of Educational Accountability reflecting class sizes at the elementary and secondary levels as of October 31, 1997. The chart below provides a summary for the past three years.

<u>Grade/Subject</u>	Number of Classes Over Desired Maximums			1997	1997
	<u>Official</u> <u>10/31/95</u>	<u>Official</u> <u>10/31/96</u>	<u>Official</u> <u>10/31/97</u>	<u>Total</u> <u>Classes</u>	<u>% Over</u> <u>Maximum</u>
Elementary Schools					
Kindergarten (Over 30)	0	0	0	425	0%
Grades 1-3 (Over 28)	76	36	50	1,209	4%
Grades 4-6 (Over 30)	29	34	23	774	3%
Middle Schools					
English (Over 28)	138	155	160	1,059	15%
Other Academic (Over 32)	166	198	189	4,077	5%
Senior High Schools					
English (Over 28)	187	214	233	1,219	19%
Other Academic (Over 32)	440	545	561	4,975	11%

PLV:jtt

Attachments

Copy to:
Mrs. Gemberling
Mr. Bowers
Dr. Seleznow

MONTGOMERY COUNTY PUBLIC SCHOOLS
ROCKVILLE, MARYLAND
STATISTICS ON ELEMENTARY AND SECONDARY CLASS SIZE
AS OF OCTOBER 31, 1997

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Average Sizes of Elementary Classes 1989-1997	3
STATISTICS FOR SECONDARY CLASS SIZE BY SUBJECT AREA	4

Department of Educational Accountability
MONTGOMERY COUNTY PUBLIC SCHOOLS
Rockville, Maryland

STATISTICS ON ELEMENTARY AND SECONDARY CLASS SIZE AS OF

October 31, 1997

INTRODUCTION

Average class size is only one of the criteria for evaluating staffing of schools for instructional purposes. The elementary classroom teacher is provided with the support of specialists in physical education, music, art, reading, and/or library services. This kind of support is not reflected in class size figures. In some instances the teacher is assisted by half-time teachers allocated to large classes to help in the basic skills instruction, and by aides that perform services so teachers may devote a greater proportion of their time to professional responsibilities. The right hand column of the report indicates the number of classes that have been brought within the maximum class size guidelines by the assignment of a half-time teacher. Elementary school class sizes are summarized by grade. Trends in class sizes are also provided. Statistics on secondary class size are reported by subject area and are summarized by middle and high school level.

COUNTY TOTALS

GRADE	TOTAL NUMBER OF PUPILS AND CLASSES	AVERAGE CLASS SIZE	DISTRIBUTION OF NUMBER AND PERCENT OF PUPILS IN CLASSES OF THE SIZE INDICATED, AND OF NUMBER AND PERCENT OF CLASSES IN EACH SIZE CATEGORY														
			BELOW 16		16-20		21-26		27-28		29-30		OVER 30		CLASSES BROUGHT UNDER MAXIMUM BY .5 TEACHERS		
			N	%	N	%	N	%	N	%	N	%	N	%	N	%	
1	PUPILS CLASSES	9678 406	23.8			653 34	6.7 8.4	7765 326	80.2 80.3	1173 43	12.1 10.6	29 1	.3 .2			58 2	.6 .5
1-2 COMB.	PUPILS CLASSES	479 21	22.8			91 5	19.0 23.8	360 15	75.2 71.4	28 1	5.8 4.8						
2	PUPILS CLASSES	9406 384	24.5			285 15	3.0 3.9	7209 300	76.6 78.1	1619 59	17.2 15.4	293 10	3.1 2.6				
2-3 COMB.	PUPILS CLASSES	528 22	24.0					501 21	94.9 95.5	27 1	5.1 4.5						
3	PUPILS CLASSES	9495 376	25.3	15 1	.2 .3	347 18	3.7 4.8	5456 226	57.5 60.1	2518 92	26.5 24.5	911 31	9.6 8.2	248 8	2.6 2.1		
3-4 COMB.	PUPILS CLASSES	339 14	24.2			17 1	5.0 7.1	282 12	86.1 85.7			30 1	8.8 7.1				
4	PUPILS CLASSES	9256 361	25.6			176 9	1.9 2.5	5428 223	58.6 61.8	2272 83	24.5 23.0	1005 34	10.9 9.4	375 12	4.1 3.3		
4-5-COMB.	PUPILS CLASSES	564 22	25.6			19 1	3.4 4.5	294 12	52.1 54.5	191 7	33.9 31.8	60 2	10.6 9.1				
5	PUPILS CLASSES	9098 359	25.3			342 18	3.8 5.0	5227 217	57.5 60.4	2008 73	22.1 20.3	1172 40	12.9 11.1	349 11	3.8 3.1		
5-6-COMB.	PUPILS CLASSES	24 1	24.0					24 1	100.0 100.0								
6	PUPILS CLASSES	408 .17	24.0					323 14	79.2 82.4	27 1	6.6 5.9	58 2	14.2 11.8				
NOT SECTION	PUPILS CLASSES	154 21	7.3	73 18	47.4 85.7			26 1	16.9 4.8	55 2	35.7 9.5						
TOTAL 1-6 & COMB.	PUPILS CLASSES	49275 1983	24.8	15 1	.1	1930 101	3.9 5.1	32879 1367	66.7 68.9	9863 360	20.0 18.2	3558 121	7.2 6.1	972 31	2.0 1.6	58 2	.1 .1
KINDER- GARTEN	PUPILS CLASSES	9065 425	21.3	169 12	1.9 2.8	2638 143	29.1 33.6	6068 263	66.9 61.9	190 7	2.1 1.6						
TOTAL K-6 & COMB.	PUPILS CLASSES	58340 2408	24.2	184 13	.3 .5	4568 244	7.8 10.1	38947 1630	66.8 67.7	10053 367	17.2 15.2	3558 121	6.1 5.0	972 31	1.7 1.3	58 2	.1 .1
SPEC. ED.	PUPILS CLASSES	2672 333	8.0	2490 322	93.2 96.7	182 11	6.8 3.3										
HEADSTART	PUPILS CLASSES	2071 123	16.8	517 38	25.0 30.9	1399 78	67.6 63.4	128 6	6.2 4.9	27 1	1.3 .8						
GRAND TOTAL	PUPILS CLASSES	63237 2885															

