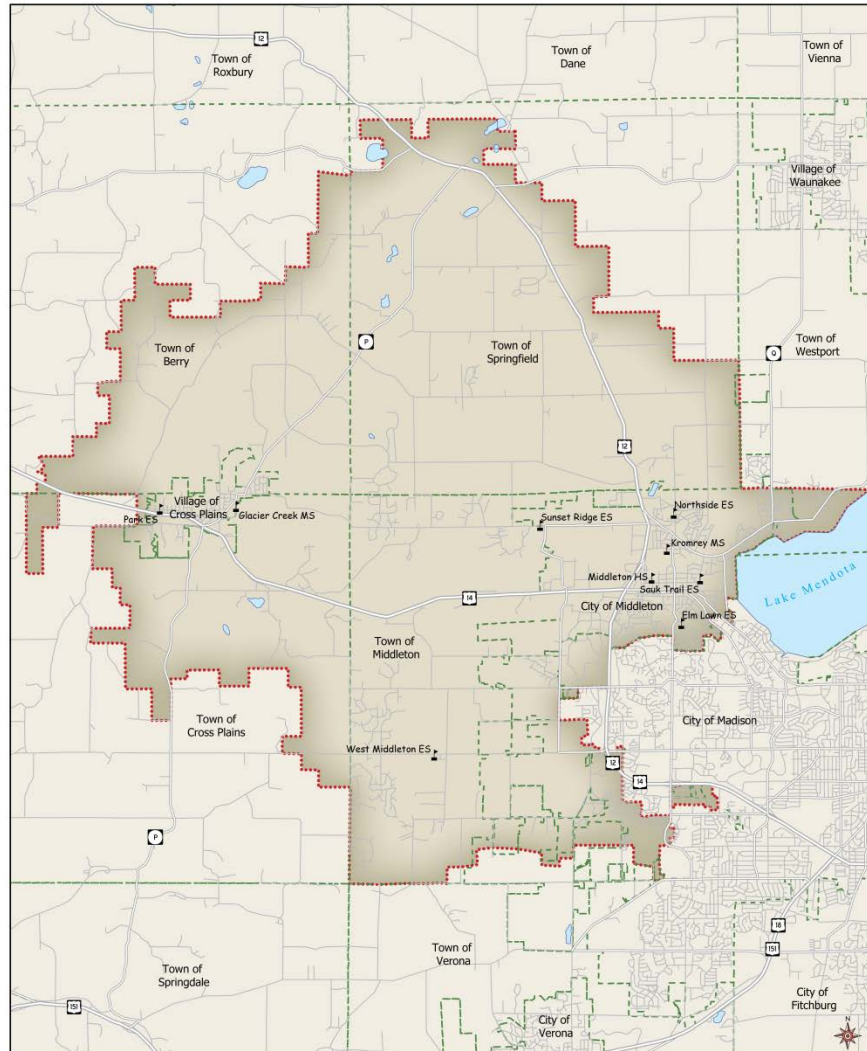


Planning for the Schools of Tomorrow



School Enrollment Projections Series
Middleton-Cross Plains Area School District
December 2016

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Introduction

This report offers a summary of the Enrollment Projection Analysis completed for the Middleton-Cross Plains Area School District by the Applied Population Laboratory, University of Wisconsin-Madison. Resident, in-building enrollment projections are provided for the district as a whole, and individually for each grade and grade grouping. The projection process uses a combination of historical enrollment data, birth trends and projections, housing starts data, and population trends to create reasonable assumptions about future growth scenarios and the likely impact on the school district.

Past Projections Compared to Current Enrollment

The Applied Population Laboratory completes enrollments for the Middleton-Cross Plains Area School District on an annual basis, allowing for a comparison of past projections to recent enrollment.

Table A compares the current year's enrollment (resident, in-building students) to the projections that were completed in late 2015. In total, the Two Year Trend was closest to the September 2016 enrollment: about 1.4% low. All four models were low but within roughly 2% of the actual enrollment. The primary source of difference across the models was the unusually large 2016/17 Kindergarten class (more than 40 additional students compared to any of the prior nine years): the under-projection accounted for roughly one-half of the error in three models, and could be viewed as the entire error in the Two Year Trend. All models performed reasonably well for middle and high school levels.

