

Issue Paper 3: Capacity & Enrollment

07 APRIL 2023

DISTRICT CAPACITY

DETERMINING CAPACITY

Existing facility capacity is a planning metric that reflects the number of students that can be accommodated in a particular building. It does not take into account specific variations in classroom sizes and configurations, and also does not signify the maximum number of students that can be accommodated in a school. The number of students actually enrolled at a school may be higher or lower than its capacity.

Facility capacity can be determined in a variety of ways. Mercer Island School District determines capacity as follows:

<p>Number of general and special education classrooms (elementary schools)</p> <p>or</p> <p>Number of teaching stations (middle and high schools)</p> <p>x</p> <p>Target number of students per classroom</p> <p>x</p> <p>Utilization factor</p>
--

Number of Classrooms / Teaching Stations

General classrooms at the elementary level include grade-level classrooms and special education classrooms, but do not include specialized teaching spaces such as music rooms and gymnasiums. At the middle and high school levels, all scheduled teaching stations are included when determining capacity.

Target Students per Classroom

The target number of students per classroom is a planning parameter that reflects an “ideal” class size target for a given grade level. Actual class sizes vary, and may be larger or smaller than the targets, depending on many operational factors.

Capacities are based on the following class size targets determined by the District:

- > Elementary: 24 students per classroom (grades K-1: 22-24 students, grades 2-3: 24 students, grades 4-5: 26 students)
- > Middle: 28 students per classroom
- > High: 29 students per classroom
- > Special Education: 10 students per classroom (all levels)

Target classroom capacities will continue to be evaluated, and may be revised in the future, based on the findings of this

long-range planning process or other developments in the District. They do not represent District policy, actual student count, or an absolute cap.

Utilization Factor

A utilization factor is applied, to reflect the amount of time a classroom can be used for teaching each day. Target utilization rates vary between districts and grade levels, depending on a number of factors, including the number of periods in the school day and whether teachers use their classrooms for planning.

At the elementary level, 100 percent utilization is typical because there are no periods, and classrooms are used by a class all day long. At the middle and high school levels, it is not possible to achieve 100% utilization due to scheduling constraints, the need for specialized rooms for some programs, and accommodating teacher planning periods. Lower utilization factors indicate that classrooms are unused for one or more periods of the day.

For Mercer Island School District, the utilization factors used in determining capacity are as follows:

- > Elementary school: 100 percent utilization

CHART:

Existing District Capacity (2023)



- > Middle school: 83 percent utilization (five out of six periods a day)
- > High school: 83 percent utilization (average of five to six out of seven periods per day)

The District’s utilization factors are all within the typical ranges for each grade level. Utilization factors will continue to be evaluated, as they are intended to reflect an average “snapshot” of utilization at each level.

EXISTING FACILITY CAPACITY

Existing facility capacity is comprised of permanent building capacity and portable, or modular, building capacity.

Permanent Capacity

The District has a total permanent capacity of 4,911 students in grades K-12.

- > The existing permanent capacity at the elementary level, which encompasses kindergarten through fifth grade, is 2,008 students. Capacities at each of the District’s four elementary schools are within a similar range, between 466 and 514 students each.
- > The existing permanent capacity at the middle school level, including sixth through eighth grades, is 1,296 students. All District middle school students are housed at Islander Middle School.

- > The District’s existing permanent capacity at the high school level (grades 9-12) is 1,606 students, including both Mercer Island High School (1,510-student capacity) and the alternative high school, Crest Learning Center (96-student capacity).

Portable Capacity

The District has a total portable capacity of 336 students, all at the elementary level. Each elementary school site houses four portable classrooms, with the exception of Northwood Elementary, which has two portable classrooms. Because of the temporary nature of modular facilities, portable capacity is typically not considered when determining future capacity need in a long-range facility plan.

TARGET FACILITY CAPACITY

Target capacities at various grade levels are based on current thinking regarding the number of students needed to meet the District’s program goals. These capacities may vary through the years, as educational program models and funding levels change.

Mercer Island School District has established a target capacity for elementary facilities between 450 to 600 students per school. It is generally assumed that existing schools that

are near the target capacity are best suited to provide the opportunity for full academic programming. All of the District’s elementary schools are within the District’s target capacity range.

The District has not established target capacities at the middle school and high school levels. Since there is only one middle school and one high school, facilities must be sized to accommodate all District students at those levels.

