DECISIONINSITE

Enrollment Impact Specialists

Annual Enrollment Projection Report

Strategic Decision Support for School Districts

ANALYSIS OF ENROLLMENT PROJECTIONS

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SOLANA BEACH SCHOOL DISTRICT

EXECUTIVE SUMMARY

ENROLLMENT PROJECTIONS - FALL 2018

DecisionInsite is pleased to present this report of findings to the Board of Education and Executive Staff of Solana Beach School District. Both a Conservative and Moderate projection have been generated for the district. Assuming district revenue is generated on a per pupil basis, the Conservative projection is more suitable for budget planning purposes while the Moderate projection is more suitable for facilities planning purposes.

KINDERGARTEN ENROLLMENT

In general, Kindergarten enrollment over the past three years has been somewhat erratic. The data also show that the difference between the graduating cohort and the incoming cohort has been somewhat erratic. Note that both studies project a significant increase at the Kindergarten level.

COHORT PATTERNS

A typical student cohort ages from grade to grade relatively unchanged from the previous year. Historically, no cohorts show more than a 5% annual change.

NEW HOUSING DEVELOPMENT

Approximately 1,450 new residential units are projected to be occupied over the next 10 years. During that period, the annual impact in any given year, based on the Moderate Study, is estimated in peak years to be 194 students.

DISTRICT-WIDE ENROLLMENT PROJECTION

Overall the projections forecast an increase across the 10-year period based upon the historical enrollment trends and any projected new residential development.

MORE INFORMATION

A richer and more comprehensive review of both studies is contained in the Final Report accompanying this Executive Summary. A wealth of more detailed information and analysis regarding both studies is also quickly and easily accessible online.

Respectfully Prepared and Submitted by:

The **DecisionInsite** Team

January 5, 2018

SOLANA BEACH SCHOOL DISTRICT

DISTRICT ENROLLMENT PROJECTIONS

RECENT CHANGES IN ENROLLMENT

Familiarity with recent historical enrollment patterns and trends establishes the foundation for understanding projected enrollment. Percentages in the table below compare the current year enrollment to that of three years ago.

4 Year History Change	
Kindergarten	87%
Gr K-6	96%
District	96%

[Kindergarten calculation based on a 12-month cohort equivalent.]

FIGURE 1

KINDERGARTEN IMPACT

Kindergarten enrollment is a significant driver of overall future district-wide enrollment. A trend at Kindergarten from year to year, or a trend in the difference between the district's graduating cohort in a given year and the Kindergarten cohort the subsequent year, will eventually be reflected in the total district enrollment count. (Note that these projections reflect changes in age eligibility for California Kindergarten. The result is a diminished Kindergarten cohort in years 2012-2014, with similar reductions in other grade levels as those cohorts age through the system.)

In general, Kindergarten enrollment over the past three years has been somewhat erratic. The data in the table below also show that the difference between the graduating cohort and the incoming cohort has been somewhat erratic.

[More details: Reports > History > District-wide > History Years Enrollment]

Percent Change of Previous Year			
	2015	2016	2017
Kindergarten	96%	86%	107%
Grade 6 to K	93%	74%	80%
Total K-6	100%	98%	97%

[Kindergarten calculations in first two rows based on a 12-month cohort equivalent.]

FIGURE 2

LIVE BIRTH TRENDS

Live birth trends have an impact in large geographies, and on long range projections. However, in smaller areas of study, such as a school district, population mobility is often a mitigating if not an overriding factor, thereby reducing the effectiveness of live births as a predictor of enrollment. Consequently, DecisionInsite has found that recent Kindergarten enrollment trends by sub-geographies to be a better, more reliable predictor of future Kindergarten enrollment.

COHORT IMPACT

A typical student cohort ages from grade to grade relatively unchanged from the previous year. By contrast, the cohort matriculating from Kindergarten to Grade 1 is a common example of a cohort increase, typically attributable to students returning from a private school.

In the following table, cohort changes with more than a 2% variance from static are marked accordingly. Those with more than a 5% changed are marked as 'Significant'.

