

# **Town of Fairfield, Connecticut**

## **Middle School Space Feasibility Committee**

### **FINAL REPORT AND RECOMMENDATIONS**

**March 5, 2009**

#### **I. Summary and Conclusions**

The Middle School Space Feasibility Committee, hereafter referred to as the Committee, has conducted a town wide study of the middle school system including a review of each middle school and determined that there is a need for additional middle school space. It is the recommendation of the Committee that a modular construction annex containing at least ten (10) classrooms be constructed at Fairfield Woods Middle School, available for the 2011-12 school year. The Committee also recommends that there be a thorough -evaluation to assure that there is adequate space within the main building to assure that all educational requirements can be adequately met with the additional student population.

## II. The Charge

The Committee was charged with analyzing the town wide middle school space needs and creating a feasibility plan with recommendations for any necessary additional classroom and associated space, as needed for the next decade, at the town's three public middle schools.

## II. The Problem

Through meetings and discussions, the Committee identified the issues as follows:

- ❖ The capacities of Fairfield's three middle schools are: Fairfield Woods--650; Roger Ludlowe--875; Tomlinson--700, totaling 2225.
- ❖ The actual current (2008-09) enrollment is 2,269, Fairfield Woods--604; Roger Ludlowe--893; Tomlinson--772 (overall, 2% over capacity).
- ❖ While the Committee had concerns as to the accuracy of the projections<sup>1</sup>, the committee had no objective basis or specific expertise sufficient to determine whether the projections were too high or too low, and so the committee accepted and based their recommendations on the projections. The projected enrollments for the next ten years under consideration are as follows:

(School Year, Projection, % over capacity)

09-10	2406	8%	10-11	2464	11%	11-12	2561	15%	12-13	2608	17%
13-14	2571	16%	14-15	2571	16%	15-16	2405	8%	16-17	2409	8%
17-18	2341	5%	18-19	2381	7%						

- ❖ At the peak, in year 2012-2013 with a projected enrollment of 2608, the middle schools would be operating at 17.2 % over

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<sup>1</sup> Enrollment Projections, Fall, 2008 including the Applied Data Services Enrollment Projections, December 1, 2008 (Exhibit A)

capacity. The middle schools will be operating over capacity in every year, for the next ten years, ranging from 5 to 17%.

### **III. Review of Existing Middle School Spaces**

The Committee toured all three middle schools, and conducted meetings where we received information on what the term "capacity" means, particularly in regards to middle school space needs and curriculum. One resource used extensively by the Committee was an article by Dr. William S. DeJong and Joyce Craig, "Defining Capacity"<sup>2</sup>, which helped the Committee to understand how middle school classrooms are used, how space is allocated as students move from classroom to classroom during the day, and how determining middle school capacity differs from elementary school or high school capacity. Specifically, in the Fairfield middle schools, small teams are formed with dedicated teachers to promote community among the students. Team size may vary but the maximum by contract is 112 students per team.

The Committee looked at many aspects of middle school use including information received from a survey of other middle schools in Connecticut. The Committee also received a report from two members on steps taken to accommodate student population increases experienced at East Ridge Middle School in Ridgefield.

After discussing the curriculum, team approach, scheduling, etc., the Committee concluded that, at most, a 10% overcapacity could be accommodated at the middle schools. It was understood that the optimum would be to operate at 90% of capacity, as that provides additional flexibility in allocating resources. The Committee generally agreed that the middle schools can accommodate up to about 105% of capacity, but with reduced flexibility. From 105-110%, the increase in student load on classrooms, music, art and other rooms, and on the core, specifically the cafeteria, may create some

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<sup>2</sup> School Capacity Article, DeJong & Associates, Inc., July 19, 1999 (Exhibit B)

difficulty, but the increase is tolerable for a short period. With utilization of over 110% without increasing core facilities, it becomes difficult to accommodate the additional students and associated staff without a detrimental impact on education.

The Committee determined that the core facilities, particularly the cafeteria, music rooms, and unified arts areas (i.e., cooking, industrial technology, computer labs, etc.) cannot reasonably accommodate the extra students, as there are not enough stations in some of these areas to give each sufficient student access. Some classrooms have limits for safety reasons as to the number of students that can be accommodated. At a minimum, additional lunch waves, which can create scheduling problems, would be required. Transportation is also negatively impacted as the population grows, particularly if it were to exceed 10% at any individual school, as additional busses would be needed. Bus scheduling and traffic would become more difficult to accommodate.

The Committee toured each middle school and met with each principal to discuss the problems as well as alternatives to handling the increased student population. The Committee discussed:

- 1) Reclaiming full classrooms by shifting some programs, which could meet in classrooms, to smaller space,
- 2) Possibly using computer rooms or other classroom sized spaces (music rooms/art rooms) as additional classroom space,
- 3) Increasing community/team size beyond the contract bounds of 112 to increase average class size above 21 students per classroom; and,
- 4) Adjusting the daily schedule to maximize use of those classrooms, which are unused for full class instruction two periods per day, by shifting "teacher planning" time away from

each classroom to a common space, and having teachers share classrooms.

#### **IV. Conclusions on Using Existing Middle School Space**

The Committee determined that there were problems associated with each of the solutions, and that the middle schools, as presently configured, cannot adequately handle the projected maximum number of students.

The problems were:

- 1) Reclaiming classroom space would free up very few classrooms, and more importantly, not enough classrooms to accommodate all the additional students.
- 2) Reclaiming other classroom space would create scheduling conflicts, and increased hall traffic, as students would have to travel to other areas to take advantage of those spaces. This could also lead to discipline problems.
- 3) There is a contractual limit on team size, and so this would require contract negotiations before a change in team size could be implemented.
- 4) The scheduling adjustments would not free up sufficient classrooms to accommodate the number of projected students, while shifting teacher planning would increase inefficiency. While sharing classrooms is possible, teachers would lose access to dedicated classroom materials and lack proper workspace for class preparation and meetings.

Overall, the Committee concluded that even if some or all of these changes were implemented, there is still a need for additional classroom space.

## **V. Options for Adding Space**

Based on the Committee's review of the three middle schools, additional space could not be added at Tomlinson Middle School, which was recently renovated, as the site does not have the space for adding classrooms. Also, parking and the traffic pattern are known limitations to increasing the number of students at Tomlinson, beyond a capacity of 110%.

Roger Ludlowe Middle School is the newest middle school and is part of a complex with Fairfield Ludlowe High School. The Committee toured the site and agreed that the site is fully developed, and there does not appear to be room for adding additional classrooms.

Fairfield Woods Middle School is presently the smallest middle school, with a capacity of 650. Relative to the other middle schools, it would be a good candidate for an addition. During the tour of this facility the Committee was shown areas where an addition could be made. The Committee believes an addition can be feasibly located at Fairfield Woods Middle School and would leave it to a future building committee to determine the actual location.

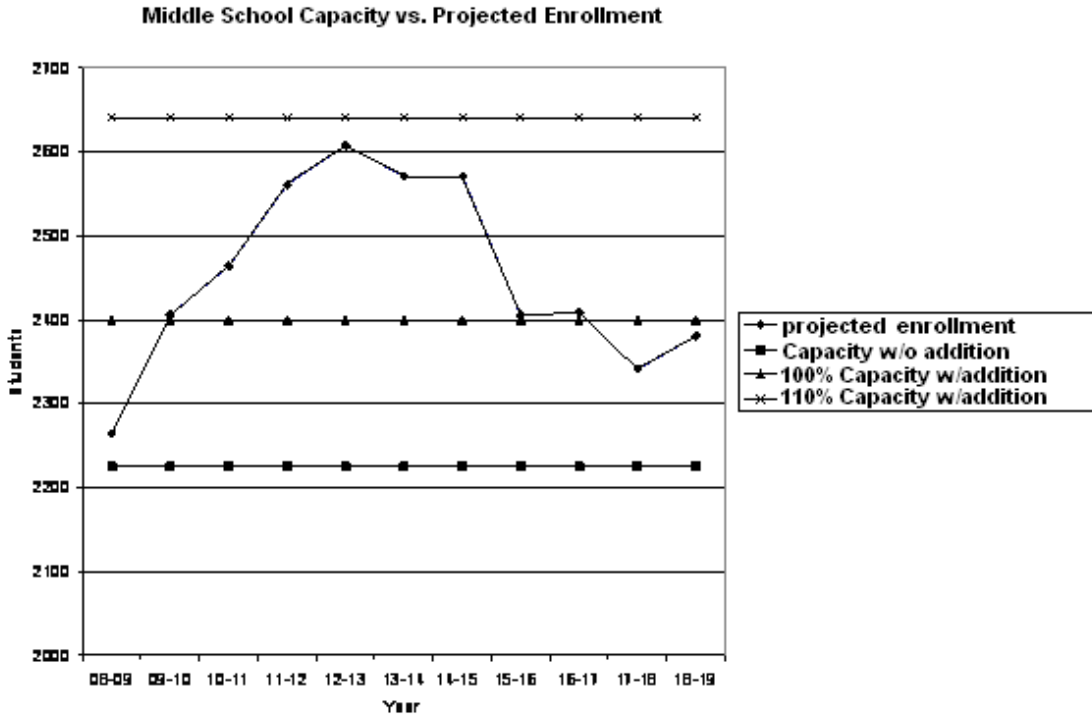
## **VI. Determining the Size**

Once the Committee determined that additional classroom space was needed, and identified the site for the additional space, the Committee focused on determining the appropriate size.