ENROLLMENT FORECASTING

Enrollment forecasts, based on headcount (not FTE), are used in part to determine whether the District will need to add or modify facility space to meet school program or configuration needs. Student enrollment forecasts, combined with a methodology for determining student capacity in each school, provide a framework for facility needs to better serve student achievement. As such, student enrollment forecasts comprise an important component of the Long-Range Facility Plan.

Due to the pandemic’s impact on student enrollment, the District engaged two demographic firms in early 2023 to provide two independent 10-year forecasts. Educational Data Solutions

and Davis Demographics both provided three projection scenarios in their reports. Outside enrollment forecasts are typically updated every 2-3 years to incorporate actual enrollment data, as well as newly released birth and housing data. These 10-year enrollment forecasts integrated the District’s enrollment trends with local area population growth, birth rates, and housing trends. With these two reports in hand, the District settled on using Version 2 from Davis Demographics, which is very close to the projection made by Educational Data Solutions “Low” forecast. The following information is provided from Davis Demographics’ forecast report, Version 2.

POPULATION FORECAST FACTORS

Birth Factors

Local birth data is collected and incorporated to forecast future kindergarten students. The birth data shows a districtwide declining trend from 2017 to 2021 (2022 to 2026 kindergarten students). Davis Demographics therefore expects a decline in kindergarten class sizes due to declining area births.

Davis Demographics used a median factor for the last six years of the forecast (2027/28 to 2032/33). While the birth trend is decreasing, it is important not to underestimate the number of new kindergarteners in the latter part of the forecast.

Student Mobility Factors

Student retention as they progress through the grades is another impactful factor when calculating future student populations. Forecast models track student retention rates using Student Mobility Factors. Davis’ model also tracks this data for each elementary school attendance areas. 52 percent of the total grade transitions (four elementary schools multiplied by six grade transitions) are at or above 1.0 - a positive mobility factor. This means the student retention rate is high and students enter the District in these grades.

The positive Mobility may be attributed to the District’s reputation and inward

migration of families via home resales and to a lesser degree, rentals. Davis’ Version 2 projection gave more weight to years 2021/22 and 2022/23, and less weight to the pandemic year of 2020/21.

Student Yield Factors

Future development on the island also has an impact on future student populations. There are currently 12 single-family units and 159 multifamily units permitted for construction. Since this is a 10-year projection, a total of 250 houses and 250 multifamily units were used in Davis’ Version 2 projection. Student Yield Factor is the number of students expected to come from new development. The District uses student yield factors determined through survey and GIS information for factors of 0.4118 for single family and 0.0431 for multifamily. The total students expected from future development in Davis’ Version 2 forecast is 114 students spread over 13 grade levels, which does not have a significant impact on facilities planning.

Students living entirely outside the District’s boundaries are identified during the demographic study. Establishing the impact of in-District students (students living inside the boundaries) versus out-of-District students is essential. Over the last four years, out-of-District students have slowly declined year over year. Since 2019/20, out-of-District K-12 students have seen a net decrease of 23 students. For this study, out-of-District students are incorporated into the forecasts by calculating their current overall percentage of student enrollment, then applying the ratio to future years and adding it to the resident forecasts.

Out-of-District students are currently limited to children of District or City employees.

DISTRICTWIDE FORECAST TRENDS

The District had experienced modest increases in student population annually in recent years before the COVID-19 pandemic struck the US in early 2020. In the fall of 2020, the District’s enrollment

experienced a one-year decline of six percent, or 250 students. It is the opinion of both demographers that these students are not likely to come back. Some have moved out of state, some are being home schooled, and some have enrolled in on-island and off-island independent schools.

Since the pandemic year of 2020, 2021/22 to 2022/23 (current year) enrollment at the elementary level increased slightly, but both middle school and high school continued to decline.

PROJECTED DISTRICT ENROLLMENT

Both the Davis and Educational Data Solutions reports present three forecasts with a 10-year horizon: 2023 to 2032. Davis’ Version 1 model, which their report is written around, looks back at three years of Student Mobility Factors and has the effect of repeating the significant drop in enrollment during the pandemic year. The Version 2 model gives more weight to the two years following the large impact, and the Version 3 model gives more weight to the single year between 2021/22 and 2022/23. In addition, Versions 2 and 3 modify the Student Yield Factor down from what Davis used in Version 1 (Lake Washington and Renton School District’s Student Yield numbers), but increase the housing units to 500 over 10 years versus the 171 units in Version 1.