Average Cohort Change Past Three Years			
Cohort	Percent	+/-	Significant
K > 1	104%	++++	
1 > 2	103%	++++	
2 > 3	102%	++++	
3 > 4	100%		
4 > 5	101%		
5 > 6	100%		

FIGURE 3

INCOMING OUT-OF-DISTRICT TRANSFER IMPACT

The number of students served from outside the district boundaries can impact enrollment. It is a factor over which the district may have some control. For the past two years, the number of out-of-district students served annually has been approximately 66, and has been increasing.

[More details: Reports > History > District-wide > Out of District]

KEY VARIABLES IN PROJECTING DISTRICT ENROLLMENT

Both a Conservative and Moderate projection have been generated for the district. Assuming district revenue is generated on a per pupil basis, the Conservative projection is more suitable for budget planning purposes while the Moderate projection is more suitable for facilities planning purposes.

As a matter of standard practice, DecisionInsite does not typically include specialized schools or programs such as Home and Hospital Programs, Community Day Schools or Independent Study Programs in the Enrollment Projections. Our work is focused on projecting grade level enrollment for typical schools that are reported to the state.

The major variables that distinguish the Conservative projection from the Moderate are described in the table below.

Key Variables Controlling the Projections Algorithm	
Kindergarten Enrollment Change	Applies the lesser or greater of 3-4 year history trend in each studyblock to the appropriate study.
Cohort Change	Applies the lesser or greater of 3-4 year history trend in each studyblock to the appropriate study.
K Enrollment Change Cap	Restricts the effect of anomalous spikes in Kindergarten history
K Enrollment Change Floor	Restricts the effect of anomalous spikes in Kindergarten history
Incoming Out-of-District Transfers	For each grade level span, applies the lesser or greater of 1-2 year history to the lograde; ages through existing students.
Dwelling Units	Moderate study assumes developer's phasing calendar. Conservative study shifts the developer's calendar toward the out-years.
Student Generation Rates	Typical of recent history by product type.

FIGURE 4

IMPACT OF PROJECTED NEW DWELLING UNITS

PROJECTED OCCUPANCY

Approximately 1,450 new residential units are projected to be occupied over the next 10 years. The tables below show the mix of proposed units across the three dwelling unit types. The Moderate table summarizes the plans described by developers while the Conservative table estimates a more likely scenario based on anticipated market conditions. The most recent residential research was completed in August 2017 by District: Caroline Brown.

[More details: Residential > Reports > Proposed Dwelling Units]

New Dwelling Units Projected to be Occupied by Year (Moderate)										
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Multi-family		202	202	204						
Attached										
Detached	183	205	300	71	50		21			
Totals:	183	407	502	275	50	0	21	0	0	0

FIGURE 5

New Dwelling Units Projected to be Occupied by Year (Conservative)										
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Multi-family		121	121	122	122	122				
Attached										
Detached	110	195	198	180	105	21	13	8		
Totals:	110	316	319	302	227	143	13	8	0	0

FIGURE 6

The graph below depicts visually the differences between the phasing projected in the Moderate and Conservative studies.
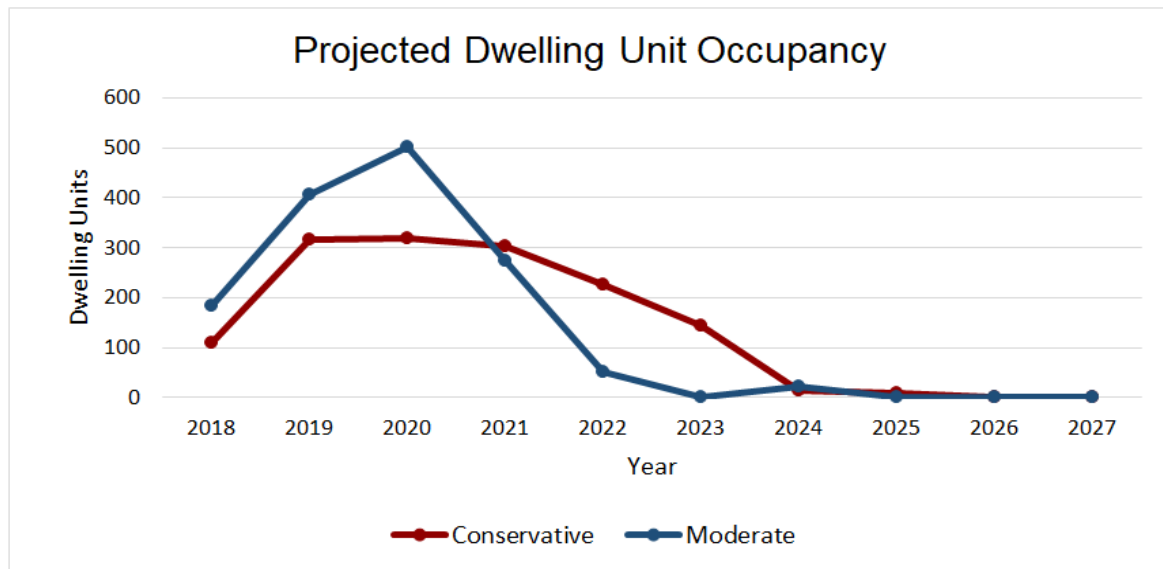