AS

Trends: Average Size of Elementary Classes 1988-1996

GRADE	1989	1990	1991	1992	1993	1994	1995	1996	1997
1	23.2	23.3	23.2	22.7	23.5	23.4	24.0	23.7	23.8
1-2 Combination	21.2	22.4	23.8	23.1	22.8	24.0	23.5	22.7	22.8
2	23.8	24.0	23.6	23.8	23.9	24.2	24.6	24.5	24.5
2-3 Combination	24.3	22.9	23.0	24.2	23.8	23.5	24.0	23.4	24.0
3	24.2	24.2	24.3	24.0	24.7	24.3	25.4	24.9	25.3
3-4 Combination	24.4	22.8	24.5	24.3	24.4	24.3	24.5	24.4	24.2
4	24.5	24.4	24.3	24.6	24.9	25.2	25.7	25.5	25.6
4-5 Combination	24.3	24.9	25.2	24.5	25.1	25.1	24.8	25.4	25.6
5	24.4	25.5	25.4	24.7	25.4	25.1	26.0	26.3	25.3
5-6 Combination	24.9	24.6	25.5	25.6	25.3	27.0	28.0	24.0	24.0
6	25.3	24.7	24.9	25.0	25.0	25.1	26.3	24.8	24.0
Total 1-6, and Combination	24.1	24.1	24.1	24.0	24.5	24.4	25.1	24.9	24.8
Kindergarten	21.7	21.8	21.6	21.7	21.7	21.7	22.0	21.5	21.3
Total K-6, and Combination	23.6	23.7	23.7	23.6	24.0	24.0	24.5	24.3	24.2

MCPS SECONDARY CLASS SIZE FOR SCHOOL YEAR 1997-1998
CLASS SIZE DISTRIBUTION: SUMMARY BY LEVEL
BASED ON REPORT CARD ADMINISTRATIVE EXTRACT OF 11/01/97

REPORT NEW1S

LEVEL	SUBJECT		TOTAL NUMBER	AVG. SIZE	CLASSES LT 16		CLASSES 16-20		CLASSES 21-25		CLASSES 26-28		CLASSES 29-32		CLASSES 33-35		CLASSES GT 35	
LEVEL					N	%	N	%	N	%	N	%	N	%	N	%	N	%
A7 MID	RQD ENG.	PUPILS	25493	24.1	899	3.5	2214	8.7	8614	33.8	9004	35.3	4662	18.3	100	.4	0	0.0
		CLASSES	1059	.	76	7.2	120	11.3	370	34.9	333	31.4	157	14.8	3	.3	0	0.0
	OTHR ENG	PUPILS	10242	22.2	985	9.6	953	9.3	3427	33.5	3035	29.6	1709	16.7	133	1.3	0	0.0
		CLASSES	462	.	88	19.0	52	11.3	148	32.0	113	24.5	57	12.3	4	.9	0	0.0
	FORGN LANG	PUPILS	12649	25.8	285	2.3	937	7.4	3350	26.5	2659	21.0	4273	33.8	1001	7.9	144	1.1
		CLASSES	491	.	22	4.5	51	10.4	145	29.5	98	20.0	141	28.7	30	6.1	4	.8
	SOCIAL STUDY	PUPILS	26237	26.1	589	2.2	1637	6.2	5612	21.4	6271	23.9	10495	40.0	1597	6.1	36	.1
		CLASSES	1006	.	51	5.1	88	8.7	242	24.1	232	23.1	344	34.2	48	4.8	1	.1
	MATH	PUPILS	26292	24.9	937	3.6	2349	8.9	7224	27.5	6081	23.1	8110	30.8	1516	5.8	75	.3
		CLASSES	1055	.	79	7.5	127	12.0	310	29.4	225	21.3	267	25.3	45	4.3	2	.2
SCIENCE	PUPILS	28222	26.5	409	1.4	1518	5.4	5613	19.9	7460	26.4	11375	40.3	1735	6.1	112	.4	
	CLASSES	1063	.	37	3.5	82	7.7	240	22.6	276	26.0	373	35.1	52	4.9	3	.3	
TOTAL ACAD*	PUPILS	129135	25.1	4104	3.2	9608	7.4	33840	26.2	34510	26.7	40624	31.5	6082	4.7	367	.3	
	CLASSES	5136	.	353	6.9	520	10.1	1455	28.3	1277	24.9	1339	26.1	182	3.5	10	.2	
ESOL	PUPILS	1439	10.7	1214	84.4	193	13.4	0	0.0	0	0.0	32	2.2	0	0.0	0	0.0	
	CLASSES	135	.	123	91.1	11	8.1	0	0.0	0	0.0	1	.7	0	0.0	0	0.0	
NON-ACAD	PUPILS	54055	30.1	976	1.8	1429	2.6	6266	11.6	8707	16.1	14638	27.1	8863	16.4	13176	24.4	
	CLASSES	1795	.	88	4.9	78	4.3	268	14.9	321	17.9	481	26.8	262	14.6	297	16.5	