One option considered was to design to the maximum projection, a 2,600-student capacity less the present 2,225-student capacity or an addition of 375 seats. While the student capacity will peak at 2,600, for the majority of years, the average is closer to 2,400, and so the Committee determined that an addition of 375 seats would be too large.

The Committee also looked at designing to a size where 2600 students is within 10% of overcapacity, that is,  $2,600/1.10 = 2,363$ , or 138 seats over the existing capacity. Thus, 2,600 could be "tolerably" accommodated. However, it

was discussed that projections are by their nature an estimate, and to size the additional space to this 110% number could result in insufficient space being provided.



Consequently, the Committee chose to be more conservative, and used 8% rather than 10%. Another benefit is this should help to reduce the overall stress on core facilities. Using 8%, the Committee recommends adding space to accommodate 175 students, which would give the middle schools an overall capacity of 2,400. At 21 students per classroom, and using a utilization factor of 0.85, this figure translates to adding at least ten classrooms.

This would increase Fairfield Woods Middle School capacity to 825, with an operating range of up to 908 (110%). Tomlinson has a range of up to 770 (110%). Roger Ludlowe has an operating range of up to 963 (110%). With the ten classroom addition, the overall middle school system would have an operating range sufficient to handle up to 2,641 students at 110% capacity. The

middle schools town wide will operate over their capacities for four years. However, the range of over capacity for the entire middle school system will be below 8%.

Beyond the addition, the Committee believes that an evaluation should be made of Fairfield Woods Middle School to assure that adequate space is present within the main building to service the additional student population. For example, whether there exists a need for additional: full or part size special education classrooms, unified art space, and physical education space.

With consideration to providing some guidance to a building committee, the Committee also discussed the options for providing the additional classrooms.

One important issue is timing. The peak population years will be 2011-12 (2,561) through 2014-15 (2,571), and so a solution needs to be timely implemented to have the extra classrooms available, if possible, by August, 2011.

The Committee discussed using portable classrooms, and was advised that each portable classroom now costs about \$150K. To purchase ten portable classrooms, with a useful life of 8-10 years (from past history), would cost about \$1.5M. While discussed by the Committee, portable classrooms were not favored to be used as additional space.

The Committee also was advised that a recent steel fabricated modular construction annex with six classrooms for Roger Sherman Elementary School will cost about \$1.64M, and have a useful life of up to 50 years. The Committee assumed that steel fabricated modular construction could generally be completed more quickly and at lower cost than traditional "bricks and mortar" construction.



## **VII. Conclusions**

The Middle School Space Feasibility Committee has conducted a town wide study of the middle school system including a review of each middle school and determined that there is a need for additional middle school space. It is the recommendation of the Committee that a steel fabricated modular construction annex containing at least ten (10) classrooms be constructed at Fairfield Woods Middle School, available for the 2011-12 school year.

The Committee also recommends that there be a thorough evaluation to confirm that there is adequate space within the main building to assure that all educational requirements can be adequately met with the additional student population.

The Committee specifically does not wish to limit a future building committee as to the range or scope of evaluation and does not wish to preclude a building committee from looking at any and all options available for meeting the need we have identified.

Respectfully submitted, on behalf of the Middle School Space Feasibility Committee,



William J. Sapone  
Chairman

### **Middle School Space Feasibility Committee**

William J. Sapone, Chairman  
John Convertito, Vice Chair  
Sue Brand  
Paul Engemann  
Sheryl Santiago  
Robert Stone  
John Vazquez  
Ken Brachfeld, Alternate  
Jack Boyle, Ex-officio  
Mary Hogue, Ex-officio

**EXHIBIT A**

# **FAIRFIELD PUBLIC SCHOOLS**

## **DEMOGRAPHIC UPDATE**

**(BASED ON OCTOBER 1, 2008 ENROLLMENTS)**

### **PRELIMINARY REPORT**

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## **SUMMARY**

During the period from 2008 through 2013/2014, the total grade K-12 enrollments are projected to increase steadily from 9,748 students to 10,207 students, and begin to gradually decline to 10,029 students in 2018. For the same period, every elementary school shows a slight reduction in total enrollment. The K-5 enrollment peaks in 2008/09 at 4,858 students (not including ECC). The K-5 enrollment does not reach this level again through 2018/19 and steadily declines. This can be attributed to the big decline in births, from 757 in 2003 to 638 in 2004 resulting in 109 fewer students in 2009/10.

The Birth to Kindergarten survival ratio of 1.059 indicates more kindergarten students have enrolled into the system than children born five years earlier. It would be safe to identify in-migration of younger families into the Fairfield School District as the cause as opposed to private and parochial and/or early childhood centers closing. This in-migration which is also reflected in the grades 1 through 5 projections can be attributed to turnover of existing homes rather than new housing. This in-migration resulted in an actual kindergarten enrollment of 786 students; an additional 6 students than were projected in the 2007/08 report.

## INTRODUCTION

**Applied Data Services** has updated the Fairfield Public Schools' enrollment projections from 2009/10 through 2018/19. The Cohort Survival Ratios, used to project the enrollments for each grade pair, were calculated using the past three years of enrollment history. This is a change from the previous methodology, using the five year ratios, to better reflect more recent trends. Actually, using the five year history resulted in projecting K-12 enrollments of 10,000 students in 2013 – only 207 students less than “three year” used for this report. The use of the three year histories results in the Birth to Kindergarten projections being 3% higher than the five year histories. The ten-year enrollment projections required that the births from 2008 through 2013 be estimated. A “three year” rolling average estimation was used to predict births from 2009 to 2013 and is described herein. The live birth statistics were obtained from the Connecticut State Department of Education.

## SPECIFICATIONS

The current school year, 2008/09, is the base year for the projected enrollments. These current school enrollments by school, by grade were provided by Fairfield Central Administration. For completeness, these statistics have been included as Appendix 1.

Elementary grade K-5 schools feed one hundred percent (100%) of their fifth grade enrollment to their respective middle schools. The middle schools feed the two high schools as per the feeder structure included as Appendix 2.

This update used the October 1, 2008 enrollments by building, by grade. The results of these projections were analyzed against the 2007 projections. The reports created include:

- Enrollment History by district, by grade, beginning five years previously and proceeding through the current year.
  - Enrollment Projections by district, by grade and year beginning in 2009/10 through 2018/19 for each grade.
  - Enrollment Projections for each building for each year through 2018/19.
  - Enrollment Projections for each building by grade through 2018/19.
  - The survival ratios for each grade pair including the birth to kindergarten progression.
- 
- Projected births from 2009 to 2013 were calculated by using a 3-year rolling average.

## ANALYSIS

### ASSIGNMENT OF PROJECTED KINDERGARTEN STUDENTS

The Kindergarten students are projected on a district wide basis for each year. The procedure for assignment of these students to each of the elementary schools is as follows. For each elementary school, the numbers of students in grades 1 through 3 are added. A percentage of the number of grades 1 through 3 in a school, versus the district total of grades 1 through 3 is computed for each school. The projected Kindergarten students are then assigned to each school according to this percentage.

### COMPARISON BETWEEN PREVIOUS 2008/09 PROJECTIONS AND ACTUAL ENROLLMENTS FOR 2008/09

A comparison of the enrollments Projected 2008/09, using the December 17, 2007 updated Enrollment Projections Report; against the Actual 2008/09 grades K-5, 6-8 and 9-12 enrollments provided by the district, are shown below – less than 1% difference.

	<u>K</u>	<u>K-5</u>	<u>6-8</u>	<u>9-12*</u>
Projected 2008/09	780	4877	2250	2625
Actual 2008/09	786	4858	2264	2626
Difference	-6	+19	-14	-1

\* Grades 9-12 figures do not include Alternative High School.

### SURVIVAL RATIOS

ADS has developed two different migration/survival ratios (Three-Year and Five-Year) to develop future projections. A five-year ratio considers the average over the past five years to predict future enrollments, while a three-year ratio averages the enrollments over the past three years. Based on enrollment projections, a five-year ratio yields a slightly lower K-12 projection in 2013 than the three year – 205 fewer students. For this year, ADS is using a three-year average to determine future projections. This puts more weight on more recent trends in developing future projections.

As such, the survival ratios used were computed based on a three-year history for each grade. The survival ratios for each grade pair were then applied to each grade in each of the schools to calculate the projected enrollments. The projected enrollments by grade, by year are obtained by adding each of the grades for the schools.

The survival ratios are presented below for each grade pair for the years 2008/09 through 2013/14. (These survival ratios are also used for projecting enrollments from 2014/15 through 2018/19.)