Projected Dwelling Unit Occupancy

FIGURE 7

STUDENTS GENERATED

Over the period of years during which these units will become occupied, the impact, based on the Moderate scenario, is shown in the table below. The "Annual" row projects the number of students new to the district from these units, in a given year. The "Aggregate" row projects the accumulated increase in students served by the district through the year indicated.

Students Generated by Residential Development (Moderate)										
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Aggregate		236	430	512	536	533	539	533	528	526
Annual	93	143	194	82	24	0	6	0	0	0

FIGURE 8

The table below reflects the students generated using the Conservative estimate of projected Dwelling Units.

Students Generated by Residential Development (Conservative)										
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Aggregate		179	305	420	497	530	534	532	527	523
Annual	55	124	126	115	77	33	4	0	0	0

FIGURE 9

STUDENT GENERATION RATES

Moderate student generation rates are typical of students enrolled from existing developments of similar product type. Conservative student generation rates, if different, are designed to anticipate a diminution in family size.

[More details: Residential > Reports > Student Generation Rates]

A complete report regarding new residential development is available online in the DI System under 'Reports > District Documents > Residential Research Summary xxxx' where xxxx is the projection year the report is associated with. This report includes a map of proposed dwelling unit projects, the phasing by dwelling unit type in each project, students generated by new development by studyblock, student generation rates. Additional individual reports can be found online in the DI system under 'Residential > Reports'.

PROJECTED ENROLLMENT CHANGES BY LEVEL

The tables below display the five-year district-wide projections by grade level and allow a comparison to enrollment in the current year.

CONSERVATIVE 5 YEAR DISTRICT-WIDE PROJECTION BY GRADE LEVEL

Grade	2017	2018	2019	2020	2021	2022
K	374	376	388	403	419	423
1	366	387	400	413	426	436
2	423	380	411	424	435	440
3	428	434	402	432	444	447
4	411	429	446	414	443	452
5	449	420	449	465	432	455
6	452	448	427	456	471	437
Subtotals:	2903	2874	2923	3007	3070	3090
Pct Chg:	-2.9%	-1.0%	1.7%	2.9%	2.1%	0.7%

FIGURE 10

MODERATE 5 YEAR DISTRICT-WIDE PROJECTION BY GRADE LEVEL

Grade	2017	2018	2019	2020	2021	2022
K	374	395	414	440	451	451
1	366	396	424	452	460	462
2	423	389	426	462	472	468
3	428	442	416	460	479	479
4	411	438	460	442	468	481
5	449	426	461	489	456	474
6	452	454	437	479	492	456
Subtotals:	2903	2940	3038	3224	3278	3271
Pct Chg:	-2.9%	1.3%	3.3%	6.1%	1.7%	-0.2%

