

Appendix P–2

MCPS Enrollment Forecasting

The prediction of school enrollment involves the consideration of a wide range of factors. The demographic makeup of communities is the foremost consideration. In addition, characteristics of schools, such as the programs they offer and changes within school service areas (such as new housing), can influence enrollment. Economic activity at the local, regional, and national levels also influences the accuracy of enrollment forecasts. Developing a forecast that extends from one to 15 years requires assessment of current local events in light of broader, long-term trends. Forecast accuracy varies depending on the projection's geographic scope as well as its time span. Accuracy is greatest when enrollment is projected for large areas and for the short-term (one or two years in the future). Accuracy in forecasts diminishes as the geographic area projected becomes smaller and as the forecast is made for more distant points in the future. Therefore, a one-year countywide forecast for total enrollment for all schools will have less error than forecasts that extend further into the future for individual schools.

The MCPS enrollment forecast is developed after an annual study of trends at the county and individual school levels. A history of each school's grade enrollments are compiled and updated annually. Analysis of this history uncovers patterns in the aging of students from one grade to the next. Extrapolating these patterns enables a school's forecast to be developed. This approach, termed the cohort-survivorship method, is the most widely accepted and applied school enrollment forecasting method.

MCPS projections, prepared in the fall of every year, extend through the upcoming six years, and for the tenth and fifteenth years in the future. The actual September enrollment at each school is used as the basis from which projections are developed. The cohort-survivorship method "ages" the student population ahead through the grade levels at each school to the desired forecast years. For each school in the system—and for the system as a whole—calculations of the net change in grade level enrollments—as students transition from one grade to the next—are developed. These enrollment change amounts are applied to current grade enrollments in order to project future enrollment in the grades system-wide, and at individual schools. For example, system-wide, and at many schools, the number of Grade 1 students typically exceeds the number of kindergarteners the previous year. This is usually the result of parents choosing private kindergarten for their children, and then enrolling them in public schools beginning in Grade 1. (This is less of a factor now that MCPS offers full-day kindergarten at all elementary schools and the share of county students in public schools, compared to nonpublic schools, is increasing.) Similar trends in the amount of "grade change" are discernible for each grade system-wide, and at individual schools. Each school is unique, and projections must

be sensitive to population dynamics in the communities served by the school, and the specific trends in the cohort movements through the grades.

Migration to Montgomery County by families with preschool and school-age children has yielded substantial numbers of new students. This source of enrollment growth was especially significant in the 1980s and 1990s, when a large number of new subdivisions were being built and turnover of homes in older communities hit record levels. Though the county's draw of migrating households is now more moderate, migration continues to be a key factor that is incorporated into enrollment forecasts. Forecasters add these new students by tracking enrollment changes in schools and by tracking residential building plans, construction, and sales activity in developing areas of the county. Estimates of student yield from subdivisions are applied to the forecast for the school serving the development after the projected building schedule is considered. Recently, MCPS has received more students from county private schools. This trend is monitored and factored into enrollment projections.

Because of the uncertainty that surrounds both short- and long-range forecasts, MCPS forecasts are revised each fall. In addition, the one-year forecast is revised each spring. The primary purpose of evaluating the upcoming school year's forecast is to increase accuracy in making staffing decisions and to place relocatable classrooms where needed. The evaluation assesses the enrollment change in each school from September, when the original forecast is made, to the time of spring revision. In areas of the county that are developing, an assessment of the rate of housing construction is made. Also, in some cases administrative or Board of Education actions, such as a change in a school service area, may affect enrollment.

The most difficult component of the enrollment forecast is predicting kindergarten enrollment. To develop forecasts for kindergarten, an annual review of resident birth records compiled by the Maryland Center for Health Statistics is undertaken. Births in nearby jurisdictions to mothers who reside in Montgomery County are included in the records that are reported at the county level. These records provide a general measure of potential kindergarten enrollment five years in the future.

Analyzing the relationship between actual and projected county births—kindergarten enrollment five years after the birth year—enables ratios of kindergarten enrollment to births five years previously, to be developed. These ratios are then applied to more recent birth numbers, and projected births, to develop the total kindergarten enrollment forecast for MCPS. Kindergarten enrollment forecasts are then developed for each school, using recent trends in kindergarten enrollment at the school to guide the forecast. Individual school kindergarten projections are then reconciled to the countywide kindergarten forecast at the end

of the process. Kindergarten trends are reevaluated each year through close coordination with school principals.

Continuous efforts are underway to increase the accuracy of forecasting techniques. Advances continue to be made in the use of computers for the retrieval and analysis of demographic and facility planning data. For this reason MCPS is increasingly using the county's Geographic Information System (GIS). This

GIS system contains extensive demographic and land-use data that is used in the forecasting and facility planning processes. Ties between MCPS planners, county planning agencies, the real estate and development communities, and community representatives enable an ongoing exchange of information relevant to forecasting. This pooled knowledge is a valuable resource in the inherently difficult job of predicting the future.