The Educational Data Solutions report present three forecasts as a low/medium/high. The low and high forecasts show what might happen if housing and population growth were to be lower or higher than what is assumed in the medium-range forecast. Dr. Kendrick notes: “Enrollments may well decline more than expected [medium forecast] over the next few years (similar to the low forecast) if homes sales continue to slow and the region continues to experience lower population growth.

Lower birth rates on the Island, in King County, and throughout the country, along with high home prices and young families choosing to settle in outlying areas with lower home prices and the

TABLE:
Historic and Projected Student Enrollment,
Davis Demographics, February 2023

Historic In-District Counts				Current	Forecasted In-District Counts									
Grade	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
In-District Student Totals by Grade Configuration														
K-5	1,704	1,533	1,509	1,563	1,523.2	1,559.6	1,593.4	1,587.4	1,564.3	1,535.5	1,559.2	1,529.0	1,530.3	1,534.2
6-8	1,115	1,008	937	912	907.7	878.9	841.0	819.5	853.6	914.0	885.9	894.9	863.7	885.3
9-12	1,505	1,515	1,516	1,492	1,428.5	1,368.8	1,318.2	1,287.6	1,245.0	1,197.0	1,193.6	1,191.5	1,238.5	1,243.9
K-12	4,324	4,056	3,962	3,967	3,859.4	3,807.3	3,752.6	3,694.5	3,662.9	3,646.5	3,638.7	3,615.4	3,632.5	3,663.4
Out-of-District Students														
K-5	35	35	26	20	19.5	20.0	20.4	20.3	20.0	19.6	20.0	19.6	19.6	19.6
6-8	24	23	23	19	18.9	18.3	17.5	17.1	17.8	19.0	18.5	18.6	18.0	18.4
9-12	29	27	25	26	24.9	23.9	23.0	22.4	21.7	20.9	20.8	20.8	21.6	21.7
K-12	88	85	74	65	63.3	62.1	60.9	59.8	59.5	59.5	59.2	59.0	59.2	59.8
Total Students														
K-5	1,739	1,568	1,535	1,583	1,542.7	1,579.6	1,613.8	1,607.7	1,584.3	1,555.1	1,579.2	1,548.6	1,549.9	1,553.8
6-8	1,139	1,031	960	931	926.6	897.2	858.5	836.6	871.4	933.0	904.4	913.5	881.7	903.7
9-12	1,534	1,542	1,541	1,518	1,453.4	1,392.7	1,341.2	1,310.0	1,266.7	1,217.9	1,214.4	1,212.3	1,260.1	1,265.6
K-12	4,412	4,141	4,036	4,032	3,922.7	3,869.4	3,813.5	3,754.3	3,722.4	3,706.0	3,697.9	3,674.4	3,691.7	3,723.2
Annual Change														
K-5 Difference	-171	-33	48	-40.3	36.9	34.2	-6.1	-23.4	-29.2	24.0	-30.6	1.3	3.9	
6-8 Difference	-108	-71	-29	-4.4	-29.4	-38.7	-21.9	34.8	61.7	-28.7	9.2	-31.8	22.1	
9-12 Difference	8	-1	-23	-64.6	-60.7	-51.5	-31.1	-43.3	-48.8	-3.5	-2.1	47.8	5.5	
K-12 Difference	-271	-105	-4	-109.3	-53.3	-55.9	-59.2	-31.9	-16.3	-8.1	-23.5	17.3	31.5	

option of remote work are all contributing to flat or declining enrollment for Mercer Island School District, as well as surrounding districts in the Puget Sound area. In contrast, districts like Enumclaw, Orting, and some in Snohomish and Pierce County are seeing an increase in enrollment.

Having met with both demographers to understand their models and the factors that influence the 10-year projections, the District decided to use the Davis Version 2 forecast for the purposes of facilities planning.

As shown in the table above, current (2022) District enrollment is 4,032 students. Over the next 10 years, enrollment is projected to decrease by 309 students, resulting in districtwide enrollment of 3,723 students by 2032. This is an overall decrease of almost eight percent districtwide. It is anticipated that total District enrollment will continue to decline by a small amount each year through 2030, with total enrollment

beginning to increase in the latter part of the forecast period (2031 to 2032) when more development activity and population growth is expected.

School-level projections indicate a slight decrease in student enrollment at the elementary and middle school levels, and a significant decrease in enrollment at the high school level by 2032.