FIGURE 11

As the following graph illustrates, overall the projections forecast an increase across the 10-year period based upon the historical enrollment trends and any projected new residential development.
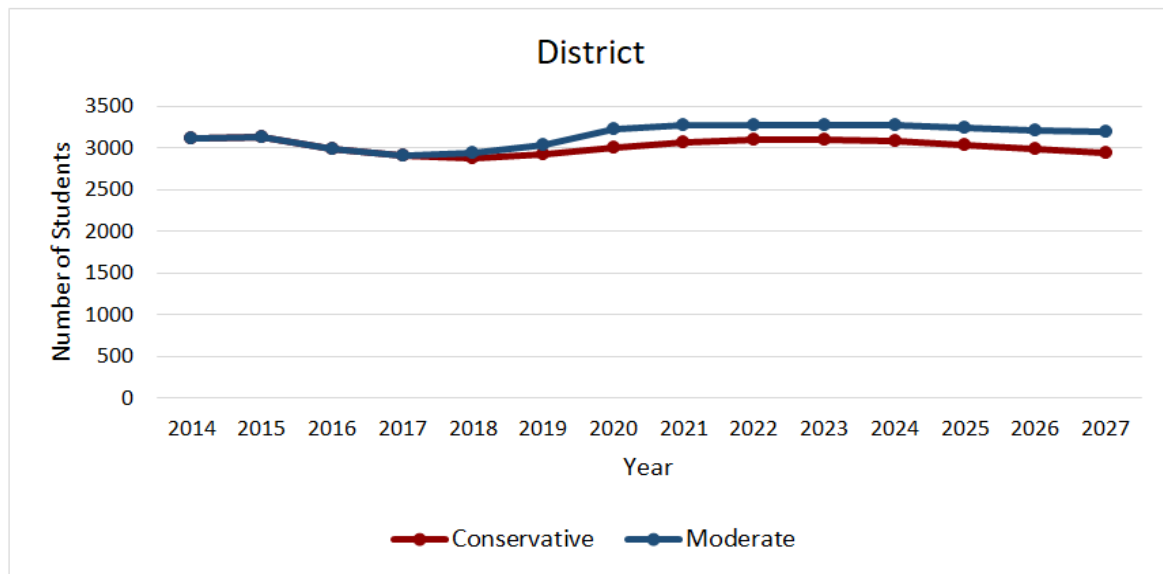

FIGURE 12

The tables below compare the Conservative and Moderate enrollment projections by key grade level groupings. Projected changes in enrollment at Kindergarten or lower grade level groupings will eventually impact total district enrollment.

5 YEAR ENROLLMENT TRENDS: MODERATE AND CONSERVATIVE COMPARED

Change by Level	Cnsv	Mod
Kindergarten	423	451
Change	113%	121%
District	3090	3271
Change	106%	113%

FIGURE 13

Note that an averaging of both studies project a significant increase at the Kindergarten level.

The table below compares the ten-year projections. In the 10-year future at Kindergarten, both studies, averaged together, project a significant increase.

10 Year Enrollment Trends: Moderate and Conservative Compared

Change by Level	Cnsv	Mod
Kindergarten	396	435
Change	106%	116%
District	2945	3191
Change	101%	110%

FIGURE 14

The graphs below compare the Conservative and Moderate enrollment projections by key grade level groupings.

Elementary School Level

The projected elementary school enrollment shows an increase.

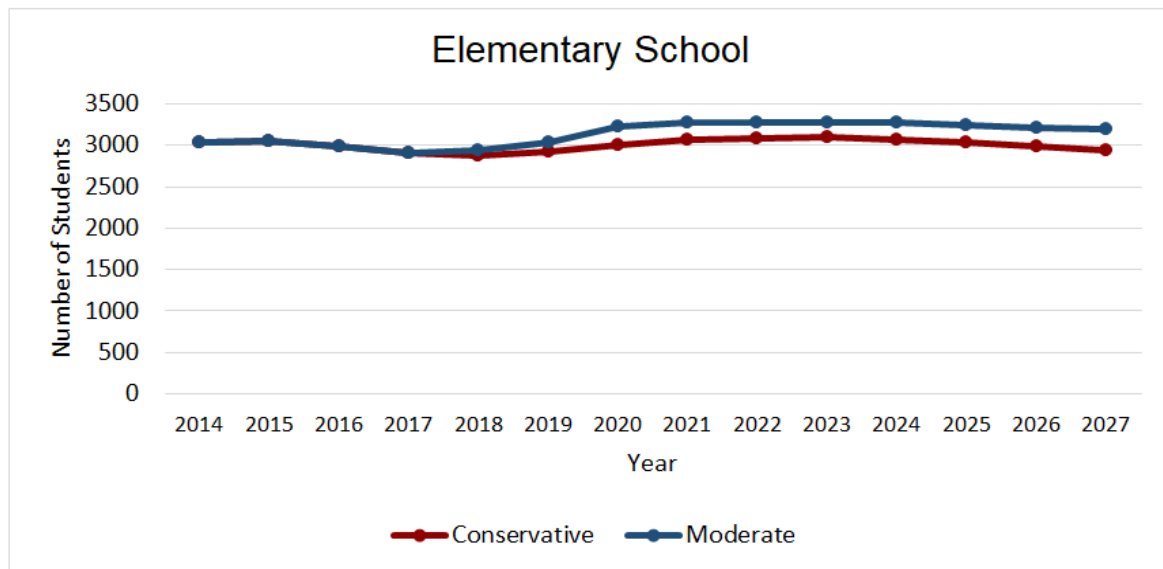[More details: Reports > Projections > Individual Schools > Projections > All Elementary Schools]