### SURVIVAL RATIOS FOR PROJECTIONS THROUGH 2013/14

\*updated values entered

<u>Grade</u>	B	K	1	2	3	4	5	6	7	8	9	10	11	12
SR	1.059	1.019	.994	1.024	1.019	1.011	1.011	1.004	1.014	.983	.967	.989	.990	

A birth/kindergarten survival ratio of 1.059 indicates more students enrolled in the Kindergarten in 2008/09, than were born in Fairfield five years earlier.

From K through grade 8 (with the exception of grade 2), the public schools are projected to increase, attracting students through in-migration. Grades 9 through 12 are projected to show a loss of students each year, with a maximum of .967 or 3.3%.

### **COMMENTS ON 2008/09 PROJECTED ENROLLMENTS**

The total K-12 enrollments (less ECC and Alternative High School) are projected to increase from 9,748 students in 2008/09 to 9,861 students in 2009/10. This is an increase of only 92 students in 1 year, with a projected K-12 enrollment steadily increasing to 10,207 students in 2013/14. The decrease in births, from 757 in 2003 to 638 in 2004 results in 109 fewer Kindergarten students in 2009/10.

The K-5 enrollment peaks in 2008/09 at 4,858 students (not including ECC). The K-5 enrollment steadily declines and does not reach this level again through 2018/19. In 2013/14 the K-5 enrollment decreases to 4,513 down 345 students from the current enrollment of 4,858. This is caused by the decrease in births from 757 in 2003 to 638 in 2004, which results in 109 fewer Kindergarten students in 2009/10.

The Birth to Kindergarten survival ratio of 1.059 indicates more kindergarten students have enrolled into the system than children born five years earlier. It would be safe to attribute this to the in-migration of younger families into the Fairfield School District as the cause, as opposed to the closing of private and parochial and/or early childhood centers. This in-migration resulted in an actual kindergarten enrollment of 786 students, an additional 6 students more than projected in the 2007/08 report.

The number of students in grades 6-8 increases by 314 students by the year 2012/13 to 2,608 students and then steadily declines to 2,381 students in 2018. The grades 9-12 enrollment increases 497 students by 2013/14 and peaks in 2015/16 with 3,330 students, then steadily declines to 3,175 students in the year 2018.

### **COMPUTATION OF PROJECTED BIRTHS FROM 2008 THROUGH 2013**

In order to project enrollments from 2014 through 2018, it was necessary to estimate the number of births from 2009 through 2013. Since the Connecticut State Department of Health has yet to receive the total number of children born to residents of Fairfield from outside of the state, the births are estimated using a three year rolling average for 2008. A five year "Rolling Average" procedure was used to estimate the births from 2009 through 2013. These births were used to compute the Kindergarten enrollment



projections from 2014/15 through 2018/19. (See Figure 1)

## **NEW CONSTRUCTION**

The number of single family dwellings constructed in Fairfield is presented below for the years 2004 through 2008. The history of new construction indicates no extraordinary growth; requiring no adjustment to the projections. It should be noted that there is no dramatic building slowdown, even with the slower economic climate during the last two years.

<b>YEAR</b>	<b>SINGLE / 2 FAMILY HOUSING UNITS</b>
2004	88
2005	145
2006	106
2007	95
2008	115 <est>

For consistency the number of new dwellings has been restricted to single family dwellings and does not include two or three family homes. The 2008 value was estimated by using a three year average. This data was obtained from The U.S. Census Bureau – Building Permits.

## FAIRFIELD PUBLIC SCHOOLS LIVE AND PROJECTED BIRTHS

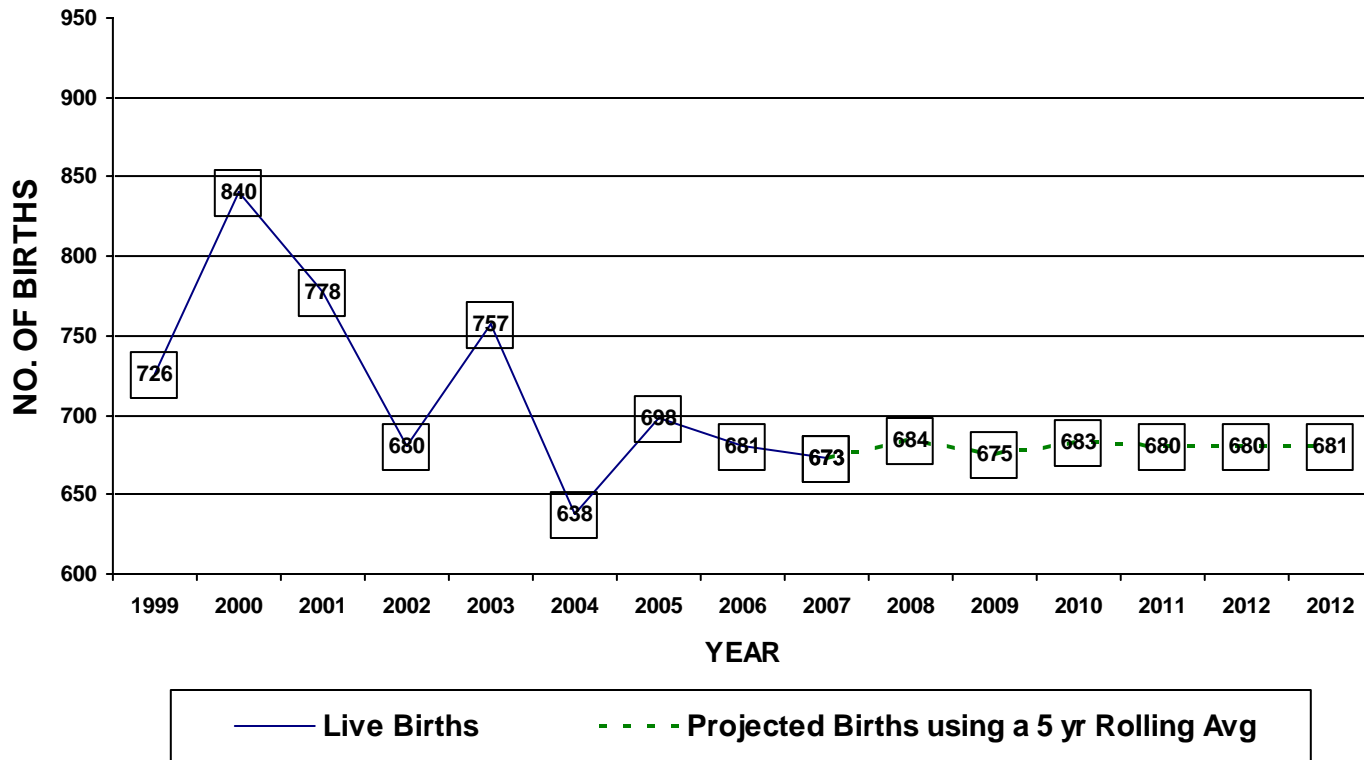


Figure 1

Notes: Births compiled for years 1999 through 2007 were provided by Bureau of Student Assessment and Research of the Connecticut State Dept. of Education.

The estimated births for 2008 were compiled using a three year rolling average.

Estimates for the un-compiled years 2009 through 2013 were calculated using a five year rolling average.

# FAIRFIELD PUBLIC SCHOOLS

## DISTRICT-WIDE ENROLLMENT PROJECTION BY GRADE AND YEAR (3-YEAR SURVIVAL RATIO)

GRADE	YEAR					
	08-09	09-10	10-11	11-12	12-13	13-14
ECC	48	41	45	44	44	44
KINDERGARTEN	786	677	739	720	714	726
FIRST	750	800	688	752	733	726
SECOND	843	750	797	688	752	733
THIRD	816	863	767	816	704	771
FOURTH	818	832	881	781	831	716
FIFTH	845	829	843	892	792	841
<b>SUB TTL K-5</b>	<b>4858</b>	<b>4751</b>	<b>4715</b>	<b>4649</b>	<b>4526</b>	<b>4513</b>
SIXTH	755	856	840	854	903	803
SEVENTH	780	757	856	840	854	903
EIGHTH	729	793	768	867	851	865
<b>SUB TTL 6-8</b>	<b>2264</b>	<b>2406</b>	<b>2464</b>	<b>2561</b>	<b>2608</b>	<b>2571</b>
NINTH	710	716	779	754	853	838
TENTH	637	687	692	754	729	825
ELEVENTH	678	630	679	684	746	721
TWELFTH	601	671	624	672	676	739
<b>SUB TTL 9-12</b>	<b>2626</b>	<b>2704</b>	<b>2774</b>	<b>2864</b>	<b>3004</b>	<b>3123</b>
<b>TOTAL K-12</b>	<b>9748</b>	<b>9861</b>	<b>9953</b>	<b>10074</b>	<b>10138</b>	<b>10207</b>
Alternative HS	48	49	50	52	55	57
<b>TOTAL</b>	<b>9844</b>	<b>9951</b>	<b>10048</b>	<b>10170</b>	<b>10237</b>	<b>10309</b>

Notes: **TOTAL** includes Grades K-12, ECC, and Alternative HS.