TABLE A
Comparison of Actual Enrollments (Fall 2016) with Projected Enrollment for Fall 2016 (completed in Fall 2015)
Middleton-Cross Plains Area School District (Resident, In-Building Students)

| Grade | 16-17 Enrollment | Baseline Model | | 5 Year Trend Model | | 2 Year "Trend" Model | | Kindergarten Trend Model | |
|--------------|------------------|----------------|-------------|--------------------|-------------|----------------------|------------|--------------------------|-------------|
| | | 2015 proj. | Difference | 2015 proj. | Difference | 2015 proj. | Difference | 2015 proj. | Difference |
| K | 499 | 447 | -52 | 425 | -74 | 397 | -102 | 436 | -63 |
| 1 | 465 | 451 | -14 | 453 | -12 | 458 | -7 | 453 | -12 |
| 2 | 447 | 440 | -7 | 436 | -11 | 433 | -14 | 436 | -11 |
| 3 | 516 | 490 | -26 | 484 | -32 | 492 | -24 | 484 | -32 |
| 4 | 501 | 496 | -5 | 500 | -1 | 506 | 5 | 500 | -1 |
| 5 | 526 | 506 | -20 | 503 | -23 | 522 | -4 | 503 | -23 |
| 6 | 549 | 553 | 4 | 550 | 1 | 553 | 4 | 550 | 1 |
| 7 | 501 | 519 | 18 | 520 | 19 | 530 | 29 | 520 | 19 |
| 8 | 526 | 507 | -19 | 512 | -14 | 532 | 6 | 512 | -14 |
| 9 | 510 | 514 | 4 | 513 | 3 | 517 | 7 | 513 | 3 |
| 10 | 534 | 516 | -18 | 527 | -7 | 530 | -4 | 527 | -7 |
| 11 | 487 | 492 | 5 | 491 | 4 | 498 | 11 | 491 | 4 |
| 12 | 516 | 522 | 6 | 530 | 14 | 513 | -3 | 530 | 14 |
| TOTAL | 6,577 | 6,454 | -123 | 6,444 | -133 | 6,482 | -95 | 6,455 | -122 |
| K-4 | 2,428 | 2,323 | -105 | 2,298 | -130 | 2,286 | -142 | 2,308 | -120 |
| 5-8 | 2,102 | 2,086 | -16 | 2,085 | -17 | 2,138 | 36 | 2,085 | -17 |
| 9-12 | 2,047 | 2,045 | -2 | 2,061 | 14 | 2,058 | 11 | 2,061 | 14 |



Table B compares this year's actual enrollment with the last three years of projections, with the most accurate model (closest to 0%, whether positive or negative) for each projection year highlighted. Comparing models from the last three years can provide insight on which has performed best over time. No single model has been consistently the most precise, whether for K-12 or selected grade groupings. What is perhaps most noticeable is that the models, for the most part, have been under-predicting enrollment compared to the September 2016 counts. (Only the projections completed in 2015/16 tended to over-project the high school enrollment for this year, and the overage is small.)

TABLE B

**Comparison of Actual Enrollment to Projections of Previous Three Years
Middleton-Cross Plains Area School District (Resident, In-Building Students)**

| Comparison of 2015/16 Enrollment with Projections | | | | Percent Difference between Actual and Projected | | | |
|--|------------------------|---------|---------|--|------------------------|---------|---------|
| | K-12 Enrollment | | | | K-12 Enrollment | | |
| Projection Year | 2015/16 | 2014/15 | 2013/14 | Projection Year | 2015/16 | 2014/15 | 2013/14 |
| Actual (2016/17) | 6,577 | 6,577 | 6,577 | | | | |
| Baseline | 6,454 | 6,308 | 6,208 | Baseline | -1.87% | -4.09% | -5.61% |
| 5 Year Trend | 6,444 | 6,335 | 6,210 | 5 Year Trend | -2.03% | -3.68% | -5.58% |
| 2 Year "Trend" | 6,482 | 6,295 | 6,297 | 2 Year "Trend" | -1.44% | -4.30% | -4.25% |
| Kindergarten Trend | 6,455 | 6,346 | 6,283 | Kindergarten Trend | -1.86% | -3.51% | -4.46% |