* INCLUDES REQUIRED ENGLISH AND OTHER ENGLISH (EXCLUDING ESOL),
SOCIAL STUDIES, MATH, SCIENCE AND FOREIGN LANGUAGE

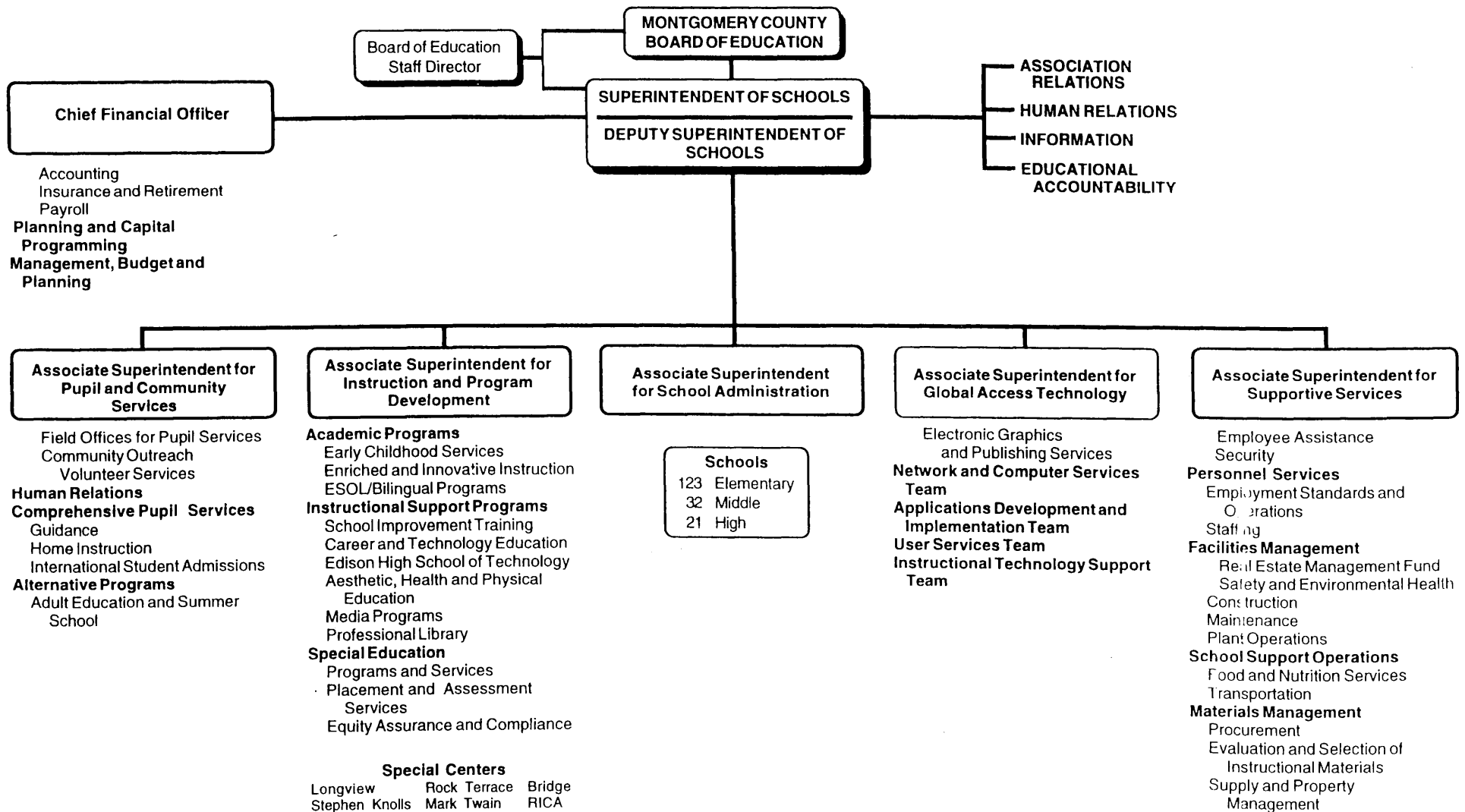
MCPS SECONDARY CLASS SIZE FOR SCHOOL YEAR 1997-1998
CLASS SIZE DISTRIBUTION: SUMMARY BY LEVEL
BASED ON REPORT CARD ADMINISTRATIVE EXTRACT OF 11/01/97

REPORT NEW1S

LEVEL	SUBJECT		TOTAL NUMBER	AVG. SIZE	CLASSES LT 16		CLASSES 16-20		CLASSES 21-25		CLASSES 26-28		CLASSES 29-32		CLASSES 33-35		CLASSES GT 35		
LEVEL					N	%	N	%	N	%	N	%	N	%	N	%	N	%	
A8	SNR	RQD ENG.	PUPILS	30934	25.4	457	1.5	1942	6.3	7920	25.6	13647	44.1	6629	21.4	339	1.1	0	0.0
			CLASSES	1219	.	40	3.3	105	8.6	338	27.7	503	41.3	223	18.3	10	.8	0	0.0
		OTHR ENG	PUPILS	3525	20.7	649	18.4	460	13.0	716	20.3	347	9.8	668	19.0	167	4.7	518	14.7
			CLASSES	170	.	60	35.3	26	15.3	31	18.2	13	7.6	22	12.9	5	2.9	13	7.6
		FORGN LANG	PUPILS	21435	26.7	369	1.7	1505	7.0	4406	20.6	3817	17.8	8800	41.1	2244	10.5	294	1.4
			CLASSES	803	.	29	3.6	82	10.2	189	23.5	141	17.6	287	35.7	67	8.3	8	1.0
		SOCIAL STUDY	PUPILS	33695	27.0	935	2.8	1915	5.7	4987	14.8	5918	17.6	14255	42.3	5087	15.1	598	1.8
			CLASSES	1249	.	82	6.6	104	8.3	214	17.1	218	17.5	463	37.1	152	12.2	16	1.3
		MATH	PUPILS	34998	27.2	582	1.7	1867	5.3	6008	17.2	6430	18.4	14521	41.5	5071	14.5	519	1.5
			CLASSES	1289	.	54	4.2	101	7.8	257	19.9	238	18.5	474	36.8	151	11.7	14	1.1
	SCIENCE	PUPILS	39792	27.2	584	1.5	2149	5.4	6014	15.1	9527	23.9	16969	42.6	4144	10.4	405	1.0	
		CLASSES	1464	.	49	3.3	117	8.0	257	17.6	351	24.0	555	37.9	124	8.5	11	.8	
	TOTAL ACAD*	PUPILS	164379	26.5	3576	2.2	9838	6.0	30051	18.3	39686	24.1	61842	37.6	17052	10.4	2334	1.4	
		CLASSES	6194	.	314	5.1	535	8.6	1286	20.8	1464	23.6	2024	32.7	509	8.2	62	1.0	
	ESOL	PUPILS	2672	12.4	1826	68.3	708	26.5	111	4.2	27	1.0	0	0.0	0	0.0	0	0.0	
		CLASSES	216	.	169	78.2	41	19.0	5	2.3	1	.5	0	0.0	0	0.0	0	0.0	
	NON-ACAD	PUPILS	53772	27.5	1853	3.4	3069	5.7	6981	13.0	8759	16.3	17998	33.5	7335	13.6	7777	14.5	
		CLASSES	1953	.	173	8.9	169	8.7	302	15.5	323	16.5	588	30.1	217	11.1	181	9.3	