ECC projections used the same percent of increase/decrease as Kindergarten.

Alternative HS projections used the same percent increase/decrease as gr. 9-12.

Special Education Students are reflected in individual grades and school totals.

Enrollment does not include 40 Pre-K students at McKinley and Burr Schools.

# FAIRFIELD PUBLIC SCHOOLS

## DISTRICT-WIDE ENROLLMENT PROJECTION BY GRADE AND YEAR (3-YEAR SURVIVAL RATIO)

GRADE	YEAR				
	14-15	15-16	16-17	17-18	18-19
ECC	44	45	45	45	45
KINDERGARTEN	714	724	721	721	723
FIRST	737	725	735	732	732
SECOND	726	737	725	735	732
THIRD	751	744	755	743	753
FOURTH	784	764	756	767	755
FIFTH	727	795	775	767	778
<b>SUB TTL K-5</b>	<b>4439</b>	<b>4489</b>	<b>4467</b>	<b>4465</b>	<b>4473</b>
SIXTH	853	738	806	786	778
SEVENTH	803	853	738	806	786
EIGHTH	915	814	865	749	817
<b>SUB TTL 6-8</b>	<b>2571</b>	<b>2405</b>	<b>2409</b>	<b>2341</b>	<b>2381</b>
NINTH	849	899	799	850	737
TENTH	811	821	869	773	822
ELEVENTH	816	802	811	860	765
TWELFTH	713	808	793	803	851
<b>SUB TTL 9-12</b>	<b>3189</b>	<b>3330</b>	<b>3272</b>	<b>3286</b>	<b>3175</b>
<b>TOTAL K-12</b>	<b>10199</b>	<b>10224</b>	<b>10148</b>	<b>10092</b>	<b>10029</b>
ALTERNATIVE HS	58	61	60	60	58
<b>TOTAL</b>	<b>10301</b>	<b>10330</b>	<b>10253</b>	<b>10197</b>	<b>10132</b>

Notes: **TOTAL** includes Grades K-12, ECC, and Alternative HS.

ECC projections used the same percent of increase/decrease as Kindergarten.

Alternative HS projections used the same percent increase/decrease as gr. 9-12.

Special Education Students are reflected in individual grades and school totals.

Enrollment does not include 40 Pre-K students at McKinley and Burr Schools

# FAIRFIELD PUBLIC SCHOOLS

## SUMMARY OF ENROLLMENT PROJECTION BY SCHOOL AND YEAR (3-YEAR SURVIVAL RATIO)

SCHOOL	YEAR					
	08-09	09-10	10-11	11-12	12-13	13-14
BURR	449	414	408	393	398	404
DWIGHT	322	315	305	296	289	277
HOLLAND	350	343	343	343	330	325
JENNINGS	356	350	355	343	332	328
McKINLEY	416	410	394	392	370	376
MILL HILL	470	472	473	460	454	446
N.STRATFIELD	502	498	499	502	483	482
OSBORN HILL	527	521	523	522	514	509
RIVERFIELD	478	470	473	451	440	446
SHERMAN	446	434	411	413	390	382
STRATFIELD	542	524	531	534	526	538
FWMS	605	675	674	699	688	684
RLMS	889	952	969	1019	1044	1017
TMS	770	779	821	843	876	870
FWHS	1250	1270	1298	1344	1423	1483
FLHS	1376	1434	1476	1520	1581	1640
<b>TOTAL K-12</b>	<b>9748</b>	<b>9861</b>	<b>9953</b>	<b>10074</b>	<b>10138</b>	<b>10207</b>
ECC	48	41	45	44	44	45
ALTERNATIVE HS	48	49	50	52	55	57
<b>TOTAL</b>	<b>9844</b>	<b>9951</b>	<b>10048</b>	<b>10170</b>	<b>10237</b>	<b>10309</b>

Notes: Special Education Students are reflected in individual grades and school totals.  
McKinley and Burr enrollment does not include 40 Pre-K students.

# FAIRFIELD PUBLIC SCHOOLS

## SUMMARY OF ENROLLMENT PROJECTION BY SCHOOL AND YEAR (3-YEAR SURVIVAL RATIO)

SCHOOL	YEAR				
	14-15	15-16	16-17	17-18	18-19
BURR	386	391	390	390	391
DWIGHT	288	291	290	291	292
HOLLAND	323	327	325	325	326
JENNINGS	334	337	335	335	335
McKINLEY	371	376	373	373	374
MILL HILL	443	447	445	445	446
N.STRATFIELD	470	475	473	472	472
OSBORN HILL	492	498	494	492	493
RIVERFIELD	443	447	445	445	446
SHERMAN	386	391	390	390	391
STRATFIELD	503	509	507	507	507
FWMS	681	644	649	627	638
RLMS	1052	983	1010	952	969
TMS	838	778	750	762	774
FWHS	1518	1578	1521	1561	1504
FLHS	1671	1752	1751	1725	1671
<b>TOTAL K-12</b>	<b>10199</b>	<b>10224</b>	<b>10148</b>	<b>10092</b>	<b>10029</b>
ECC	44	45	45	45	45
ALTERNATIVE HS	58	61	60	60	58
<b>TOTAL</b>	<b>10301</b>	<b>10330</b>	<b>10253</b>	<b>10197</b>	<b>10132</b>

Notes: Special Education Students are reflected in individual grades and school totals.  
McKinley and Burr enrollment does not include 40 Pre-K students.

Following this section, the projected enrollments by school by grade, by year through 2018/19, using a 3-year survival ratio, are presented; followed by a district-wide enrollment history by grade, by year. Appendix 1 contains the October 1, 2008 enrollments by school, by grade, as provided by the Fairfield central administration; Appendix 2 illustrates the feeder patterns used for the projections.

Projected Enrollments  
by Building by Grade  
2008 through 2018



# FAIRFIELD PUBLIC SCHOOLS

## ENROLLMENT PROJECTION BY BUILDING AND YEAR (3-YEAR SURVIVAL RATIO)

SCHOOL - BURR

GRADE	YEAR					
	08-09	09-10	10-11	11-12	12-13	13-14
KINDERGARTEN	79	59	64	63	62	63
FIRST	59	80	60	65	64	63
SECOND	59	59	80	60	65	64
THIRD	80	60	60	82	61	67
FOURTH	73	82	61	61	84	62
FIFTH	99	74	83	62	62	85
<b>TOTAL</b>	<b>449</b>	<b>414</b>	<b>408</b>	<b>393</b>	<b>398</b>	<b>404</b>

GRADE	YEAR				
	14-15	15-16	16-17	17-18	18-19
KINDERGARTEN	62	63	63	63	63
FIRST	64	63	64	64	64
SECOND	63	64	63	64	64
THIRD	66	65	66	65	66
FOURTH	68	67	66	67	66
FIFTH	63	69	68	67	68
<b>TOTAL</b>	<b>386</b>	<b>391</b>	<b>390</b>	<b>390</b>	<b>391</b>

Note: Special Education Students are reflected in individual grades and school totals.  
 ECC students are not included in the above projections.  
 Burr projection does not include Pre-K students.

# FAIRFIELD PUBLIC SCHOOLS

## ENROLLMENT PROJECTION BY BUILDING AND YEAR (3-YEAR SURVIVAL RATIO)

SCHOOL - DWIGHT

GRADE	YEAR					
	08-09	09-10	10-11	11-12	12-13	13-14
KINDERGARTEN	36	44	48	46	46	47
FIRST	59	37	45	49	47	47
SECOND	54	59	37	45	49	47
THIRD	57	55	60	38	46	50
FOURTH	61	58	56	61	39	47
FIFTH	55	62	59	57	62	39
<b>TOTAL</b>	<b>322</b>	<b>315</b>	<b>305</b>	<b>296</b>	<b>289</b>	<b>277</b>

GRADE	YEAR				
	14-15	15-16	16-17	17-18	18-19
KINDERGARTEN	46	47	47	47	47
FIRST	48	47	48	48	48
SECOND	47	48	47	48	48
THIRD	48	48	49	48	49
FOURTH	51	49	49	50	49
FIFTH	48	52	50	50	51
<b>TOTAL</b>	<b>288</b>	<b>291</b>	<b>290</b>	<b>291</b>	<b>292</b>

Note: Special Education Students are reflected in individual grades and school totals.  
ECC students are not included in the above projections.

