Enrollment Forecasting & Projection Methodology

Accurate enrollment projections are important for developing a feasible Five-Year capital plan. Enrollment forecasting requires analysis of multiple factors including, but not limited to: birth trends, historical enrollment trends, demographic composition of neighborhoods, current and planned new residential developments, and local and regional housing trends. Additional factors impacting school populations include: the School District’s Choice options, which include Career academics, Magnet/Choice programs, Charter schools, No Child Left Behind (NCLB) transfers, McKay Scholarship transfers, English Speakers of Other Languages (ESOL) clusters, and Exceptional Student Education (ESE) assignments including gifted centers and reassignments. Grade level retention guidelines and provision of the Pupil Progress Plan also impact overall enrollment by grade level (elementary, middle and high).

The District demographer annually prepares and updates enrollment forecasts for each of the District schools. The updates are prepared utilizing October FTE enrollment data. A cohort-survival model is employed to generate annual forecasts. This method is a widely applied forecasting model for projecting student enrollment, which has proven to be accurate. The model “ages” students ahead through grade levels. A survival ratio is typically calculated based upon a three-year enrollment history. Weighted and unweighted cohort-survival models using two-year and three-year enrollment histories were tested and evaluated.

The annual five-year forecast is a multi-step procedure. An aggregate cohort-survival model produces a total kindergarten to twelfth grade forecast. Survival ratios are typically determined based upon aggregated grade totals for the District over the last two or three years. This year due to a significant drop in the annual enrollment increment and changes in housing market characteristics, several additional “weighed” cohort-survival models were run. Target enrollment numbers were derived from these weighted models.

Kindergarten projections are generated based upon total live-resident birth data, adjusted for school age entry laws, from five years earlier. The resulting year-by-year forecast is adjusted for students who are anticipated to attend charter and alternative schools. The remaining elementary (K-5), middle (6-8) and high (9-12) totals become target enrollments for the second phase of the forecasting procedure.

Grade by grade enrollment histories of small geographic areas or Study Area Codes (SACs) are complied and analyzed. These studies reveal patterns of aging or progression from grade to grade are the basis for local area enrollment
forecast by year. Forecasts from small geographic area data are adjusted, if appropriate, for students anticipated from new residential housing developments. Field surveys of new developments throughout the county are conducted, at a minimum, semiannually. The district also utilizes software produced by Metro Studies to track new housing developments. Metro Study staff conducts periodic surveys of new developments to estimate “move-ins.” Additionally, adjustments for Choice programs, including changes or new programs planned in the future are incorporated. Enrollment estimates by SAC, by year, are adjusted to reflect students who attend each assigned school. Anticipated out-of-district students are added to the “in-boundary” estimates.

Small geographic area estimates are next summed into individual school forecasts. The school-by-school forecasts are summed to generate elementary, middle, and high school projections. These summary projections generated from the local area (SAC) data are reconciled to the target projections produced by the aggregate cohort survival application.

Data from the Florida Department of Education Palm Beach County, local governments and the University of Florida’s BEBR population projections are referenced throughout the development of student enrollment projections. These independent forecasts serve as a test of reasonableness for the aggregate target enrollment numbers. To the extent feasible, target numbers derived from these other forecasts are reconciled with target enrollments generated by the aggregate cohort survival model.

Recognizing the uncertainty that surrounds long-term forecasts and to a lesser extent, near horizon projections, the District reviews the enrollment projections annually for adjustments. Demographic shifts are expected in high growth counties like Palm Beach and annual changes in school programs can also generate near-term facility needs. The recent drop in enrollment growth (FY2006) and enrollment declines (FY07-FY09), due in part to housing market characteristics and trends, and the bad economy, present additional challenges to forecasting. Staff works closely with school principals and local government planners to encourage an on-going exchange of information, which fosters proactive planning rather than reactive problem solving.