* INCLUDES REQUIRED ENGLISH AND OTHER ENGLISH (EXCLUDING ESOL),
SOCIAL STUDIES, MATH, SCIENCE AND FOREIGN LANGUAGE.

MONTGOMERY COUNTY PUBLIC SCHOOLS FY 1998 ORGANIZATION



MCPS K-12 Budget Staffing Guidelines - FY 1998

Position	Elementary	Middle	High
Principal	1.0 per school	1.0 per school	1.0 per school
Assistant Principal	1.0 per school projected to have 600 or more students.	1.0 per school A second assistant principal is allocated to schools projected to have 900 or more students.	1.0 per school A second assistant principal is allocated to schools projected to have 900 or more students. A third assistant principal is allocated to schools projected to have 1800 or more students.
Student Support Specialist		These 11-month administrative positions are added to the FY 1998 budget to provide support to principals to deal with the increased demands on time related to non-instructional duties. These 5.0 positions are allocated to schools based on a combination of school size, educational load, and other programs that impact on schools' administrative work load.	These 11-month administrative positions are added to the FY 1998 budget to provide support to principals to deal with the increased demands on time related to non-instructional duties. These 4.0 positions are allocated to schools based on a combination of school size, educational load, and other programs that impact on schools' administrative work load.
Counselor	The goal for these positions is a full-time position for schools projected to have 300 or more students and a half-time position for schools projected to have fewer than 300 students. Allocations take into consideration the number of schools without full-time counselors, each school's projected enrollment, schools with special needs, and equity among schools. School size generally is used as the primary criterion to allocate positions to schools, but there are occasions where need prevails over size.	Counselor allocations are based on the goal of 300:1 ratio. The budget reflects an overall average ratio of 286:1.	Counselor allocations are based on the goal of 300:1 ratio. The budget reflects an overall average ratio of 281:1.
Media Specialist	1.0 per school with an enrollment of 250 students or greater 0.5 per school with an enrollment less than 250 students	1.0 per school	The FY 1998 budget allows 1.0 media specialist for each high school and 2.0 media specialists for the largest five high schools.

MCPS K-12 Budget Staffing Guidelines - FY 1998

Position	Elementary	Middle	High
Kindergarten Teacher	<p>The FY 1998 budget provides one kindergarten teacher for every 21.4 students. All-day kindergarten teacher positions were allocated to the following nine schools: Broad Acres, East Silver Spring, Gaithersburg, Highland, Maryvale, Montgomery Knolls, New Hampshire Estates, Rolling Terrace, and Summit Hall.</p> <p>A kindergarten teacher reserve was generated by reviewing each school's projected kindergarten enrollment and identifying schools that could be staffed initially at a slightly higher ratio. For example, a school projected to have 78 kindergarten students could be staffed for three classes projected at 26 students or four classes projected at 19.5 students. In cases where the higher ratio was used, a small reserve was generated. The allocation in this example would create three classes of 26 students. Later, when enrollment is firmer, another teacher could be added from the reserve, or instructional assistants could be provided if any classes actually go above 25 students.</p>		