# FAIRFIELD PUBLIC SCHOOLS

## ENROLLMENT PROJECTION BY BUILDING AND YEAR (3-YEAR SURVIVAL RATIO)

### SCHOOL – HOLLAND HILL

GRADE	YEAR					
	08-09	09-10	10-11	11-12	12-13	13-14
KINDERGARTEN	54	49	54	52	52	53
FIRST	59	55	50	55	53	53
SECOND	65	59	55	50	55	53
THIRD	54	67	60	56	51	56
FOURTH	57	55	68	61	57	52
FIFTH	61	58	56	69	62	58
<b>TOTAL</b>	<b>350</b>	<b>343</b>	<b>343</b>	<b>343</b>	<b>330</b>	<b>325</b>

GRADE	YEAR				
	14-15	15-16	16-17	17-18	18-19
KINDERGARTEN	52	53	52	52	53
FIRST	54	53	54	53	53
SECOND	53	54	53	54	53
THIRD	54	54	55	54	55
FOURTH	57	55	55	56	55
FIFTH	53	58	56	56	57
<b>TOTAL</b>	<b>323</b>	<b>327</b>	<b>325</b>	<b>325</b>	<b>326</b>

Note: Special Education Students are reflected in individual grades and school totals.  
ECC students are not included in the above projections.

# FAIRFIELD PUBLIC SCHOOLS

## ENROLLMENT PROJECTION BY BUILDING AND YEAR (3-YEAR SURVIVAL RATIO)

### SCHOOL – JENNINGS

GRADE	YEAR					
	08-09	09-10	10-11	11-12	12-13	13-14
KINDERGARTEN	48	51	56	54	54	54
FIRST	59	49	52	57	55	55
SECOND	65	59	49	52	57	55
THIRD	68	67	60	50	53	58
FOURTH	54	69	68	61	51	54
FIFTH	62	55	70	69	62	52
<b>TOTAL</b>	<b>356</b>	<b>350</b>	<b>355</b>	<b>343</b>	<b>332</b>	<b>328</b>

GRADE	YEAR				
	14-15	15-16	16-17	17-18	18-19
KINDERGARTEN	54	54	54	54	54
FIRST	55	55	55	55	55
SECOND	55	55	55	55	55
THIRD	56	56	56	56	56
FOURTH	59	57	57	57	57
FIFTH	55	60	58	58	58
<b>TOTAL</b>	<b>334</b>	<b>337</b>	<b>335</b>	<b>335</b>	<b>335</b>

Note: Special Education Students are reflected in individual grades and school totals.  
ECC students are not included in the above projections.

# FAIRFIELD PUBLIC SCHOOLS

## ENROLLMENT PROJECTION BY BUILDING AND YEAR (3-YEAR SURVIVAL RATIO)

SCHOOL - McKINLEY

GRADE	YEAR					
	08-09	09-10	10-11	11-12	12-13	13-14
KINDERGARTEN	64	56	62	60	60	61
FIRST	57	65	57	63	61	61
SECOND	81	57	65	57	63	61
THIRD	65	83	58	67	58	65
FOURTH	82	66	85	59	68	59
FIFTH	67	83	67	86	60	69
<b>TOTAL</b>	<b>416</b>	<b>410</b>	<b>394</b>	<b>392</b>	<b>370</b>	<b>376</b>

GRADE	YEAR				
	14-15	15-16	16-17	17-18	18-19
KINDERGARTEN	60	61	60	60	61
FIRST	62	61	62	61	61
SECOND	61	62	61	62	61
THIRD	62	62	63	62	63
FOURTH	66	63	63	64	63
FIFTH	60	67	64	64	65
<b>TOTAL</b>	<b>371</b>	<b>376</b>	<b>373</b>	<b>373</b>	<b>374</b>

Note: Special Education Students are reflected in individual grades and school totals.  
 ECC students are not included in the above projections.  
 McKinley projection does not include Pre-K students.

# FAIRFIELD PUBLIC SCHOOLS

## ENROLLMENT PROJECTION BY BUILDING AND YEAR (3-YEAR SURVIVAL RATIO)

SCHOOL - MILL HILL

GRADE	YEAR					
	08-09	09-10	10-11	11-12	12-13	13-14
KINDERGARTEN	74	68	74	72	71	73
FIRST	81	75	69	75	73	72
SECOND	77	81	75	69	75	73
THIRD	88	79	83	77	71	77
FOURTH	78	90	81	85	78	72
FIFTH	72	79	91	82	86	79
<b>TOTAL</b>	<b>470</b>	<b>472</b>	<b>473</b>	<b>460</b>	<b>454</b>	<b>446</b>

GRADE	YEAR				
	14-15	15-16	16-17	17-18	18-19
KINDERGARTEN	71	72	72	72	72
FIRST	74	72	73	73	73
SECOND	72	74	72	73	73
THIRD	75	74	76	74	75
FOURTH	78	76	75	77	75
FIFTH	73	79	77	76	78
<b>TOTAL</b>	<b>443</b>	<b>447</b>	<b>445</b>	<b>445</b>	<b>446</b>

Note: Special Education Students are reflected in individual grades and school totals.  
ECC students are not included in the above projections.

# FAIRFIELD PUBLIC SCHOOLS

## ENROLLMENT PROJECTION BY BUILDING AND YEAR (3-YEAR SURVIVAL RATIO)

SCHOOL - N. STRATFIELD

GRADE	YEAR					
	08-09	09-10	10-11	11-12	12-13	13-14
KINDERGARTEN	87	72	78	77	76	77
FIRST	78	89	73	79	78	77
SECOND	96	78	88	73	79	78
THIRD	78	98	80	90	75	81
FOURTH	81	79	100	82	92	76
FIFTH	82	82	80	101	83	93
<b>TOTAL</b>	<b>502</b>	<b>498</b>	<b>499</b>	<b>502</b>	<b>483</b>	<b>482</b>

GRADE	YEAR				
	14-15	15-16	16-17	17-18	18-19
KINDERGARTEN	76	77	76	76	76
FIRST	78	77	78	77	77
SECOND	77	78	77	78	77
THIRD	80	79	80	79	80
FOURTH	82	81	80	81	80
FIFTH	77	83	82	81	82
<b>TOTAL</b>	<b>470</b>	<b>475</b>	<b>473</b>	<b>472</b>	<b>472</b>

Note: Special Education Students are reflected in individual grades and school totals.  
ECC students are not included in the above projections.

# FAIRFIELD PUBLIC SCHOOLS

## ENROLLMENT PROJECTION BY BUILDING AND YEAR (3-YEAR SURVIVAL RATIO)

SCHOOL – OSBORN HILL

GRADE	YEAR					
	08-09	09-10	10-11	11-12	12-13	13-14
KINDERGARTEN	96	75	82	80	79	80
FIRST	85	98	76	84	82	80
SECOND	89	85	97	76	84	82
THIRD	85	91	87	99	78	86
FOURTH	84	87	93	89	101	79
FIFTH	88	85	88	94	90	102
<b>TOTAL</b>	<b>527</b>	<b>521</b>	<b>523</b>	<b>522</b>	<b>514</b>	<b>509</b>

GRADE	YEAR				
	14-15	15-16	16-17	17-18	18-19
KINDERGARTEN	79	80	80	80	80
FIRST	81	80	81	81	81
SECOND	80	81	80	81	81
THIRD	84	82	83	82	83
FOURTH	88	86	83	84	83
FIFTH	80	89	87	84	85
<b>TOTAL</b>	<b>492</b>	<b>498</b>	<b>494</b>	<b>492</b>	<b>493</b>

Note: Special Education Students are reflected in individual grades and school totals.  
ECC students are not included in the above projections.



# FAIRFIELD PUBLIC SCHOOLS

## ENROLLMENT PROJECTION BY BUILDING AND YEAR (3-YEAR SURVIVAL RATIO)

SCHOOL - RIVERFIELD

GRADE	YEAR					
	08-09	09-10	10-11	11-12	12-13	13-14
KINDERGARTEN	74	68	74	72	71	73
FIRST	68	75	69	75	73	72
SECOND	82	68	75	69	75	73
THIRD	96	84	70	77	71	77
FOURTH	76	98	86	71	78	72
FIFTH	82	77	99	87	72	79
<b>TOTAL</b>	<b>478</b>	<b>470</b>	<b>473</b>	<b>451</b>	<b>440</b>	<b>446</b>

GRADE	YEAR				
	14-15	15-16	16-17	17-18	18-19
KINDERGARTEN	71	72	72	72	72
FIRST	74	72	73	73	73
SECOND	72	74	72	73	73
THIRD	75	74	76	74	75
FOURTH	78	76	75	77	75
FIFTH	73	79	77	76	78
<b>TOTAL</b>	<b>443</b>	<b>447</b>	<b>445</b>	<b>445</b>	<b>446</b>

Note: Special Education Students are reflected in individual grades and school totals.  
ECC students are not included in the above projections.

# FAIRFIELD PUBLIC SCHOOLS

## ENROLLMENT PROJECTION BY BUILDING AND YEAR (3-YEAR SURVIVAL RATIO)

SCHOOL - SHERMAN

GRADE	YEAR					
	08-09	09-10	10-11	11-12	12-13	13-14
KINDERGARTEN	59	59	64	63	62	63
FIRST	72	60	60	65	64	63
SECOND	84	72	60	60	65	64
THIRD	63	86	74	61	61	67
FOURTH	92	64	88	75	62	62
FIFTH	76	93	65	89	76	63
<b>TOTAL</b>	<b>446</b>	<b>434</b>	<b>411</b>	<b>413</b>	<b>390</b>	<b>382</b>

GRADE	YEAR				
	14-15	15-16	16-17	17-18	18-19
KINDERGARTEN	62	63	63	63	63
FIRST	64	63	64	64	64
SECOND	63	64	63	64	64
THIRD	66	65	66	65	66
FOURTH	68	67	66	67	66
FIFTH	63	69	68	67	68
<b>TOTAL</b>	<b>386</b>	<b>391</b>	<b>390</b>	<b>390</b>	<b>391</b>

Note: Special Education Students are reflected in individual grades and school totals.  
ECC students are not included in the above projections.

