HOW DECISIONINSITE GENERATES ENROLLMENT PROJECTIONS AT THE DISTRICT AND SCHOOL LEVEL

A White Paper

How DecisionInsite Determines Enrollment Projections at the District and School Level

OVERVIEW

Enrollment projections are based on two critical factors: the student and school data supplied by the school district and the mathematical formulas that are applied to these data. Projections fundamentally look at recent history as reflected in the student data and assume that past patterns and trends will continue into the future. A range of unpredicted anomalies can cause reality to vary from the historical patterns. These include, but are not limited to, unusual changes in the economy, mortgage interest rates, the housing market, the job market, residential development plans, rental rates, etc.

DecisionInsite takes great care in preparing a district's enrollment projections. Known changes made by the district that interrupt the historical patterns, such as changes in attendance boundaries, or closing a school, can be accommodated in the projections. However, anomalous changes that occur between the last set of student data and the first projections are not reflected in the projections.

The calculations underlying the projections are mathematically precise. Each result is rounded to a whole number for ease of reading. This rounding may result in whole numbers displayed in a column not adding exactly to the displayed total of the column. This phenomenon, which is a result of rounding and not of any inaccuracy in the calculations, occurs both in the enrollment projections and in the community demographics.

Four major factors drive district-wide student enrollment projections. These include:

1. Recent kindergarten enrollment trends, modified by live birth data,

2. changes in the grade level cohorts of students served as it moves across the years,

3. changes in out of district enrollment

4. changes in the number of dwelling units within the district.

District-wide projections are disaggregated to school projections based on the historical patterns of:

- school draw rates , and

- school-to-school transfers.

DISTRICT PROJECTIONS

These are the elements involved in determining district enrollment projections:

Studyblocks

For demographic analysis and enrollment projections, the district is divided into studyblocks. Sometimes equivalent to an elementary attendance area or a census block group, a studyblock serves as the basis for the analysis of students served by the district and by schools. Studyblocks typically encompass 500–1000 students.

Kindergarten Enrollment

The projected Kindergarten enrollment is a key variable in projecting K–12 enrollment. The base Kindergarten projection is determined by the trend of Kindergartners served in each studyblock in the previous 3 or 4 years. Depending on the circumstances, a growth trend in Kindergarten enrollment may be capped. Steep straight-line trends are mathematically moderated to avoid unrealistic results.

Live Births

The base Kindergarten projection may be adjusted to reflect possible influence of live births. Where a trend of live births across recent years in a given zip code can be documented, the base Kindergarten projection for Studyblocks in that zip code is adjusted accordingly.

School Capacities

School capacities provided by the district are compared to projected enrollments. A Special Day Class (SDC) student is calculated by default as requiring 1 seat. At district option, these defaults can be changed. For example, if SDC classes are formed at 10 and occupy a typical classroom space, the default could be set to 3 seats per SDC student.

Students in the Projections

Enrollment projections are limited to typical K–12 students. SDC students are projected as a stable percentage of the typical population. Excluded from the projections are Pre-Kindergarten, Adult High School, Home School, Adult Ed, and Independent Study programs.

Attendance Boundaries

Attendance boundaries are assumed to remain constant, unless otherwise noted by the district.

Closed Schools

Opportunities for open enrollment (intradistrict) are assumed to remain unchanged, unless otherwise noted by the district.

Inter-district Enrollment

Students enrolled from other school districts are treated in aggregate as a single or limited number of studyblocks. Kindergarten students, the low middle school grade, and the low high school grade from this studyblock(s) are projected to the extent they exist in the most recent year. Existing out of district students are aged through the grades. Draw rates are assumed to be constant.

Cohort Change of Students Served by the District

Cohort percentage changes are calculated in order to assure sensitivity to perennial changes in students served by the district as they age from one grade level to the next. If every cohort were stable as it ages, the cohort percent change, from one grade to the next in each studyblock, would be calculated as 100%. For each studyblock, a cohort weighted average percent change over a defined number of years is calculated based on the change in the enrollment served as it ages from the previous grade level.

Average cohort percentages above 100% might, for example, reflect students returning from private schools. Cohort percentages below 100% might reflect drop-outs. Steep straight-line trends are mathematically moderated to avoid unrealistic results.

Growth studyblocks are those showing unusually high increases in elementary grade enrollment and/or cohort percent change in recent years—due, typically, to new housing development. Once growth studyblocks are identified, their default cohort percent change rate is set to "1" so as not to over-project new residential growth. By default, growth is not predicted to continue unless new occupied dwelling units are projected. Exceptions to the default are made at grade 1, the low middle school grade, the low high school grade, and grade 12.

Cohort changes can be adjusted as necessary. Manipulation of cohort percentages is used, for example, to reflect changes in inter-district transfers due to policy changes in sending or receiving districts.

Residential Development Impact

The predicted impact of residential development on district enrollment is based on three factors: 1) proposed new dwelling units, 2) the student generation rate for each unit type, and 3) the grade level distribution of newly generated students.

1. Dwelling Units

New dwelling units are categorized into three housing types: Single Family Detached, Single Family Attached, and Multifamily. Developers and builders are contacted for information relative to their annual plans for occupancy of new dwelling units. The conservative projection adjusts the developer stated phasing by stretching the units in a given project across more years.

2. Student Generation

Student generation rates are determined for each product type for each level: elementary, middle school and high school. These generation rates can also be varied by year or by project. Student generation rates are based on similar products types where such exist; otherwise, a default generation rate is used.

3. Grade Level Distribution

For each level, students generated by new dwelling units are distributed across grade levels. These percentages are based on historical patterns where they exist; otherwise, default percentages are used.

SCHOOL PROJECTIONS

These are the elements involved in distributing across the schools the students projected in the district enrollment:

School Draw Rates

Projecting enrollment at the school level is based on the concept of a school draw rate, i.e., the percent of students from a given studyblock who enroll in a given school at its lowest grade. Draw rates reflect the impact of open enrollment within a district. For example, if one-half the sixth-graders from a given studyblock enroll in a particular 6–8 middle school, that school has a draw rate of 50% from that studyblock.

The draw rate for the most recent year is applied by default to the projected district enrollment for that grade from a given studyblock. The draw rate ages with the cohort. In this way, if the underlying cohort changes, the number of students enrolled at the school will change accordingly.

Draw rates can be adjusted as necessary. Manipulation of draw rates is used, for example, to project the impact of changes in attendance boundaries, the impact of closing a school to open enrollment, or opening a new school.

Intra-district Transfers

Grade-level transfers within or across schools are included in the projections to accommodate fluctuations like retention, transfer to continuation school, or any other special programs a district may offer that result in students changing schools at other than the typical grade configuration shifts. Transfers are calculated by applying the percent of a grade level population at one school that is transferred in the following year to another school, or continued at the same grade level at a given school in the following year.