MCPS K-12 Budget Staffing Guidelines - FY 1998

Position	Elementary	Middle	High
Classroom Teacher	<p>The FY 98 Operating Budget provides one teacher for every 24.6 students. A small reserve is established by allocating positions to schools at a slightly higher ratio (25.3:1). Initial allocations are made so that all classes are within Board of Education maximum class size guidelines and no more than two combination grade classes are necessary.</p> <p>When enrollments become more reliable, individual school adjustments are made. The organizational plan developed by each principal is reviewed against the initial staffing allocations. Additional staffing may need to be provided if there are large classes at individual grade levels or if students have special needs that require a lower class size ratio. Some schools have been staffed at an initial ratio of 24 to 1, or even lower, to respond to these needs.</p>	<p>Initial allocations to schools are based on the following formula:</p> $\frac{\text{Regular Enrollment} \times 7 \text{ Periods/Day}}{\text{Average Class Size of } 28.6 \times 5 \text{ Periods/Day}}$ <p>To illustrate, the calculation for a middle school with a projected enrollment of 800 students is:</p> $\frac{800 \text{ Students} \times 7 \text{ Periods}}{28.6 \text{ students/class} \times 5 \text{ periods}}$ <p>The school would be allocated 39.2 classroom teachers.</p> <p>In FY 1998, 1,311.6 classroom teachers are budgeted. Of these, 12.0 positions are allocated to provide a 0.2 position in each school for coordination of <i>Success for Every Student</i> programs and a 0.2 position in each school for coordination of enriched and innovative programs.</p> <p>A small classroom teacher reserve is held to address large class sizes that develop when actual enrollments change at the beginning of the new school year. The goal is to limit the number of classes over the maximum size guidelines (28 in English and 30 in other academic subjects) to 70 classes or less. The maximum class size guideline for academic subjects other than English was changed to 30 in FY 1992. However, budget constraints did not permit any additional staffing to implement the new guideline.</p>	<p>Initial allocations to schools are based on the following formula:</p> $\frac{\text{Regular Enrollment} \times 6.8 \text{ Periods/Day}}{\text{Average Class Size of } 30.1 \times 5 \text{ Periods/Day}}$ <p>The budget also includes 27 teacher positions for the Thomas Edison High School of Technology. Schools served by the Thomas Edison High School of Technology have their teacher allocations reduced to allow for students attending classes at Edison.</p> <p>Some teacher positions have been budgeted for schools in addition to those allocated by the formula. Montgomery Blair receives 8.3 teachers for its SPecial Alternative and Remedial Classes (SPARC) interdisciplinary program, and Poolesville receives 5 positions because of its small enrollment.</p> <p>In FY 1998, each high school receives a 0.2 allocation to coordinate service learning programs, for a total of 4.2 positions.</p> <p>A small classroom teacher reserve is held to address large class sizes that develop when actual enrollments change at the beginning of the new school year.</p>

MCPS K-12 Budget Staffing Guidelines - FY 1998

Position	Elementary	Middle	High
Reading Teacher	Previous budgets have provided a 1.0 reading teacher position for schools with 400 or more students in Kindergarten through Grade 6, and a 0.5 position for those with enrollments under 400. Although schools' enrollments have changed, there have not been any improvements in reading teacher positions to allow for those schools that have grown beyond 400 students. In some cases, adjustments in staffing are made to address more immediate reading needs at individual schools. Some schools have combined a 0.5 disadvantaged teacher position to allow reading teachers to be full time in schools.	1.0 per school	
Physical Education, Art, and General Music Teachers	The FY 1998 budget provides physical education, art, and general music teachers at a 557:1 ratio. In determining each school's allocation, consideration is given to the total number of teaching stations (classes), including Head Start, special education, and the number of kindergarten and preschool classes. Enrollment by grade level is considered as a factor because the number of minutes of instruction varies by grade level.		
Instrumental Music Teacher	These positions are allocated to schools with Grades 4-6 students based on the estimated number of participants in the instrumental music program.		
Teachers for ESOL Support	In FY 1998, twelve classroom teacher positions are identified to support schools that have a high percentage of ESOL students. The intent is to provide an additional regular Grade 1-6 teacher allocation to permit the school to operate at a lower class size ratio. In FY 1998, nineteen schools receive additional staffing for ESOL support.		In FY 1998, three classroom teacher positions are allocated to support schools that have a high percentage of ESOL students: Montgomery Blair, Albert Einstein, and Sherwood high schools.

MCPS K-12 Budget Staffing Guidelines - FY 1998

Position	Elementary	Middle	High
Instructional Support Teacher	The goal for these positions is a 0.5 allocation for all schools projected to have more than 300 students and no assistant principal, a 0.5 position to schools with 800 or more students, and a 1.0 position to schools with 900 or more students. The FY 1998 budget provides a 0.5 position to schools with enrollments between 464 and 600 that do not have an assistant principal and positions to the larger schools as indicated.		
Disadvantaged Teacher/Alternative Teacher	These 26 positions are allocated to schools to be used to support <i>Success for Every Student</i> outcomes and, in particular, to improve the achievement of low to average-achieving students. Although the need for disadvantaged staff has increased, the allocation has remained constant. Therefore, there is a continual review of individual school needs, including the schools' educational loads, to assure appropriate allocation of limited staffing.	The FY 1998 budget includes 19.5 alternative teacher positions, and 19 teachers for the disadvantaged. These allocations are based on local school needs to improve the achievement of low to average-achieving students in MCPS and will reflect the goals of the <i>Success for Every Student</i> plan.	The FY 1998 budget includes 43.5 alternative teacher positions that are allocated to special alternative programs and to schools to support <i>Success for Every Student</i> outcomes with particular emphasis on improving the achievement of low to average-achieving students. Thirty-one alternative teacher positions are allocated to special programs and centers, including Tahoma, Gateway, Journey, Karma, The Other Way, Lynbrook, Kingsley, and the New School. The remaining 12.5 alternative positions and all 14.0 disadvantaged positions are allocated to schools to address local school needs.
Cluster Magnet Teacher/Special Program Teacher	There are 21.4 cluster magnet teacher positions to support special programs in 15 magnet schools.	The six budgeted positions are allocated to Eastern (2.5), E. Brooke Lee (1.0 - Sixth grade program for Eastern), and Takoma Park (2.5).	The 17.5 positions are allocated to the computer/science magnet program at Montgomery Blair Magnet (9.5); the International Baccalaureate program at Richard Montgomery (4.0); the Leadership Training Institute at John F. Kennedy (1.0); the visual arts program at Albert Einstein (2.0); and the Global Ecology Studies Program at Poolesville (1.0).