| | K-4 Enrollment | | | | K-4 Enrollment | | |
|--------------------|-----------------------|---------|---------|--------------------|-----------------------|---------|---------|
| Projection Year | 2015/16 | 2014/15 | 2013/14 | Projection Year | 2015/16 | 2014/15 | 2013/14 |
| Actual (2016/17) | 2,428 | 2,428 | 2,428 | | | | |
| Baseline | 2,323 | 2,299 | 2,279 | Baseline | -4.31% | -5.31% | -6.14% |
| 5 Year Trend | 2,298 | 2,273 | 2,313 | 5 Year Trend | -5.37% | -6.37% | -4.76% |
| 2 Year "Trend" | 2,286 | 2,231 | 2,388 | 2 Year "Trend" | -5.85% | -8.11% | -1.65% |
| Kindergarten Trend | 2,308 | 2,285 | 2,386 | Kindergarten Trend | -4.93% | -5.89% | -1.73% |

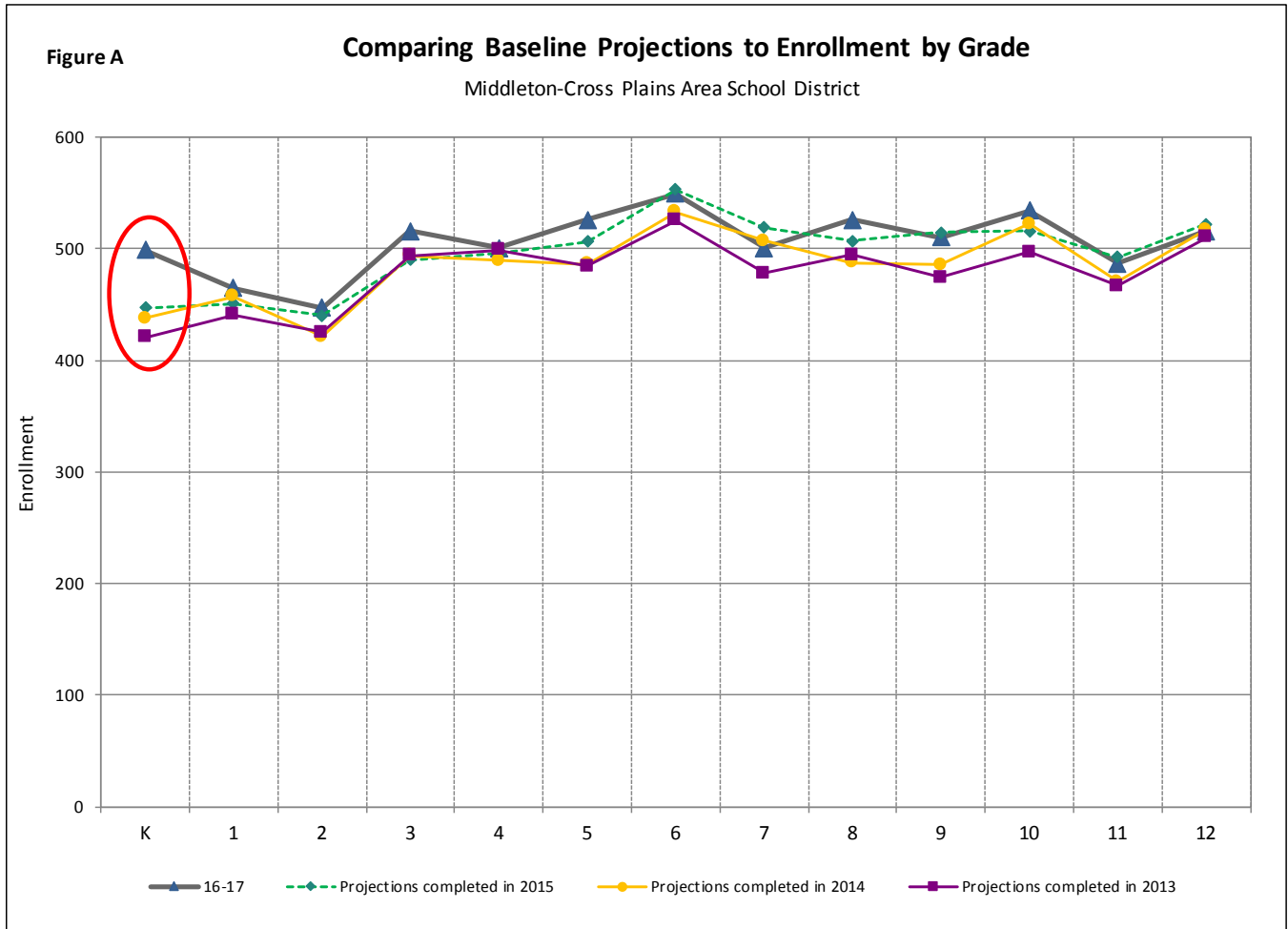
| | 5-8 Enrollment | | | | 5-8 Enrollment | | |
|--------------------|-----------------------|---------|---------|--------------------|-----------------------|---------|---------|
| Projection Year | 2015/16 | 2014/15 | 2013/14 | Projection Year | 2015/16 | 2014/15 | 2013/14 |
| Actual (2016/17) | 2,102 | 2,102 | 2,102 | | | | |
| Baseline | 2,086 | 2,014 | 1,981 | Baseline | -0.78% | -4.19% | -5.74% |
| 5 Year Trend | 2,085 | 2,035 | 1,945 | 5 Year Trend | -0.82% | -3.17% | -7.48% |
| 2 Year "Trend" | 2,138 | 2,040 | 1,953 | 2 Year "Trend" | 1.70% | -2.97% | -7.09% |
| Kindergarten Trend | 2,085 | 2,035 | 1,945 | Kindergarten Trend | -0.82% | -3.17% | -7.48% |

