HCPSS Enrollment Projection Methodology

The Office of School Planning (OSP) produces an updated enrollment projection every year, compiling updated data including projected housing construction, historical and projected births, housing resales, and student population characteristics. The data are provided by Howard County Department of Planning and Zoning (DPZ), MD Department of Health and Mental Hygiene (DHMH), MD Department of Planning (MDP), and HCPSS Student Information System.

Since Howard County is rapidly growing, OSP supplements the industry-standard cohort survival method by incorporating student yield rates for housing transactions that could generate new students. At each step in our process, the goal is to use historical data to select the rate that performs best at predicting the future, while considering local knowledge, development and planning trends, and historical accuracy. Our system includes tools to help determine which data points have historically been the best indicators of future enrollment.

In 2013 and 2015, Dejong-Richter (now known as Cooperative Strategies) reviewed the OSP's projection methodology. This review concluded that OSP enrollment projection methods are valid, producing accurate results compared to other methods and surrounding districts. These findings were presented to the Board of Education.

The modified cohort survival method used by OSP begins with prior year official enrollment (green box). Moving up the diagram, factors are added starting with the non-housing factors (cohort survival), then the housing factors and out of district, leading to a projection for September 30th of the following year and beyond. Middle and High School projections are developed in the same fashion, substituting rising 6th and 9th grade cohorts for K, and excluding Pre-K move-ins.

What is it?

Official K-12 enrollment counts submitted to MD Dept. of Education

A count of births by ES attendance area (mother's address at time of birth is used) received from DHMH, compared to Kindergarten (K) enrollment (five years later) to generate an annual birth to K "survival rate." This calculation excludes students who are associated with newly constructed homes, re-sales of existing homes, or apartment turnover. Five years of annual rates are evaluated to predict a future rate.

Rate of a cohort's "survival" to the next grade. This calculation excludes students who are associated with newly constructed homes, re-sales of existing homes, or apartment turnover. For example, calculates how many 3rd graders came from previous year's 2nd graders. Rates from previous five years are updated annually and used to inform rate for future cohort survival.

Rate of students yielded from apartment turnover. Five years of historical rates are updated each year to reflect students arriving at each school due to change in apartment address. Land use data for each address is from DPZ parcel database and MDP assessment data.

Rate of students yielded from resales of existing homes. Five years of historical rates are updated each year to reflect students arriving at each school whose address matches a record found in the MDP sales database.

Rate of students yielded from homes built within the last 4 years. who moved in as pre-school-aged. Five years of historical rates updated each year to reflect K students arriving at each school whose address matches a building permit from the last four years.

Rate of students yielded from new residential units in each year. Five years of historical rates are updated each year to reflect students arriving at each school whose address matches a building permit from the previous year. Spearate rates are calculated for Single family detatched, townhomes, and multi-family unit types using building permit data from DPZ. Projection of future units also from DPZ, Research Division.

Count for # of students who attend a school other than that assigned by their address. Each year, a five-year average for each school is calculated and applied to that schools geographic projection, resulting in an enrollment projection.

How is it calculated?

ACTUAL COUNT OF STUDENTS ENROLLED (AND VERIFIED) IN AN ATTENDANCE AREA ON SEPTEMBER 30 OF EACH SCHOOL YEAR.

BIRTHS FROM 5 YRS AGO / NON-HOUSING K= SURVIVAL RATE

SELECTED RATE X FUTURE BIRTHS = FUTURE K NON-HOUSING

Birth to Kindergarten Matriculation

Prior Year

Official Sept. 30th

Enrollment

Cohort Survival

ENROLLMENT FOR ANY GRADE / PRIOR GRADE ENROLLMENT FROM PRIOR YEAR

EACH GRADE'S SELECTED RATE X PROJECTED ENROLLMENT FOR THAT GRADE = COHORT SIZE IN NEXT GRADE FOR NEXT YEAR

Apartment **Turnover Yield**

(non-housing)

+

OF ARRIVALS FROM APTS / # OF APTS IN THAT YEAR = YIELD RATE

SELECTED YIELD RATE X # APARTMENTS IN EACH FUTURE YEAR = PROJECTED STUDENT YIELD

Resale Yield

OF ARRIVALS FROM RESALES / # OF HOMES IN THAT YEAR = YIELD RATE

SELECTED YIELD RATE X # OF HOMES IN EACH FUTURE YEAR = PROJECTED STUDENT YIELD

Pre-K move-ins

OF ARRIVALS FROM NEW HOMES (IN LAST 4 YRS) / # OF NEW HOMES IN LAST 4 YRS = YIELD RATE

SELECTED YIELD RATE X # NEW, <4YR OLD HOMES IN EACH FUTURE YEAR = PROJECTED STUDENT YIELD

New Construction Yield

OF ARRIVALS FROM NEW HOMES / # OF NEW HOMES = YIELD RATE (CALCULATED FOR EACH UNIT TYPE AT EACH SCHOOL)

SELECTED YIELD RATE X # PROJECTED UNITS IN EACH FUTURE YEAR = PROJECTED STUDENT YIELD

Out of District

OF STUDENTS WHO LIVE HERE BUT ATTEND ELSEWHERE + # THAT LIVE ELSEWHERE AND ATTEND HERE = OOD COUNT

5 YEAR HISTORICAL AVG IS ADDED TO GEOGRAPHIC PROJECTION

Future Year Projected Sept. 30th Enrollmen