# FAIRFIELD PUBLIC SCHOOLS

## ENROLLMENT PROJECTION BY BUILDING AND YEAR (3-YEAR SURVIVAL RATIO)

### SCHOOL - STRATFIELD

GRADE	YEAR					
	08-09	09-10	10-11	11-12	12-13	13-14
KINDERGARTEN	115	76	83	81	81	82
FIRST	73	117	77	85	83	83
SECOND	91	73	116	77	85	83
THIRD	82	93	75	119	79	87
FOURTH	80	84	95	76	121	81
FIFTH	101	81	85	96	77	122
<b>TOTAL</b>	<b>542</b>	<b>524</b>	<b>531</b>	<b>534</b>	<b>526</b>	<b>538</b>

GRADE	YEAR				
	14-15	15-16	16-17	17-18	18-19
KINDERGARTEN	81	82	82	82	82
FIRST	83	82	83	83	83
SECOND	83	83	82	83	83
THIRD	85	85	85	84	85
FOURTH	89	87	87	87	86
FIFTH	82	90	88	88	88
<b>TOTAL</b>	<b>503</b>	<b>509</b>	<b>507</b>	<b>507</b>	<b>507</b>

Note: Special Education Students are reflected in individual grades and school totals.  
ECC students are not included in the above projections.

# FAIRFIELD PUBLIC SCHOOLS

## ENROLLMENT PROJECTION BY BUILDING AND YEAR (3-YEAR SURVIVAL RATIO)

SCHOOL - FWMS

GRADE	YEAR					
	08-09	09-10	10-11	11-12	12-13	13-14
SIXTH	210	246	214	236	235	210
SEVENTH	215	211	246	214	236	235
EIGHTH	180	218	214	249	217	239
<b>TOTAL</b>	<b>605</b>	<b>675</b>	<b>674</b>	<b>699</b>	<b>688</b>	<b>684</b>

GRADE	YEAR				
	14-15	15-16	16-17	17-18	18-19
SIXTH	233	198	215	211	209
SEVENTH	210	233	198	215	211
EIGHTH	238	213	236	201	218
<b>TOTAL</b>	<b>681</b>	<b>644</b>	<b>649</b>	<b>627</b>	<b>638</b>

Note: Special Education Students are reflected in individual grades and school totals.

# FAIRFIELD PUBLIC SCHOOLS

## ENROLLMENT PROJECTION BY BUILDING AND YEAR (3-YEAR SURVIVAL RATIO)

SCHOOL - RLMS

GRADE	YEAR					
	08-09	09-10	10-11	11-12	12-13	13-14
SIXTH	293	342	330	343	367	303
SEVENTH	311	293	342	330	343	367
EIGHTH	285	317	297	346	334	347
<b>TOTAL</b>	<b>889</b>	<b>952</b>	<b>969</b>	<b>1019</b>	<b>1044</b>	<b>1017</b>

GRADE	YEAR				
	14-15	15-16	16-17	17-18	18-19
SIXTH	377	299	329	320	316
SEVENTH	303	377	299	329	320
EIGHTH	372	307	382	303	333
<b>TOTAL</b>	<b>1052</b>	<b>983</b>	<b>1010</b>	<b>952</b>	<b>969</b>

Note: Special Education Students are reflected in individual grades and school totals.

# FAIRFIELD PUBLIC SCHOOLS

## ENROLLMENT PROJECTION BY BUILDING AND YEAR (3-YEAR SURVIVAL RATIO)

SCHOOL - TMS

GRADE	YEAR					
	08-09	09-10	10-11	11-12	12-13	13-14
SIXTH	252	268	296	275	301	290
SEVENTH	254	253	268	296	275	301
EIGHTH	264	258	257	272	300	279
<b>TOTAL</b>	<b>770</b>	<b>779</b>	<b>821</b>	<b>843</b>	<b>876</b>	<b>870</b>

GRADE	YEAR				
	14-15	15-16	16-17	17-18	18-19
SIXTH	243	241	262	255	253
SEVENTH	290	243	241	262	255
EIGHTH	305	294	247	245	266
<b>TOTAL</b>	<b>838</b>	<b>778</b>	<b>750</b>	<b>762</b>	<b>774</b>

Note: Special Education Students are reflected in individual grades and school totals.

# FAIRFIELD PUBLIC SCHOOLS

## ENROLLMENT PROJECTION BY BUILDING AND YEAR (3-YEAR SURVIVAL RATIO)

SCHOOL - FAIRFIELD WARDE HS

GRADE	YEAR					
	08-09	09-10	10-11	11-12	12-13	13-14
NINTH	338	319	373	358	418	382
TENTH	299	327	309	361	346	405
ELEVENTH	331	296	323	305	357	343
TWELFTH	282	328	293	320	302	353
<b>TOTAL</b>	<b>1250</b>	<b>1270</b>	<b>1298</b>	<b>1344</b>	<b>1423</b>	<b>1483</b>

GRADE	YEAR				
	14-15	15-16	16-17	17-18	18-19
NINTH	408	420	363	423	350
TENTH	370	395	406	350	409
ELEVENTH	401	366	390	402	347
TWELFTH	339	397	362	386	398
<b>TOTAL</b>	<b>1518</b>	<b>1578</b>	<b>1521</b>	<b>1561</b>	<b>1504</b>

Note: Special Education Students are reflected in individual grades and school totals.  
Alternative HS students are not included in the above figures.

# FAIRFIELD PUBLIC SCHOOLS

## ENROLLMENT PROJECTION BY BUILDING AND YEAR (3-YEAR SURVIVAL RATIO)

SCHOOL – FAIRFIELD LUDLOWE HS

GRADE	YEAR					
	08-09	09-10	10-11	11-12	12-13	13-14
NINTH	372	397	406	396	435	456
TENTH	338	360	383	393	383	420
ELEVENTH	347	334	356	379	389	378
TWELFTH	319	343	331	352	374	386
<b>TOTAL</b>	<b>1376</b>	<b>1434</b>	<b>1476</b>	<b>1520</b>	<b>1581</b>	<b>1640</b>

GRADE	YEAR				
	14-15	15-16	16-17	17-18	18-19
NINTH	441	479	436	427	387
TENTH	441	426	463	423	413
ELEVENTH	415	436	421	458	418
TWELFTH	374	411	431	417	453
<b>TOTAL</b>	<b>1671</b>	<b>1752</b>	<b>1751</b>	<b>1725</b>	<b>1671</b>

Note: Special Education Students are reflected in individual grades and school totals.  
Alternative HS students are not included in the above figures.



**FAIRFIELD PUBLIC SCHOOLS**  
**DISTRICT-WIDE ENROLLMENT HISTORY**  
**BY GRADE AND YEAR**

GRADE	YEAR					
	03-04	04-05	05-06	06-07	07-08	08-09
ECC	41	59	52	51	54	51
KINDERGARTEN	791	762	801	822	736	786
FIRST	721	792	806	806	848	750
SECOND	772	729	784	793	810	843
THIRD	715	772	716	806	822	816
FOURTH	712	696	768	731	839	818
FIFTH	650	723	689	769	748	845
<b>SUB TTL K-5</b>	<b>4361</b>	<b>4474</b>	<b>4564</b>	<b>4727</b>	<b>4803</b>	<b>4858</b>
SIXTH	690	658	731	701	775	755
SEVENTH	660	704	661	726	709	780
EIGHTH	696	661	705	661	737	729
<b>SUB TTL 6-8</b>	<b>2046</b>	<b>2023</b>	<b>2097</b>	<b>2088</b>	<b>2221</b>	<b>2264</b>
NINTH	607	659	644	698	659	710
TENTH	600	592	631	611	687	637
ELEVENTH	521	591	576	630	600	678
TWELFTH	514	529	573	564	623	601
<b>SUB TTL 9-12</b>	<b>2242</b>	<b>2371</b>	<b>2424</b>	<b>2503</b>	<b>2569</b>	<b>2626</b>
<b>TOTAL K-12</b>	<b>8649</b>	<b>8868</b>	<b>9085</b>	<b>9318</b>	<b>9593</b>	<b>9748</b>
ALTERNATIVE HS	33	31	38	34	42	41
<b>TOTAL</b>	<b>8723</b>	<b>8958</b>	<b>9175</b>	<b>9403</b>	<b>9689</b>	<b>9840</b>

Note: **TOTAL** includes Grades K-12, ECC, and Alternative HS.