| | 9-12 Enrollment | | | | 9-12 Enrollment | | |
|--------------------|------------------------|---------|---------|--------------------|------------------------|---------|---------|
| Projection Year | 2015/16 | 2014/15 | 2013/14 | Projection Year | 2015/16 | 2014/15 | 2013/14 |
| Actual (2016/17) | 2,047 | 2,047 | 2,047 | | | | |
| Baseline | 2,045 | 1,995 | 1,948 | Baseline | -0.10% | -2.53% | -4.84% |
| 5 Year Trend | 2,061 | 2,026 | 1,953 | 5 Year Trend | 0.70% | -1.02% | -4.60% |
| 2 Year "Trend" | 2,058 | 2,024 | 1,957 | 2 Year "Trend" | 0.55% | -1.13% | -4.42% |
| Kindergarten Trend | 2,061 | 2,026 | 1,953 | Kindergarten Trend | 0.70% | -1.02% | -4.60% |



The issue with projecting Kindergarten students, noted in Table A earlier, has been a conundrum for several years. Figure A below displays the grade-by-grade pattern of APL’s projections from 2013, 2104 and 2015 with the September 2016 resident in-building counts. (The baseline-method projections are shown for illustration, but the graphs for other projection methods are similar.) The largest gap—inside the oval—is between kindergarten projections and the 2016/17 count.

In this year’s projections, a different method will be used in three of the four models, projecting first to the 4K level and then progressing to Kindergarten in the following year (more description is provided in the “Progression Ratios” section later in this report).



District Enrollment History

Figure 1-A and Table 1 display the last ten years of resident, in-building enrollment history in the Middleton-Cross Plains Area School District. The initiation of a 4K program in 2011/12 boosted the District's total enrollment. K-12 enrollment change has averaged +103 annually since 2007/08; the 2016/17 September K-12 enrollment is the highest of the past 10 years, exceeding 6,500 students.