MCPS K-12 Budget Staffing Guidelines - FY 1998

Position	Elementary	Middle	High
QIE/Academic Support Teacher	There are 56.7 QIE/Academic support teacher positions that are allocated to programs in 49 identified schools. Schools are identified as those most in need of support considering the factors listed in the Quality Integrated Education (QIE) policy, including the schools' educational load.	Schools are identified as those most in need of support considering the factors listed in the Quality Integrated Education policy, including the schools' educational load. The seven positions are allocated: 1.0 each to Argyle, Eastern, Francis Scott Key, Parkland, and Sligo; and 0.5 each to Forest Oak, Montgomery Village, Neelsville, and Takoma Park.	Schools are identified as those most in need of support considering the factors listed in the Quality Integrated Education policy, including the schools' educational load. The following schools receive 1.0 QIE staffing support: Montgomery Blair, Albert Einstein, John F. Kennedy, Springbrook, and Wheaton.
Special Needs Teacher		These 14 positions are allocated to schools based upon the school's plans to serve students with behavioral and/or motivational problems that interfere with learning in a self-contained program with below-average class size. Individual school needs are reviewed annually to determine appropriate allocations.	
Mainstreaming Support		These teachers support efforts to mainstream special education students in Intensity 4 programs. In FY 1998, 30 schools receive mainstreaming allocations ranging from 0.2 to 0.6 depending on the size of the local school's Intensity 4 program.	
Vocational Support			In FY 1998, eighteen vocational support positions are allocated to nineteen high schools to provide support for career development programs, including cooperative work experience and internships and implementation of Career Connections initiatives.
Resource Teacher		The FY 1998 budget provides one release period per resource teacher.	The FY 1998 budget provides one release period for each resource teacher and the athletic director.

MCPS K-12 Budget Staffing Guidelines - FY 1998

Position	Elementary	Middle	High
Career Prep Teachers			Career prep teacher positions are allocated to support special career and technology education programs. These positions support school-based career development programs that include medical careers, career development, and Career Connections activities including internships. Career prep teacher positions are also allocated to support countywide programs that include information systems management, the construction and auto-trades foundations, fire cadet/EMT, executive internship, and enrollment of students from other schools in their career development programs.
Agriculture/Horticulture Teachers			Damascus, Gaithersburg, and Sherwood each receive one position for this program.

MCPS K-12 Budget Staffing Guidelines - FY 1998

Position	Elementary	Middle	High																												
Administrative Secretary	1.0 per school	1.0 per school	1.0 per school																												
School Secretary I and II	The Board's budget initiative for school secretary I positions has a goal of 1.5 for schools with 800 or more students, 1.0 for those with 400 to 799 students, and 0.5 for schools with fewer than 400 students. The FY 1998 budget provides the same number of positions as schools had in FY 1997. The FY 1998 budget provides for schools above 525 students to receive a 1.0 position and those above 800 students to receive a 1.5 allocation.	Each school receives a 1.0 allocation for 10-month school secretary I positions. Each middle school also receives an additional 0.25 (2 hours) in order to follow up on student absences. Eastern and Takoma Park each have an additional 1.0 position for magnet programs. Eleven of the largest middle schools receive a 1.0 school secretary II position.	The FY 1998 budget allows for a total secretary allocation based on the following student enrollment guidelines: <table><tr><td>0-999</td><td>1.5</td><td>1575-1899</td><td>4.0</td></tr><tr><td>1000-1324</td><td>2.5</td><td>1900-1999</td><td>5.0</td></tr><tr><td>1325-1359</td><td>3.0</td><td>2000+</td><td>6.0</td></tr><tr><td>1360-1574</td><td>3.5</td><td></td><td></td></tr></table> These guidelines allow for an additional 0.5 (four hours) allocation at each school in order to follow-up on student absences.	0-999	1.5	1575-1899	4.0	1000-1324	2.5	1900-1999	5.0	1325-1359	3.0	2000+	6.0	1360-1574	3.5														
0-999	1.5	1575-1899	4.0																												
1000-1324	2.5	1900-1999	5.0																												
1325-1359	3.0	2000+	6.0																												
1360-1574	3.5																														
Business Manager			1.0 per school																												
Financial Assistant		1.0 per school	1.0 per school																												
Guidance Secretary		1.0 per school	1.0 per school																												
School Registrar			1.0 per school																												
Career Information Coordinator			1.0 per school																												
Media Services Technician		1.0 at Eastern Middle School for special program support	1.0 per school, with Blair High School receiving 2.0 for special program support																												
Media Assistants	The FY 1998 budget allows for positions to be allocated based on the following student enrollment guidelines: <table><tr><td>0-249</td><td>1.0</td></tr><tr><td>250-445</td><td>0.5</td></tr><tr><td>446-899</td><td>1.0</td></tr><tr><td>900+</td><td>1.5</td></tr></table>	0-249	1.0	250-445	0.5	446-899	1.0	900+	1.5	Allocations are based on the following guidelines: <table><tr><td>0-899</td><td>1.0</td></tr><tr><td>900+</td><td>1.5</td></tr></table>	0-899	1.0	900+	1.5	For FY 1998, allocations are based on the following student enrollment guidelines: <table><tr><td>0-999</td><td>1.0</td><td>1750-1899</td><td>3.0*</td></tr><tr><td>1000-1499</td><td>1.5</td><td>1900-1999</td><td>2.5</td></tr><tr><td>1500-1574</td><td>2.0</td><td>2000+</td><td>4.0*</td></tr><tr><td>1575-1749</td><td>2.5*</td><td></td><td></td></tr></table> *In FY 1996, schools that lost a media specialist position received a media assistant position.	0-999	1.0	1750-1899	3.0*	1000-1499	1.5	1900-1999	2.5	1500-1574	2.0	2000+	4.0*	1575-1749	2.5*		
0-249	1.0																														
250-445	0.5																														
446-899	1.0																														
900+	1.5																														
0-899	1.0																														
900+	1.5																														
0-999	1.0	1750-1899	3.0*																												
1000-1499	1.5	1900-1999	2.5																												
1500-1574	2.0	2000+	4.0*																												
1575-1749	2.5*																														

