

Richmond Community Schools Current Capacity Analysis

The purpose of this study is to determine the ultimate capacity of the various educational buildings used by Richmond Community Schools. The analysis utilizes standard protocols for determining total capacities using the existing classrooms under optimum scheduling and student load conditions.

Elementary and Intermediate School Methodologies

The methodology for determining total capacities for elementary schools revolves around the use of grade level classrooms (teaching stations). The standard assumption is that art, music, technology, physical education, and library services are all pull out programs and if students are in these "specials" they are not in their grade level classroom. Therefore utilizing only the grade level classrooms for capacity is an accurate measurement since the students will be either in their home classroom or in a "special" but not in both. Teaching stations identified in the spreadsheet matrix reflects grade level classrooms only. Even though Intermediate school students will "change classes" this model is still applicable as students will have a home base classroom.

To calculate total capacity for elementary and intermediate schools, the following formula applies:

Teaching Stations x Average students per classroom = Total Capacity

High School Methodology

The methodology for determining capacities for high schools is quite different from elementary or intermediate schools. Since students are scheduled to move from classroom to classroom, a different model is used. Given that students can be in music, art, Phys Ed, etc while other students are in traditional classrooms the "special" classrooms are included in the total teaching station count. Also included in the formula for capacity is the recognition that with teacher prep periods coupled with the complexities of scheduling in general; 100 percent utilization of every teaching station is not possible. The standard methodology for a school operating on a 7 period schedule is to assume that a fully scheduled teaching station is occupied for 6 out of the 7 periods in a day. Therefore, an 86 percent factor is applied to the raw capacity to determine the real capacity.

To calculate total capacity for high schools the following formula applies:

Teaching Stations x target students/teaching station x 86 percent = Total Capacity

Executive Summary

Elementary Schools

Refer to Charts on Page 5

Plans for each elementary school were reviewed to determine the total number of teaching stations based on the aforementioned methodology. The "Target Average Student per Class" was developed based on the resultant mean from RCS policy for elementary schools:

Targets

| | |
|--------------|------|
| Kindergarten | 19 |
| First | 20 |
| Second | 23 |
| Third | 23 |
| Fourth | 25 |
| Mean | = 22 |

Based on this information the gross total capacity for all buildings being used as elementary schools is 2,414. Enrollment for PK-4 for the 2017-2018 school year is 2,110. Therefore, this results in an excess capacity of 304 students in the Elementary School buildings.

Intermediate Schools

Refer to Charts on Page 5

Plans for each intermediate school were reviewed to determine the total number of teaching stations based on the aforementioned methodology. The "Target Average Student per Class" was developed based on the resultant mean from RCS policy for elementary schools:

Targets

| | |
|-------|----|
| Fifth | 25 |
| Sixth | 25 |

Although no policy exists for Seventh and Eighth Grades, the same 25 students/class was used for this report.

Mean = 25

Based on this information, the gross total capacity for all buildings being used as intermediate schools is 2,025. Enrollment for Grades 5-8 for the 2017-2018 school year is 1,429. Therefore, this results in an excess capacity of 596 students in the Intermediate School buildings.

High School

Refer to Charts on Page 6

Plans for the high school were reviewed to determine a total of 121 teaching stations available. Currently 85 teaching stations are being utilized.

Current Profile

The first chart reviews the current profile of the high school. Since we know the number of teaching stations being utilized and the current enrollment, we can determine the current average number of students per teaching station at any one point in the day.

Incorporating the 86 percent utilization factor results in an average student per teaching station of 17.92

Projected Capacity Based on Current Student/Teaching Station Ratio

Using the current average student/teaching station ratio of 17.92 and applying that to the total number of teaching stations available of 121 gives us a total capacity of 1,865 students. In other words with the same current average number of students per class but using all 121 teaching stations the total capacity of the high school is 1,865. Based on the current enrollment this equates to an excess capacity of 555 students.

Projected Capacity Based on Current Student/Teaching Station Ratio

The optimum average student/teaching station ratio is open to some interpretation. Diversity of course offerings, particularly for advanced courses, can have an impact on the overall average. Typically, schools that offer a high degree of specialized course offerings will show a lower student per teaching station ratio. Conversely, schools that offer a higher percentage of generalized classes will achieve higher student/teaching station ratios.

For this study, recognizing the diverse course offerings at RHS, we took a modest approach and used a target of 20 students per teaching station. Utilizing 20 students per teaching station results in a total capacity of 2,081. Using this model and based on the current enrollment this equates to an excess capacity of 771 students.