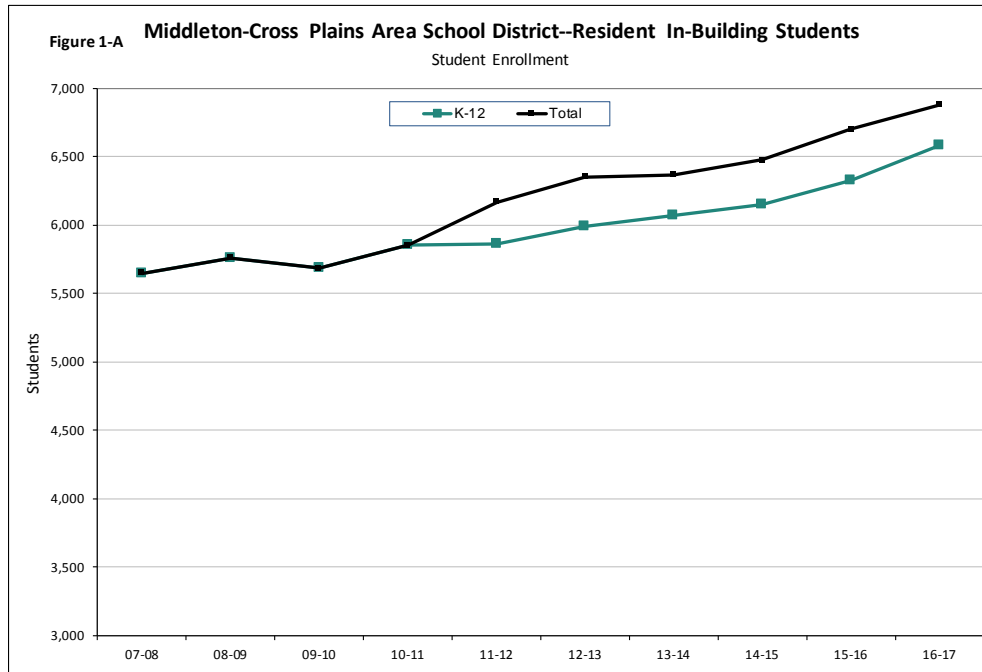


TABLE 1
Student Enrollment
Middleton-Cross Plains Area School District--Resident In-Building Students

| | SCHOOL YEAR | | | | | | | | | |
|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | 07-08 | 08-09 | 09-10 | 10-11 | 11-12 | 12-13 | 13-14 | 14-15 | 15-16 | 16-17 |
| 4K | | | | | 306 | 357 | 297 | 329 | 373 | 303 |
| K | 386 | 434 | 419 | 444 | 418 | 456 | 454 | 396 | 436 | 499 |
| 1 | 394 | 400 | 422 | 441 | 461 | 434 | 462 | 467 | 425 | 465 |
| 2 | 389 | 414 | 400 | 441 | 440 | 481 | 455 | 470 | 477 | 447 |
| 3 | 438 | 403 | 402 | 415 | 435 | 446 | 486 | 467 | 487 | 516 |
| 4 | 407 | 441 | 392 | 430 | 411 | 467 | 441 | 502 | 488 | 501 |
| 5 | 464 | 429 | 438 | 424 | 440 | 405 | 468 | 477 | 531 | 526 |
| 6 | 416 | 471 | 426 | 467 | 423 | 464 | 421 | 481 | 504 | 549 |
| 7 | 426 | 429 | 469 | 438 | 476 | 437 | 466 | 441 | 508 | 501 |
| 8 | 397 | 437 | 429 | 460 | 427 | 466 | 434 | 484 | 466 | 526 |
| 9 | 511 | 450 | 477 | 504 | 500 | 470 | 511 | 487 | 531 | 510 |
| 10 | 480 | 489 | 427 | 458 | 494 | 507 | 458 | 504 | 492 | 534 |
| 11 | 467 | 483 | 483 | 431 | 457 | 487 | 498 | 467 | 507 | 487 |
| 12 | 471 | 480 | 498 | 497 | 478 | 472 | 517 | 503 | 473 | 516 |
| TOTAL | 5,646 | 5,760 | 5,682 | 5,850 | 6,166 | 6,349 | 6,368 | 6,475 | 6,698 | 6,880 |
| K-12 | 5,646 | 5,760 | 5,682 | 5,850 | 5,860 | 5,992 | 6,071 | 6,146 | 6,325 | 6,577 |
| K-4 | 2,014 | 2,092 | 2,035 | 2,171 | 2,165 | 2,284 | 2,298 | 2,302 | 2,313 | 2,428 |
| 5-8 | 1,703 | 1,766 | 1,762 | 1,789 | 1,766 | 1,772 | 1,789 | 1,883 | 2,009 | 2,102 |
| 9-12 | 1,929 | 1,902 | 1,885 | 1,890 | 1,929 | 1,936 | 1,984 | 1,961 | 2,003 | 2,047 |