Elementary Level

At the elementary level, growth is projected to decrease by approximately two percent over the next ten years, resulting in a projected K-5 enrollment of 1,556 students. This reflects an anticipated decrease of 30 elementary students by 2032.

Enrollment projections have not been provided by school at the elementary level, however it is assumed that the proportion of students between the District’s four elementary schools will remain relatively constant. This is monitored annually by the District.

Enrollment balancing between schools can be achieved through special program assignment or boundary adjustment, in the event that it is needed in the future. For the purposes of long-range planning, projected elementary enrollment has been allocated to individual schools based on the current student enrollment distribution.

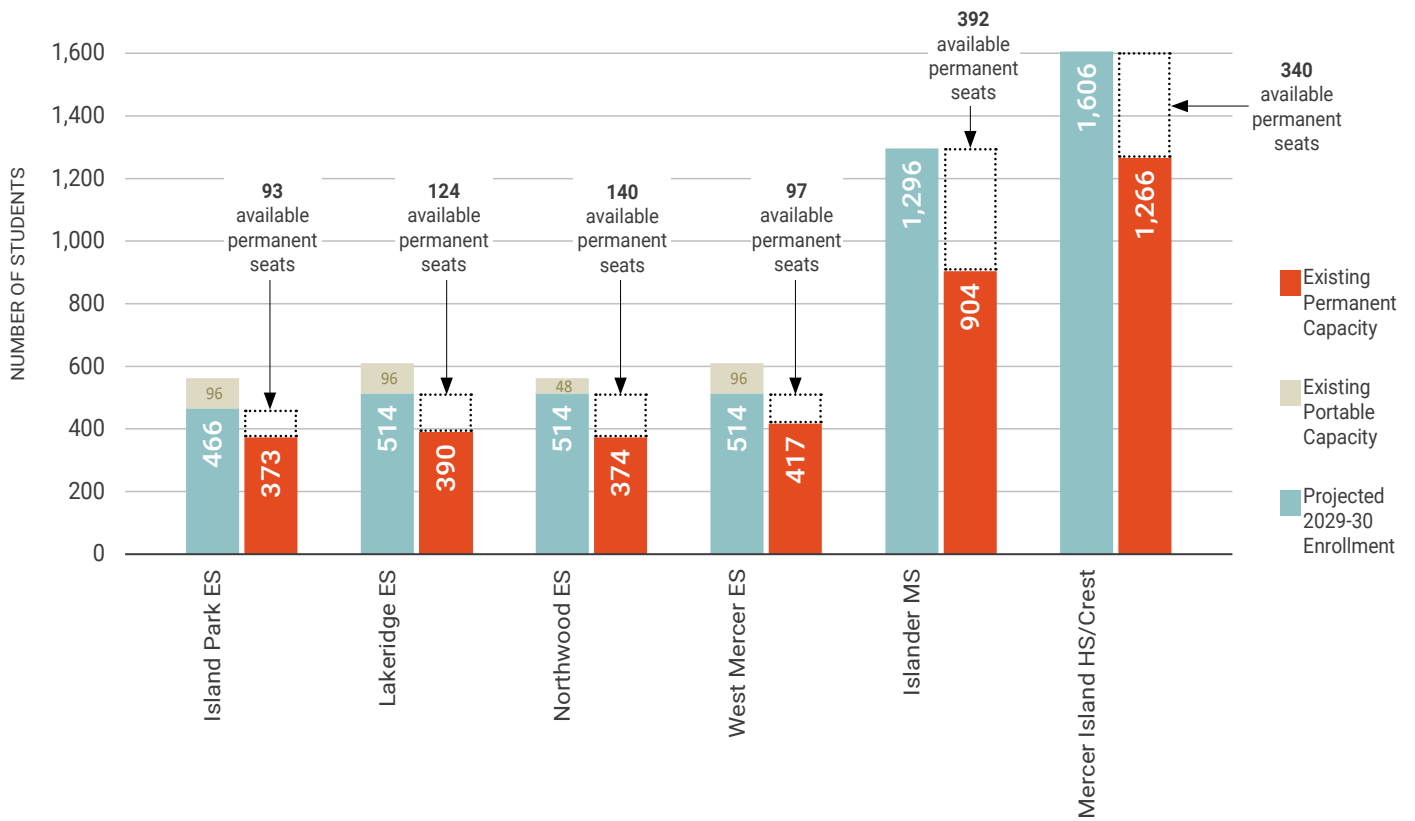
Middle School Level

Middle school enrollment is projected to decrease by 2.9 percent (27 students) over the next ten years, resulting in a total of 904 middle school students districtwide.