FIGURE 15

SUMMARY OF DISTRICT PROJECTIONS BY YEAR

The complete district-wide projection table for each study is available online. Corresponding sets of individual School Projections are available online as well.

The tables below present a more detailed annual view of projected changes by grade level clusters for both projections. The "Pct Previous Year" row represents the percent of the previous year's enrollment in each grade cluster that is projected in the subsequent year. The "Five Year Change" row represents the percent change projected over the enrollment five years prior.

CONSERVATIVE PROJECTION

Change by Level	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Kindergarten	374	376	388	403	419	423	420	415	409	402	396
Pct Prev Yr	107%	101%	103%	104%	104%	101%	99%	99%	99%	98%	99%
5-Yr Change						113%					94%
District	2903	2874	2923	3007	3070	3090	3105	3075	3033	2990	2945
Pct Prev Yr	97%	99%	102%	103%	102%	101%	100%	99%	99%	99%	98%
5-Yr Change						106%					95%

NOTE: Gray column most recent history year.

FIGURE 16

MODERATE PROJECTION

Change by Level	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Kindergarten	374	395	414	440	451	451	447	445	442	438	435
Pct Prev Yr	107%	106%	105%	106%	103%	100%	99%	100%	99%	99%	99%
5-Yr Change						121%					96%
District	2903	2940	3038	3224	3278	3271	3275	3270	3242	3213	3191
Pct Prev Yr	97%	101%	103%	106%	102%	100%	100%	100%	99%	99%	99%
5-Yr Change						113%					98%

NOTE: Gray column most recent history year.

FIGURE 17

GRADE LEVEL PROFILE COMPARISON

Another view of grade level enrollment can be seen in the chart below. The current grade level enrollment profile is compared with the projected grade level profile in the five and ten-year future.
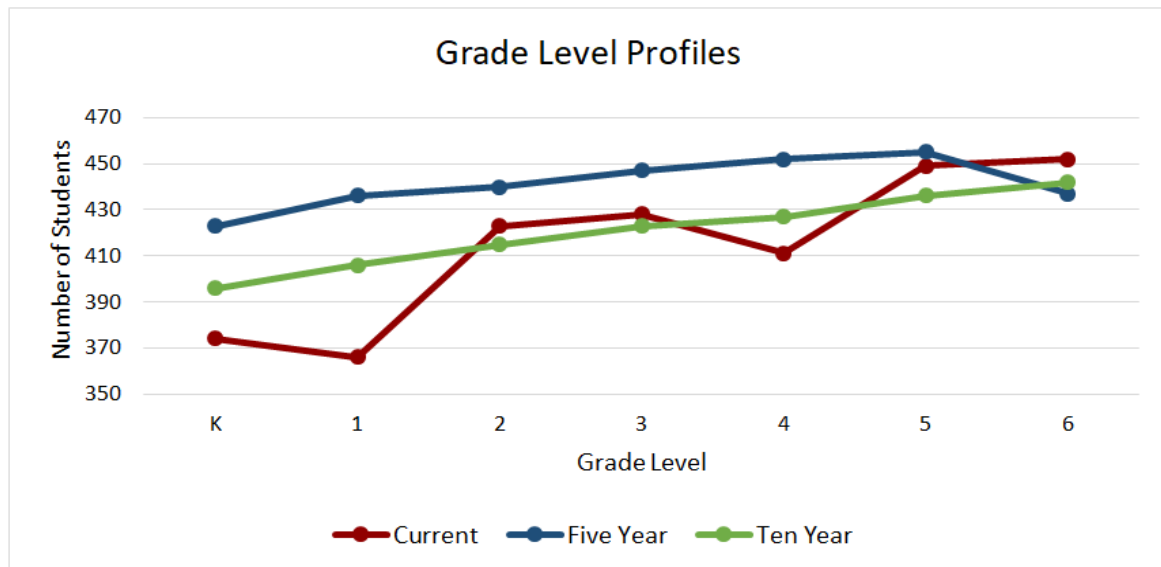