**APPENDIX 1**

**FAIRFIELD PUBLIC SCHOOLS  
OCTOBER 2008/09  
ENROLLMENTS BY SCHOOL BY GRADE**

<b>SCHOOL</b>	<b>KG</b>	<b>01</b>	<b>02</b>	<b>03</b>	<b>04</b>	<b>05</b>	<b>06</b>	<b>07</b>	<b>08</b>	<b>09</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>ENR</b>
										338	299	331	282	1250
FWHS										372	338	347	319	1376
FLHS							210	215	180					605
FWMS							293	311	285					889
RLMS							252	254	264					770
TMS														
Burr Elem.	79	59	59	80	73	99								449
Dwight Elem.	36	59	54	57	61	55								322
Holland Hill Elem.	54	59	65	54	57	61								350
Jennings Elem.	48	59	65	68	54	62								356
McKinley Elem.	64	57	81	65	82	67								416
Mill Hill Elem.	74	81	77	88	78	72								470
N. Stratfield Elem.	87	78	96	78	81	82								502
Osborn Hill Elem.	96	85	89	85	84	88								527
Riverfield Elem.	74	68	82	96	76	82								478
Sherman Elem.	59	72	84	63	92	76								446
Stratfield Elem.	115	73	91	82	80	101								542
<b>TOTAL</b>	<b>786</b>	<b>750</b>	<b>843</b>	<b>816</b>	<b>818</b>	<b>845</b>	<b>755</b>	<b>780</b>	<b>729</b>	<b>710</b>	<b>637</b>	<b>678</b>	<b>601</b>	<b>9748</b>

Notes    ECC and Alternative HS students are not included in above figures.  
 McKinley and Burr enrollment does not include 40 Pre-K students.

## APPENDIX 2

### FAIRFIELD PUBLIC SCHOOLS

#### FEEDER PATTERNS

<u>Schools</u>	<u>Grades</u>	<u>Feeds</u>	<u>Percentage</u>
BURR	K-5	FWMS	100.0% of its grade 5 enrollment
DWIGHT	K-5	TMS	100.0% of its grade 5 enrollment
HOLLAND	K-5	TMS	100.0% of its grade 5 enrollment
JENNINGS	K-5	FWMS	100.0% of its grade 5 enrollment
McKINLEY	K-5	RLMS	100.0% of its grade 5 enrollment
MILL HILL	K-5	TMS	100.0% of its grade 5 enrollment
N. STRATFIELD	K-5	FWMS	100.0% of its grade 5 enrollment
OSBORN HILL	K-5	RLMS	100.0% of its grade 5 enrollment
RIVERFIELD	K-5	RLMS	100.0% of its grade 5 enrollment
SHERMAN	K-5	TMS	100.0% of its grade 5 enrollment
STRATFIELD	K-5	RLMS	100.0% of its grade 5 enrollment
FWMS	6-8	FWHS	100.0% of its grade 8 enrollment
RLMS	6-8	FWHS	51.0% of its grade 8 enrollment
	6-8	FLHS	49.0% of its grade 8 enrollment
TMS	6-8	FLHS	100.0% of its grade 8 enrollment

**EXHIBIT B**

# Defining Capacity

By William S. DeJong, Ph.D., REFP  
Joyce Craig, Project Director

How many students can a building accommodate? This question often arises, and in the development of a facility plan, it can be one of the most debated issues. The answer to this question can impact the need for constructing new buildings as well as additions and can have a profound impact on revenue especially if projects are funded through state or other agencies.

It is not uncommon to review an evaluation of an existing building only to find that the capacity which had once been assigned to the building is much greater than what can be reasonably accommodated.

During the past thirty years, the programs in a public school system and the manner in which they are delivered have changed significantly. Repeated arguments are heard that “this school was able to accommodate 600 students thirty years ago and now you are saying it can only accommodate 400 students today. How can this be the case?” Persons making these statements often do not realize that class size has been reduced [let’s say from 30 to 25], the music program was being held on the stage, there was no art room and the teacher used a cart, computers had not been invented and there were no computer labs, the Kindergarten program went from half day to full day and severely handicapped special education students that were institutionalized are now attending public schools. Add to this the fact that many states are legislating a class size of 20 or under for the early elementary grades, schools are expanding pre-school services, and there are many more at-risk students programs.

Historically school districts throughout North America have determined the capacity of school by counting the number of classrooms in a building and multiplying by an average class size. In facility planning terminology we have used the term, “design capacity”, to describe this methodology. Even though at first glance this seems only to be common sense, this methodology does not take into account the programmatic implications of school facilities. In an elementary school there is a need for libraries/media centers, administrative areas, special education classrooms, and specialized spaces for specific program areas such as science, art and music. In a secondary school, in theory it may be possible to use every classroom every period of every day, but from a practical perspective it is not likely. In facility planning terminology, taking program issues into consideration, we use the term, “functional capacity”.

Even though functional capacity is a more realistic analysis of what a building can accommodate, it is necessary to apply some common sense. There are examples in which classrooms have been taken over for other purposes such as teacher prep areas, storage, or offices which can result in a lower capacity figure.

Public schools use space in school buildings for special purposes such as community activities or district-wide special education programs when space is available in a building. The location of this type of program impacts the number of students the building can accommodate. For planning purposes, functional capacity assumes these special programs could be moved to another location. Therefore functional capacity is defined as the number of student the building can accommodate assuming a “traditional” educational program.

The formula used for determining capacity should reflect the programs of the public schools yet should be kept simple for planning purposes. The method for determining functional capacity is different for elementary, middle and high schools.

## **Elementary Schools**

There are a wide variety of elementary schools that range from K-1 to K-6, small schools with ten or fewer classrooms to schools with fifty or more classrooms.

The following criteria are suggested for consideration in determining functional building capacity at the elementary level.

### **Average Class Size**

There is currently a wide range of class sizes throughout the country. Many districts have 30 or more students in elementary classrooms whereas other districts are striving for 20 or fewer. The most common average class size that is used for planning purposes is 25 students. In determining capacity, the class size that should be used should either be based on district policy or actual averages in the district.

School district class size policy is usually used to determine the number of teaching positions not capacity. For example, a school district may have a policy that when there are more than 30 students in a classroom another teacher will be added. Even though this policy may be interpreted to mean that the capacity of a classroom is 30 students the reality is the average class size of this district maybe nearer 25 students. In this case, average class size would be a better indicator of determining the number of students that should be used. On the other hand it could be argued that capacity is the maximum number of students that a building can accommodate, not the optimum.

Even though a class size of 25 is the most common number used by school districts throughout the United States many states and local districts are moving toward smaller class sizes for the early elementary [primary] grades.

## **Special Education:**

Special Education instruction occurs at various levels of need, varying class sizes, and in various locations throughout a district. Instructional areas for high incident students [learning disabled, behaviorally and mildly mentally handicapped, etc.] are usually found at most elementary schools.

For planning purposes, functional capacity assumes that low incident students [severely profoundly handicapped] are not located in the building and are being housed at a different district facility.

For discussion purposes let's assume that a building can accommodate 400 students without housing the low incident or severely profoundly handicapped students. On the other hand a building may have four classrooms dedicated to serving this population. In this case the capacity may be reduced to 300 students.

We would suggest for buildings that house low incident or severely profoundly handicapped students that two capacity figures be established: one calculation including this population and one not including this population. [The reason being that if the building is not to be used for this purpose, it has the potential for housing more students.]

## **Art and Music Spaces:**

In nearly every elementary school in North America, art and music instruction is an important part of a well-rounded elementary curriculum. Therefore spaces for each of these programs should be included in an elementary school. In schools with fewer students, these programs may need to be combined into one space.

## **Computer Labs:**

Even though the future solution is to have computers integrated into all instructional spaces, the current practice is to have designated computer labs in elementary schools.

## **Science Classrooms:**

State proficiency testing has placed an increased emphasis on science curriculum at the elementary level. Currently science instruction is limited to what can be done in the regular classroom. Districts will need to decide whether to provide separate classrooms for science or to include it in the regular classroom.

## **Special Programs:**

Most school districts provide special programs for at-risk students such as Title I and other programs for gifted students. If these programs are to be provided, space needs to be allocated for these purposes.

## Determining Elementary School Capacity

The elementary program is usually delivered based on students being assigned a home room or regular classroom and attending specials such as art and music in a specialized classroom. The number of special classrooms should be a reflection of the enrollment of the building.

For example: if a school has only one classroom for each grade it would only require a part-time art room. Whereas if there are three classrooms for each grade, a full time art classroom would be needed. Or, for example, a school with 200 students may only require one special education classroom whereas a school for 400 may require two or more classrooms for special education.

School districts often change the use of an individual classroom from year to year. One year the classroom may be a regular classroom. The next year it may be a special education classroom and the year after that a computer room. Since these changes do occur, the simplest procedure would be to count the total number of classrooms and subtract the number for special purposes and then multiply the remainder by 25 [or by desired class size determined by the district]. This may not be perfect, but by using this method the only information needed would be the total number of classrooms in a building.