Table 2 displays the numeric and percentage changes in specific grade enrollments and grade groupings since 2007/08. The district has displayed strong gains in students, particularly in grades K-8, over the past 10 years, with more modest increases at the high school. Growth in the school district has actually been higher in recent years than earlier in the past decade. All classes in 2016/17 are larger than in 2007/08 except for the 9th grade being one resident pupil smaller.

TABLE 2
Student Enrollment Changes
Middleton-Cross Plains Area School District--Resident In-Building Students

| GRADE | ABSOLUTE CHANGE | | | PERCENT CHANGE | | | AVERAGE ANNUAL PERCENT CHANGE | | |
|-------|-----------------|------------|------------|----------------|------------|------------|-------------------------------|------------|------------|
| | '07 to '16 | '07 to '11 | '12 to '16 | '07 to '16 | '07 to '11 | '12 to '16 | '07 to '16 | '07 to '11 | '12 to '16 |
| K | 113 | 32 | 43 | 29.3 | 8.3 | 9.4 | 3.3 | 2.1 | 2.4 |
| 1 | 71 | 67 | 31 | 18.0 | 17.0 | 7.1 | 2.0 | 4.3 | 1.8 |
| 2 | 58 | 51 | -34 | 14.9 | 13.1 | -7.1 | 1.7 | 3.3 | -1.8 |
| 3 | 78 | -3 | 70 | 17.8 | -0.7 | 15.7 | 2.0 | -0.2 | 3.9 |
| 4 | 94 | 4 | 34 | 23.1 | 1.0 | 7.3 | 2.6 | 0.2 | 1.8 |
| 5 | 62 | -24 | 121 | 13.4 | -5.2 | 29.9 | 1.5 | -1.3 | 7.5 |
| 6 | 133 | 7 | 85 | 32.0 | 1.7 | 18.3 | 3.6 | 0.4 | 4.6 |
| 7 | 75 | 50 | 64 | 17.6 | 11.7 | 14.6 | 2.0 | 2.9 | 3.7 |
| 8 | 129 | 30 | 60 | 32.5 | 7.6 | 12.9 | 3.6 | 1.9 | 3.2 |
| 9 | -1 | -11 | 40 | -0.2 | -2.2 | 8.5 | 0.0 | -0.5 | 2.1 |
| 10 | 54 | 14 | 27 | 11.3 | 2.9 | 5.3 | 1.3 | 0.7 | 1.3 |
| 11 | 20 | -10 | 0 | 4.3 | -2.1 | 0.0 | 0.5 | -0.5 | 0.0 |
| 12 | 45 | 7 | 44 | 9.6 | 1.5 | 9.3 | 1.1 | 0.4 | 2.3 |
| K-12 | 931 | 214 | 585 | 16.5 | 3.8 | 9.8 | 1.8 | 0.9 | 2.4 |
| K-4 | 414 | 151 | 144 | 20.6 | 7.5 | 6.3 | 2.3 | 1.9 | 1.6 |
| 5-8 | 399 | 63 | 330 | 23.4 | 3.7 | 18.6 | 2.6 | 0.9 | 4.7 |
| 9-12 | 118 | 0 | 111 | 6.1 | 0.0 | 5.7 | 0.7 | 0.0 | 1.4 |



Figure 1-B shows resident, in-building enrollment history broken down by grade groupings (4K, K-4, 5-8 and 9-12). Elementary (K-4) and middle (5-8) school enrollments have increased substantially over the past 10 years (annual increases of 2.3% and 2.6%, respectively), with 5-8 rising particularly strongly from 2012/13 to 2016/17 (a gain approaching 5 percent annually). High school enrollment has remained fairly steady, in a range from 1,900 to 2,050, but has been highest over the past two years. Finally, 4K has fluctuated over its six-year history between 300 and 375.