FIGURE 18

PROJECTING SCHOOL ENROLLMENT

School projections are primarily a function of the proportion of district students who enroll at a given school, modified by intra-district transfers within a given school level that may occur subsequent to initial enrollment, and augmented by inter-district transfer students.

SCHOOL DRAW IMPACT

A draw rate is the percentage of students who enroll at a particular grade level in a given school from a specified geographic area. Open enrollment among district schools is projected using this concept. Except for changes in school boundaries or other changes in policy, historical draw rates from a given geographic area to a specific school (including out-of-district students) are assumed in the projections.

INTRA-DISTRICT TRANSFERS

Transfers within the district are incorporated into the projections in order to anticipate the movement of students from one district school to another within the same level, e.g., transfer from a neighborhood school to a special school. Recent historical transfer patterns are typically assumed in the projections.

[More details: Reports > History > All Schools > Open Enrollment]

INTER-DISTRICT TRANSFERS

Transfers into the district by out-of-district students, sometimes referred to as 'permit students', are an integral part of the district and school projections. Recent historical transfer patterns are typically assumed in the projections.

[More details: Reports > History > District-wide > Out of District]

INDIVIDUAL SCHOOL PROJECTION TABLES

The complete set of individual school projection tables for each study is available online.

[More details: Reports > Projections > All Schools > Projections]

MYSCHOOLLOCATOR

MySchoolLocator is a web-based service accessible to DecisionInsite clients. This service allows Internet users to enter a residential address, and find out which district schools are assigned to serve them. Public access to MySchoolLocator is via a unique URL on the District's web site. The URL for integration into your district's website can be found by opening the appropriate Locator study from within the DI system. Once open, select "Run MySchoolLocator" from the District Admin menu. The MySchoolLocator app will open in a new browser window and the link can be copied from the address bar in the browser. Specialized district users have access to customize the messages seen by those using MySchoolLocator.

IMPACT OF THE PROJECTIONS ON SCHOOL CAPACITY

Facility challenges, if any, may exist if projected numbers exceed the current school capacity data. These challenges may also manifest differently in a Moderate or Conservative projection. The Moderate projection shows one school with a potential capacity challenge.

[More details: Reports > Projections > All Schools > Over Capacity]

The table below lists up to five schools that are projected to experience the most change in enrollment in the 5-year future based on the Conservative projection.

[More details: Reports > Projections > All Schools >Ten Percent Change]

School	5-Yr Pct Change	10-Yr Pct Change
Solana Ranch	53%	52%
Skyline	-15%	-20%
Solana Vista	-14%	-21%
Solana Highlands	-2%	-10%

FIGURE 19

IMPACT OF SDC STUDENTS ON CAPACITY

Relative to the impact of SDC students on school capacity, note that SDC students are not included in the grade level counts, but are included in the capacity calculation as taking up one seat each.

ANALYZING/STUDYING/REVIEWING THE ENROLLMENT PROJECTIONS

The projections of district and school enrollment are based on a complex mix of historical data, the projection of recent trends, and specific assumptions regarding the future. At DecisionInsite, we strongly encourage our clients to actively engage with the data with the aim of better understanding, further refining, and using the results to inform decisions about to be made. We believe increased effectiveness for both the district and DecisionInsite comes with increased and welcome dialogue.

Graphs or tables may be copied from the PDF version of this document using the Snapshot Tool inside PDF Reader.

Please do not hesitate to contact DecisionInsite regarding any questions or suggestions that may arise regarding these studies.