High School Level

High school enrollment is projected to decrease by 16.6 percent over the next ten years, resulting in a total of 1,266 high school students districtwide. This reflects an anticipated decrease of 252 students, the most significant enrollment change in the District.

CHART:
Existing District Capacity and Projected Student Enrollment (2032)



ACCOMMODATING ENROLLMENT

The chart above compares existing capacity and the projected enrollment for each school in the District, illustrating their ability to accommodate anticipated enrollment through 2032.

This comparison assumes current school boundaries, programs, and conditions. For planning purposes, projected enrollment for individual elementary schools has been distributed proportionally to align with current enrollment distribution, but may be adjusted in the future by the District as needed.

ACCOMMODATION THROUGH 2032
 Based on this analysis, all of the District’s school facilities have enough existing permanent capacity to accommodate projected enrollments through 2032, with a significant amount of surplus capacity at every school facility.

Elementary School Level

At the elementary school level, the District’s permanent capacity of 2,008 is more than the projected K-5 enrollment of 1,556 students, resulting in a total surplus of 454 elementary seats. Based on the assumed enrollment distribution, each elementary school is projected to have between 93 and 140 unused seats of permanent capacity by 2032, or between 20 to 27 percent of a given school’s total permanent capacity.

If existing portable classroom capacity is included, there is a projected surplus of 790 total seats at the elementary level.

Middle School Level

Islander Middle School’s current permanent capacity of 1,296 is well above the projected 2032 enrollment of 904 students, resulting in an anticipated surplus of 392 permanent seats, approximately 30 percent of the total facility capacity.

High School Level

At the high school level, the projected 2032 enrollment of 1,266 students is significantly less than the combined Mercer Island High School and Crest Learning Center capacity of 1,606. This results in an anticipated surplus of 340 permanent seats, which is approximately 21 percent of the total facility capacity. This suggests that a number of classrooms may be available for repurposing or other uses.

Preschool

Preschool enrollment was not included as part of the enrollment forecast. Although there are many thriving and growing private preschools on the Island, their enrollment is not restricted to Mercer Island residents and cannot be easily translated to determine future kindergarten population within the District.

The District has a developmental preschool program, which has a primary focus of providing support to children

TABLE:
District Capacity and Enrollment Summary

Facility	CAPACITY			ENROLLMENT			Over/ Under Perm. Capacity	Over/ Under Total Capacity
	Perm. Capacity (2022)	Portable Capacity (2022)	Total Capacity (2022)	Current Enrollment (2022)	Projected Enrollment (2032)	Change		
ELEMENTARY SCHOOL								
Island Park Elementary	466	96	562	379	373	-6	-93	-189
Lakeridge Elementary	514	96	610	397	390	-7	-124	-220
Northwood Elementary	514	48	562	380	374	-6	-140	-188
West Mercer Elementary	514	96	610	424	417	-7	-97	-193
	2,008	336	2,344	1,580	1,554	-26	-454	-790
MIDDLE SCHOOL								
Islander Middle School	1,296	0	1,296	912	904	-8	-392	-392
	1,296	0	1,296	912	904	-8	-392	-392
HIGH SCHOOL								
Mercer Island High School	1,510	0	1,510	1,492	1,266	-226	-340	-340
Crest Learning Center	96	0	96	<i>Crest enrollment included in MIHS</i>				
	1,606	0	1,606	1,492	1,266	-226	-340	-340
DISTRICT TOTAL	4,911	336	5,247	3,984	3,724	-260	-1,187	-1,523

with an identified disability who reside within the District attendance area. If preschool enrollment needs increase, the District may consider expanding the preschool program in the future, however it is not anticipated as part of this long-range facility plan.

Other Program Considerations

Like many school districts, Mercer Island offers programs and special services beyond K-12 general education instruction, to support students whose needs are not met in traditional school settings. The District currently provides alternative education options and special services such as special education and online learning. The District also provides full-day kindergarten throughout the district and an early learning program at Northwood Elementary School.

These programs typically have space and facility requirements that were not anticipated during the design and

construction era of older District facilities. It is clear the increased success and demand for these programs fosters space needs that must be designed and integrated districtwide into the overall program delivery for each school.

SUMMARY TABLE

The table above summarizes existing capacity and current and projected enrollments at all District school facilities.