MCPS K-12 Budget Staffing Guidelines - FY 1998

Position	Elementary	Middle	High																
Instructional Assistants	<p>There are a variety of instructional assistant positions, each with its own purpose.</p> <p>Kindergarten Instructional Assistants: These positions are allocated to kindergarten classes with more than 25 students. Several questions are considered before an allocation is made (e.g., How many assistants are needed? Are the classes balanced? Is it less expensive to form an additional class and allocate a teacher? Is there space in the building for an additional class?). Kindergarten instructional assistant positions are allocated in September once class sizes are firm.</p> <p>ISM Instructional Assistants: Instructional assistant allocations to support the Instructional System for Mathematics (ISM) are based on the school's enrollment.</p> <p>QIE/Cluster Magnet Instructional Assistants: These allocations are "school-specific" and are provided as supplements to regular allocations.</p> <p>"Regular" Instructional Assistants and Instructional Assistants for Grades 1 and 2: Each school also receives a "regular" instructional assistant allocation beyond what is required for kindergarten, ISM, QIE, or a magnet program. In FY 1991 a multi-year budget initiative was begun that was intended to provide additional instructional assistant support for Grades 1 and 2 classes. Budget limitations have precluded the expansion of the first year's initiative. Initial allocations of these "regular" positions take into account school size, number of teachers, and special needs. The priority for these instructional assistant positions is for large classes (29 or more students in Grades 1-3; 31 or more students in Grades 4-6).</p>	<p>Each school receives a 0.75 position for the Instructional Systems in Mathematics (ISM) program and a 0.75 position for a computer lab instructional assistant. A 0.5 instructional assistant position is allocated to each of six schools to help prepare students for Project Basic Tests. These six schools are Eastern, Col. E. Brooke Lee, Parkland, Sligo, Gaithersburg, and Martin Luther King. In addition, each school receives a "regular" instructional assistant allocation to address individual school needs.</p>	<p>Of the total instructional assistant positions, 22.0 positions are designated as program specific: Montgomery Blair SPARC and Magnet, Richard Montgomery IB, four schools with ROTC, three schools with ESOL Support, Damascus Voc. Support, and Thomas Edison High School of Technology. Likewise, the following alternative programs receive instructional assistant allocations: New School, Gateway, Tahoma, Whittier, and Journey.</p> <p>In addition, each school receives a 0.75 computer lab instructional assistant. Twelve schools receive a 0.5 instructional assistant to support <i>Success for Every Student</i> outcomes on functional tests.</p> <p>English composition assistants are budgeted positions based on the projected number of sections of Language Writing Workshop 1 and 2, and Practical Writing 1 and 2. The number of sections is estimated by dividing the total number of 9th and 11th grade students by 50. Following are the guidelines used for this allocation:</p> <table><tr><th>Sections</th><th>Allocations</th></tr><tr><td>3.1- 6.0</td><td>0.875</td></tr><tr><td>6.1- 9.0</td><td>1.313</td></tr><tr><td>9.1-12.0</td><td>1.75</td></tr><tr><td>12.1-15.0</td><td>2.188</td></tr><tr><td>15.1-18.0</td><td>2.626</td></tr><tr><td>18.1-21.0</td><td>3.063</td></tr><tr><td>21.1-24.0</td><td>3.5</td></tr></table>	Sections	Allocations	3.1- 6.0	0.875	6.1- 9.0	1.313	9.1-12.0	1.75	12.1-15.0	2.188	15.1-18.0	2.626	18.1-21.0	3.063	21.1-24.0	3.5
Sections	Allocations																		
3.1- 6.0	0.875																		
6.1- 9.0	1.313																		
9.1-12.0	1.75																		
12.1-15.0	2.188																		
15.1-18.0	2.626																		
18.1-21.0	3.063																		
21.1-24.0	3.5																		

MCPS K-12 Budget Staffing Guidelines - FY 1998

Position	Elementary	Middle	High
Student Monitor		The FY 1998 budget provides for six positions. The goal is to have a position in all middle schools. Those schools with student monitors are Gaithersburg, Montgomery Village, Parkland, Sligo, Julius West, and Earle B. Wood. Allocated positions are reviewed annually.	There are 18 positions, originally titled Student Behavioral Assistants. These student monitors conduct in-school suspension programs.
Security Team Leader/Security Assistant		These positions are allocated to schools based on local school needs. Each middle school has at least one security assistant position. The following nine middle schools have 2.0 positions: Roberto Clemente, Eastern, Gaithersburg, Francis Scott Key, Parkland, Rosa Parks, Sligo, Takoma Park, and White Oak.	These 82.0 positions are allocated to schools as part of the superintendent's initiative to improve security. School security teams range in size from 1.0 at Poolesville to 7.0 at Montgomery Blair.
Lunch Hour Assistants	These assistants provide lunch and playground supervision for students and coverage for teachers during lunch hours in order to allow for educational planning time required by the negotiated agreement. Initial school allocations are based on the 1-6 student enrollment, number of lunch periods, and recess times.	Each middle school is allocated 8 hours of lunch hour aide time.	