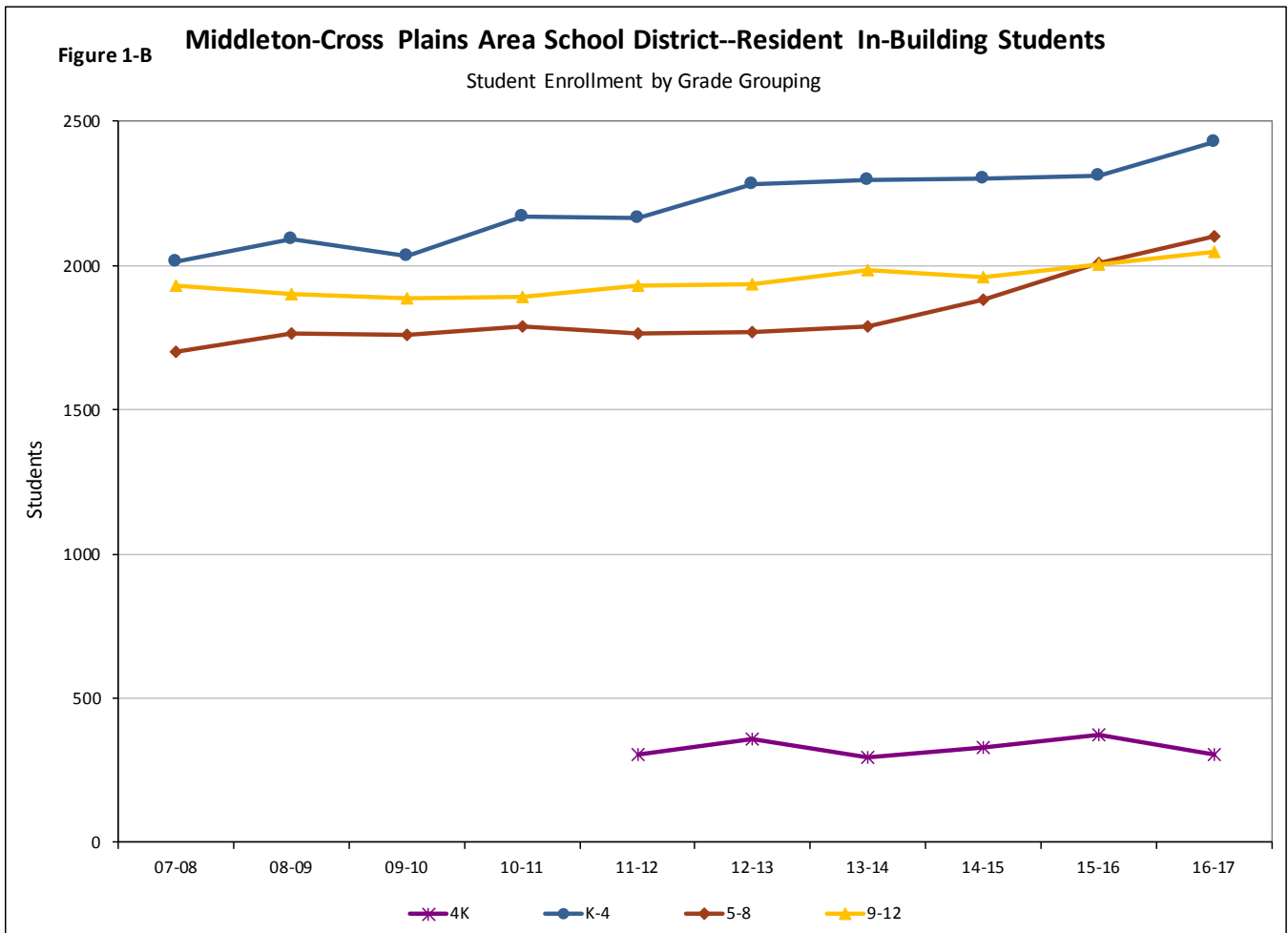