The table below illustrates this method of calculation, based on 25 students per class. If a lower number of students per class is desired, it will obviously reduce the capacity of the building.

Elementary School Space Allocation					
Total # of Classrooms	17	26	33	41	49
Special Ed. Classrooms	1	2	3	4	5
Art/Music Classrooms	1	2	2	2	2
Special Programs [At-Risk]	1	2	2	2	2
Computer Lab	1	1	1	1	2
Science Classroom	1	1	1	2	2
Regular Classrooms	12	18	24	30	36
Students Per Classroom	X25	X25	X25	X25	X25
<b>Capacity</b>	<b>300 Students</b>	<b>450 Students</b>	<b>600 Students</b>	<b>750 Students</b>	<b>900 Students</b>



The table below might be used as a quick reference table in conducting a facility study. The actual number of specials and the class size may need to be altered based on local district policies.

<b># of Classrooms in Building</b>	<b># Special Classrooms</b>	<b>Difference</b>	<b>Multiply by 25</b>	<b>Capacity</b>
10	2	8	25	200
11	2	9	25	225
12	3	9	25	225
13	3	10	25	250
14	3	11	25	275
15	4	11	25	275
16	4	12	25	300
17	5	12	25	300
18	5	13	25	325
19	5	14	25	350
20	6	14	25	350
21	6	15	25	375
22	6	16	25	400
23	7	16	25	400
24	7	17	25	425
25	7	18	25	450
26	8	18	25	450
27	8	19	25	475
28	8	20	25	500
29	8	21	25	525
30	8	22	25	550
31	8	23	25	575
32	8	24	25	600
33	9	24	25	600
34	9	25	25	625
35	9	26	25	650
36	9	27	25	675
37	9	28	25	700
38	10	28	25	700
39	10	29	25	725
40	10	30	25	750
41	11	30	25	750
42	11	31	25	775
43	11	32	25	800
44	11	33	25	825
45	12	33	25	825
46	12	34	25	850

## **Determining High School Capacity**

High schools operate on a totally different basis than elementary schools. Students are not in self-contained environments occasionally traveling to another location for a special class. At the high school level, students typically change classes each period.

High schools are undergoing significant change in program delivery. Many schools are adopting block scheduling and/or various teaming approaches. The method for calculating capacity at the high school level needs to be flexible to deliver a traditional departmentalized program or the newer evolving methods of program delivery.

### **Average Class Size**

There is currently a wide range of class sizes in a high school and from school to school. It is not uncommon to find some very small classes in advanced placement courses and upper level foreign languages. At the same time it is not uncommon to find 60 or more students in a band or choir class.

Several states have attempted to determine the capacity of a building by establishing a capacity for each type of room in a building. This may be an appropriate approach but often results in a much larger capacity than what is realistic. For example the band room may be rated as a capacity for 75 students. The fact of the matter is that the full band only meets one period per day and the rest of the day the room is being used for smaller sectional or specialized bands such as a jazz band. To say that the capacity of the band room is 75 assumes that the room is used every period of the day for that number of students. In reality, the band room may be used for 75 students one period per day and less than 20 students each of the remaining periods, or the room may only be used as a band room 3-4 periods per day.

Even though this seems like an over simplification, using an average class size of 25 students across the board has worked quiet well in determining capacity at the high school level.

### **Teaching Stations/Classrooms**

Teaching stations are defined as areas in which students receive instruction in core curriculum courses as well as exploratory/elective curriculum areas. These areas should be adequately sized to meet the needs of the programs included in the space. Program areas include English, math, social studies, foreign language, science, art, music, family and consumer science, business, vocational/technology education, and physical education. In a high school the gym should be counted as one or more teaching stations. Even though it is not a regular classroom, it is a location in which students receive instruction on a hourly/daily bases. Likewise, a food lab, science lab, business computer lab, and vocational/technology lab are all counted as teaching stations.

Auditoriums and library/media centers are not counted as teaching stations since these spaces are not assigned for “regular” instruction.

### **Utilization Factor**

It is very difficult to schedule every teaching station every period of the day. There may be a specialized space such as a vocational/technical lab for which there is insufficient enrollment to conduct classes each period. At times it is advisable for the classroom to be available to the teacher during a teachers prep period. At other times it is just not possible to maintain an average enrollment of 25 students and there needs to be some room to adjust.

It is recommended that the utilization factor of 85% be used at the high school level. This would represent approximate utilization of five out six periods in a six period day or six out of seven periods in a seven period day. This may indicate that some spaces are being used more than 85% of the time whereas others may be used less.

Block scheduling provides another dilemma. There are a variety of block schedules but many are based on a four 90-minute period day. Some of the time it is the same four periods every day. At other times it is four periods on alternating days. Arguments have been made to reduce the utilization to 75% which would represent three out of four periods per day. On the surface 75% may seem logical but it is not efficient use of space. This would mean that 25% of classroom space would be idle at any one time.

Using the 85% factor in a school which utilizes a block schedule would mean that a room would be available on period every other day on the alternating block schedule. Or that approximately half of the rooms would be utilized 100% and the other half would be utilized 75% on the schools which have the same four periods every day.

Experience has shown that if the 85% factor is used for planning purposes, the high school has the ability to increase the utilization to 90% or higher in the event of short-term overcrowding issues. Experience will also show that once a building surpasses 90% utilization, scheduling of spaces and students becomes increasingly difficult.

[Authors’ note: if space is going to be used less than 50% of the time, consideration should be given to reusing the space for another purpose or determining some type of multi-use of the space to increase its utilization.]

### **High School Functional Capacity Formula:**

In the past, capacity was determined by counting the number of teaching stations in a facility and multiplying by an average class size. In facility planning terminology this is called the “design” capacity of the building. However, this

methodology does not take into account programmatic implications. By applying the utilization factor to the design capacity, the functional capacity can be obtained. An example is included below.

# of Teaching Stations	40
Average # of Students	<u>X25</u>
	1000
	85% = 850 Capacity

This would be a very straight forward method of determining capacity, just count the total number of teaching stations, multiply by 25 students and multiply 85%.

### **Determining Middle School Capacity**

The reason this was saved for last is that most middle schools are a hybrid between elementary schools and high schools. Actually middle schools are the evolving school of the future. More and more elementary schools and high schools are adopting the middle school program delivery of team teaching.

In the past middle schools were called junior high schools and were “mini” high schools. They operated on a 6 to 9 period schedule and students rotated between classes. Many schools which are called middle schools still operate in this fashion.

On the other hand the middle school philosophy places students in teams. The size of these team varies from school to school. A team may be two teachers and 50 students or teams may be as large as 6-8 teachers and 150-200 students. Regardless of the size of the team, the program typically consists of a core curriculum [English/language arts, math, science and social studies] and an exploratory curriculum of physical education, art, music, band, computers, technology, and foreign language. Depending on the individual middle school, there maybe other exploratory areas as well.

Students usually attend the core curricular areas every day throughout the school year. There are a wide variety of schedules associated with the exploratory programs. Students may attend an exploratory program every day for 6-18 weeks and then move on to another exploratory program or they may attend exploratory programs on alternating days. There are as many different schedules as there are middle schools and you need to be a middle school student to figure it out.

Since there are two basic methods for delivering education at the middle or junior high school level, there are two different methods for determining capacity.

### Middle School Capacity

Schools that operate as middle schools, a modification of the elementary method for determining capacity applies. Find the total number of “regular” classrooms and multiply by the desired average class size, typically 25.

A school may have 30 classrooms for core curricular programs. This school may also have seven exploratory classrooms [art, band, choral, computer, technology, life skills, and physical education] and three special education classrooms. The capacity of the building would be 30 time 25 students per class which equals 750 students.

If you were to study these figures closely you will note there is a lower utilization of this building.

### Junior High School Capacity

As stated previously, many middle schools operate as junior high schools. As such the high school method for calculating capacity would be more appropriate to determine the number of students the building can accommodate. Using the example of the school above with 30 regular classrooms and seven exploratory programs the capacity would be as follows:

$$37 \text{ teaching stations} \times 25 \text{ students per class} \times 85\% \text{ utilization} = 806$$

Using this example, the capacity using the middle school method would be less than the junior high school method. In other words the utilization of space using the middle school philosophy is less than the junior high school philosophy. This is in fact the case. Many middle schools are aware of this situation and have gone to modified middle school programs in which the teams are arranged in such a fashion that an extra core section is taught in the regular classroom or a core teacher teaches an exploratory program in his/her classroom.

The simplest method for determining middle school capacity would be counting the teaching stations, multiplying by a desired class size and an 85% utilization factor.

### **Summary**

Determining capacity is critical to the formation of a district facility plan. Capacity should be program driven. Even though the resultant capacity may be different than what you have used before, you are likely to find these numbers more accurately reflect the program that is being delivered today.

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*The mission of DeJong & Associates, Inc. is to create quality learning environments through comprehensive and responsible planning strategies that provide school organizations with direction, flexibility, and community ownership into the 21<sup>st</sup> century and beyond.*