Position	Elementary	Middle	High
ESOL Staffing	<p>Itinerant allocations are made to schools based on actual ESOL student enrollment at a 41:1 student/teacher ratio.</p> <p>The elementary METS program is staffed at a student/teacher ratio of 15:1. There are 6.0 teacher positions and 5.3 instructional assistant positions to support the elementary METS program.</p>	<p>Itinerant allocations are made to schools based on actual ESOL student enrollments at a 32:1 student/teacher ratio.</p> <p>The middle school METS program is staffed at a student/teacher ratio of 30:1. There are 5.5 teacher positions and 6.8 instructional assistant positions to support the middle school METS program.</p>	<p>Fifteen high schools are sites for ESOL centers, which are staffed at a 30:1 student/teacher ratio. Each high school Intensive English Language Center (IELC) is assigned one 0.2 FTE resource teacher, and 21.9 instructional assistants are provided to support high school ESOL centers. The high school METS program is staffed at a student/teacher ratio of 15:1. There are 3.0 teacher positions and 1.5 instructional assistant positions.</p>
Title I Instructional Assistants	<p>The Improving America's Schools Act of 1994 guides the allocation of all Title I/State Compensatory Education resources. In MCPS these resources are allocated to eligible schools based on a formula that weights several factors:</p> <ul style="list-style-type: none"> (1) The percentage of students approved for free and reduced-price meals in each Title I eligible school (2) The actual number of free and/or reduced-price lunch students enrolled in the school as of October 31 (3) The percentage of students receiving ESOL services in each eligible school (4) The mobility rate of the school's population 		
Head Start Staffing	<p>The length of Head Start classes varies from 2.5 hours to 4 hours throughout the county based on available space and whether the teacher is full or part-time. Most Head Start classes are 3.25 hours long, and each class is assigned a 0.6 teacher position and a 4- or 5-hour instructional assistant. Classes range in size from 17 students for teachers teaching morning and afternoon classes to 20 students for single classes.</p>		
Instructional Specialists - Global Access	3.0 positions serving Global Access technology.	1.0 position serving Global Access technology.	2.0 positions serving Global Access technology.

Appendix D: Total Staff Allocation to Case Study Schools

Chapter V of this report describes six MCPS schools, including characteristics of the schools, the instructional staff allocated to the school, and how the principals decided to use the staff. This appendix contains three tables listing the all of the instructional, administrative and support staff allocated to each case study schools. The tables do not include the special education staff allocated to the schools.

Total Staff Allocated to Elementary School A and B - 1997-98 School Year

Positions	Elementary School A	Elementary School B
Teachers		
Kindergarten	1.5	2.5
Grade 1-5	15.0	17.0
Physical Ed., Music, Art	3.0	3.2
Reading	1.0	1.0
ESOL	.5	1.8
Head Start, Title I, EEEP	0	1.125
Special Support	0	4.5
Teacher Total	21.0	31.125
Instructional Assistants		
Instructional Assistants Total	1.25	10.75
Administrators		
Principal	1.0	1.0
Assistant Principal	0	0
Principal Trainee	0	0
Administrator Total	1.0	1.0
Other Professional Staff		
Guidance Counselor	.5	1.0
Media Specialist	1.0	1.0
Other Professional Total	1.5	2.0
Supporting Services		
Administrative Secretary	1.0	1.0
Secretary 1	.5	1.0
Media Assistant	.5	1.0
Lunch Hour Aide	.9375	1.0
Building Services Manager	1.0	1.0
Building Services Leader	1.0	1.0
Building Services Worker	2.0	2.0
PEO	0	0
Support Services Total	6.938	8.0
Total *	31.60	52.88

* Excludes special education staff.

Total Staff Allocated to Middle School A and B - 1997-98 School Year

Position	Middle School A	Middle School B
Teachers		
Grade 6-8 classroom	33.8	46.1
Reading	1.0	1.0
ESOL	0	4.0
Special Support	.7	5.2
Teacher Total	35.5	56.3
Instructional Assistants		
Instructional Assistant Total	2.375	4
Administrators		
Principal	1.0	1.0
Assistant Principal	1.0	2.0
Students Support Specialist	0	0
Counselor	2.5	3.5
Media Specialist	1.0	1.0
Administrator Total	5.5	7.5
Supporting Services		
Administrative Secretary	1.0	1.0
Financial Secretary	1.0	1.0
Secretary - Cluster Magnet	0	0
Guidance Secretary	1.0	1.0
Secretary 1 (10 month)	1.25	1.25
Secretary 2 (10 month)	0	1.0
Media Assistant	1.0	1.5
Security Assistant	1.0	2.0
Student Monitor	0	1.0
Lunch Hour Aide	1.0	1.0
Building Services Manager	1.0	1.0
Building Services Leader	1.0	1.0
Building Services Worker	3.0	4.5
PEO	1.0	1.0
Support Total	13.25	18.25
Total *	56.625	86.05

* Excludes special education staff.

Total Staff Allocated to High School A and B - 1997-98 School Year

Position	High School A	High School B
Teachers		
Grade 9-12 classroom	77.3	57.2
ESOL	0	6.0
Career Preparation	.5	2.0
Vocational Support	.5	1.0
Special Support Teachers	.5	7.5
Teacher Total	78.8	73.7
Instructional Assistants		
Instructional Assistant Total	7.125	8.438
Administrators		
Principal	1.0	1.0
Assistant Principal	2.0	2.0
Counselor	5.5	4.5
Student Support Specialist	0	0
Media Specialist	1.0	1.0
Administrator Total	9.5	8.5
Support Services		
Administrative Secretary	1.0	1.0
Secretary 1 (10 month)	2.0	2.0
Secretary 2 (10 month)	2.0	1.0
Business Manager	1.0	1.0
Financial Secretary	1.0	1.0
Guidance Secretary	1.0	1.0
Registrar	1.0	1.0
Media Assistant	2.5	1.5
MST	1.0	1.0
Security Team Leader	1.0	1.0
Security Assistant	2.0	4.0
Student Monitor	0	1.0
Building Services Manager	1.0	1.0
Building Services Leader	1.0	1.0
Building Services Worker	10.0	9.0
PEO	1.0	1.0
Support Total	28.5	28.5
Total *	123.925	119.138

* Excludes special education staff.