Results

Bracketing the current average student/teaching station ratio and a target student/teaching station ratio gives a projected capacity range of 1,865 to 2,081 students (an 11 percent variance)

Based on the current enrollment of 1,310, there is excess capacity at the high school of between 555 and 771 students.

Reverse analysis to determine current needed teaching stations based on model student/teaching station ratio

As another view of the data, we performed a reverse analysis using the Target student/teaching station ratio overlaid with the current enrollment. Based on these figures if the high school would achieve an average of 20 students/teaching station there would be a need for 76 total teaching stations. Compared to the actual number of 121 teaching stations, this reveals an excess capacity of 45 teaching stations at the high school.

Community Youth Services

The Baxter School serves as an alternative educational environment. Using class size of 20 students per classroom, the capacity of the Baxter School is 200 students. Due to the nature of the program, enrollment numbers are still too fluid to be available; therefore, the Baxter School building is not included in any of the above calculations.

Additional Observations

The above analysis was based on the use of teaching stations in their current condition and configuration. Classrooms that were originally sized to serve an education delivery system of past eras may be too small for today's challenges. Particularly at the high school level, project based learning and collaborative learning will ultimately demand an increase in the area associated with a typical teaching station. The ultimate planning solution to bring facilities current with 21st Century learning modalities will have an impact on the total number of teaching stations available, particularly at the high school.

This information should be recognized and taken into account in the evaluation of future options.

November 9, 2017

| Elementary Schools Grades PK-4 | Grade level Classrooms | Target Average Students per Class | Capacity | 2017-2018 Enrollment | Percent Capacity | Delta |
|-----------------------------------|---------------------------|---|-------------|-------------------------|---------------------|------------|
| Crestdale | 25 | 20 (1) | 500 | 340 (2) | 68% | 160 |
| Fairview | 18 | 22 | 396 | 307 | 78% | 89 |
| Westview | 16 | 22 | 352 | 365 | 104% | -13 |
| Vaile | 17 | 22 | 374 | 288 | 77% | 86 |
| Starr | 16 | 22 | 352 | 316 | 90% | 36 |
| Charles | 20 | 22 | 440 | 494 | 112% | -54 |
| Totals | | | 2414 | 2110 (3) | | 304 |

- (1) Accounts for impact of smaller class size in Life Skills classrooms
- (2) Includes (30) Life Skill Students
- (3) Does not include (21) CYS students
- (3) (54) Hibberd 3rd and 4th grade students included in Hibberd numbers below

| Intermediate Schools Grades 5-8 | Grade level Classrooms | Target Average Students per Class | Capacity | 2017-2018 Enrollment | Percent Capacity | Delta |
|------------------------------------|---------------------------|---|-------------|-------------------------|---------------------|------------|
| Dennis | 34 | 25 | 850 | 542 | 64% | 308 |
| Test | 29 | 25 | 725 | 598 | 82% | 127 |
| Hibberd | 18 | 25 | 450 | 289 (4) | 64% | 161 |
| Totals | | | 2025 | 1429 | | 596 |

- (4) Includes (33) Life Skill students and (54) 3rd and 4th grade students
- (4) Does not include (25) CYS students

November 9, 2017

Richmond High School
Grades 9-12

Current Profile

| Current Teaching Stations in use | Current students per teaching station | Raw Capacity | Efficiency Factor | Current enrollment |
|----------------------------------|---------------------------------------|--------------|-------------------|--------------------|
| 85 | 17.92 | 1523 | 86% | 1310 |

(1)

(1) Includes (12) Life Skill students

(1) Includes (24) CYS students

(1) Does not include (12) Wernle students

Projected Capacity based on current student/teaching station ratio

| Total available teaching stations | Current students per teaching station | Raw Capacity | Efficiency Factor | Real Capacity | Delta |
|-----------------------------------|---------------------------------------|--------------|-------------------|---------------|--------------|
| 121 | 17.92 | 2168 | 86% | 1865 | 555 students |

Projected Capacity based on model student/teaching station ratio

| Total available teaching stations | Target students per teaching station | Raw Capacity | Efficiency Factor | Real Capacity | Delta |
|-----------------------------------|--------------------------------------|--------------|-------------------|---------------|--------------|
| 121 | 20 | 2420 | 86% | 2081 | 771 students |

Reverse analysis to determine current needed teaching stations based on model student/teaching station ratio

| Model teaching station count | Target students per teaching station | Raw Capacity | Efficiency Factor | Current Enrollment | Delta |
|------------------------------|--------------------------------------|--------------|-------------------|--------------------|----------------------|
| 76 | 20 | 1523 | 86% | 1310 | 45 teaching stations |