Respectfully Prepared and Submitted by:

The **Decision**Insite Team

January 5, 2018

Appendix

Assumptions and Methodology

All projections are based on assumptions, and when read or shared are best prefaced with the phrase, "Based on these assumptions…", or "Based on these historical trends…". Particularly for projections more than 5 years out, "Enrollment Trend" is a far more accurate descriptor.

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

1. recent kindergarten enrollment trends, modified by live birth data, if applicable,
2. changes in the grade level cohorts of students served as they age through, and
3. changes in the number of residential units within the district.

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

1. the rates at which each school draws enrollment from various sections of the district, and
2. the pattern of transfers within the district at a given level from one school to another.

District Projections

Studyblocks

For enrollment projections the district is divided into studyblocks. A studyblock is a custom unit of geography created by DecisionInsite for the purpose of generating reliable projections. They are generally based on elementary boundaries or some portion thereof. A studyblock serves as the basis for the analysis of students served by the district and by schools. The objective is to do analysis with a small enough geographic unit to sense small area changes but large enough to allow for reliable projection. 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.

School Capacities

School capacities provided by the district are compared to projected enrollments. Districts are invited to calculate school capacities in a manner that best serves the enrollment projection environment, and enter them into the DI System.

A Special Day Class (SDC) student at the elementary level is calculated by default as requiring 1 seat. This value, at district option, may be changed to 3, on the assumption that a class of 10 SDC students will occupy a typical classroom.

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 unless all SDC students are mainstreamed. Excluded from the projections are students enrolled in Non-Public School (NPS), Adult High School, Home School, Adult Ed, Independent Study programs and other special schools.

Attendance Boundaries

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

Closed Schools
Opportunities for open enrollment (intra-district) are assumed to remain unchanged, unless otherwise noted by the district.

Inter-district Enrollment
Students enrolled from other school districts are treated in aggregate in separate studyblocks. Students in Kindergarten and the initial grade at each level are projected only to the extent they exist in recent years. Students enrolled in other grade level cohorts are aged through to the highest grade at each level. These defaults may be modified at district request.

Cohort Percent Change
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.

Growth studyblocks are those showing unusually high increases in 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 100% so as not to over-project new residential growth. By default, growth is not predicted to continue unless new occupied dwelling units are projected.

Dwelling Unit Impact
The predicted impact of new dwelling units on school enrollment is based on three factors: 1) 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 3 housing types: Single Family Detached, Single Family Attached, and Multifamily. Developers and builders are contacted for information relative to their plans for occupancy of new dwelling units.

> 2. Student Generation
> Student generation rates are determined for each product type for each level: elementary, middle school and high school. 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
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 if necessary. Manipulation of draw rates is used, for example, to project the impact of changes in attendance boundaries, or the impact of closing a school to open enrollment.

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.

CAVEATS ON PROJECTIONS AND METHODOLOGY

On Projections
Enrollment projections are based upon two critical factors: the student and school data from the school district and the mathematical formulas that are applied to those 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. The calculations assume that the historical data provided is at one year intervals based on enrollment at the beginning of each school year.

DecisionInsite takes great care in preparing a district's projections. A range of unpredicted anomalies, however, can cause reality to vary from the historical patterns. These include, but are not limited to, rapid changes in the economy, mortgage interest rates, the housing market, the job market, residential development plans, rental rates, etc. Anomalous changes that occur between the last set of student data and the first projection are not reflected in the projections unless the district works with DecisionInsite to amend the projections.

In the projections, calculations are mathematically precise. Each result is rounded to a whole number for ease of reading. This rounding sometimes results in the displayed whole numbers 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.

On Student Data
DecisionInsite obtains historical student data files from the district. To the extent that the student data files are internally inconsistent from year to year, or the count of students in the files does not reflect the count of actual enrollees, errors are introduced to the projection calculations. For optimum results, the student data files must also consistently capture the same categories of students annually.

The calculations assume that the historical data provided is at one year intervals based on enrollment at the beginning of each school year. It is important that the student files obtained from the district are close to a common date each year, typically near the beginning of the school year. The snapshot of historical data near the beginning of the school year is best suited to our goal of projecting enrollment for the beginning of subsequent school years. To the extent the historical student data provided is not at one year intervals, or is not at a common date near the beginning of the school year, projections may reflect monthly fluctuations in enrollment that will diminish the accuracy of the projections.