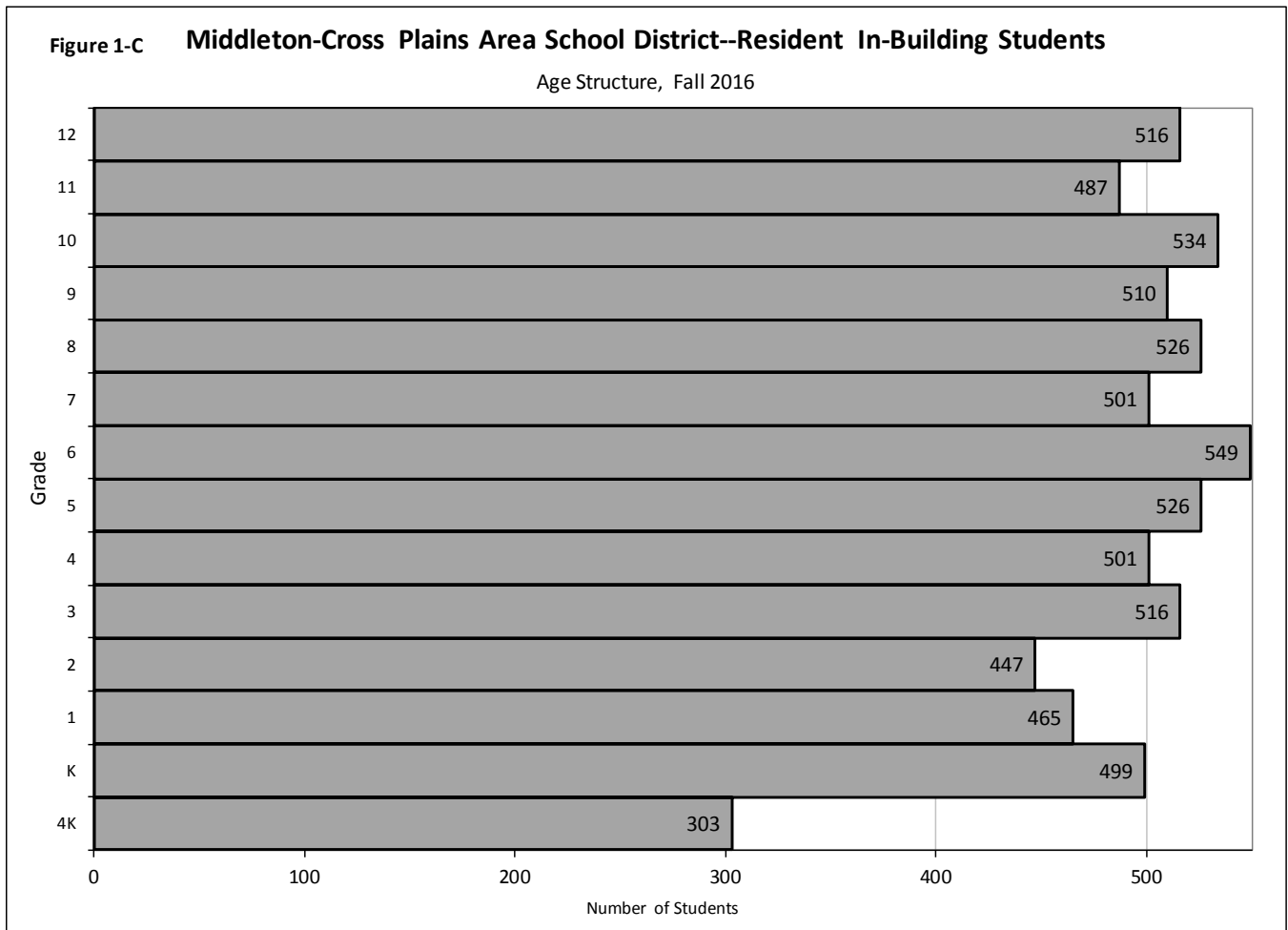


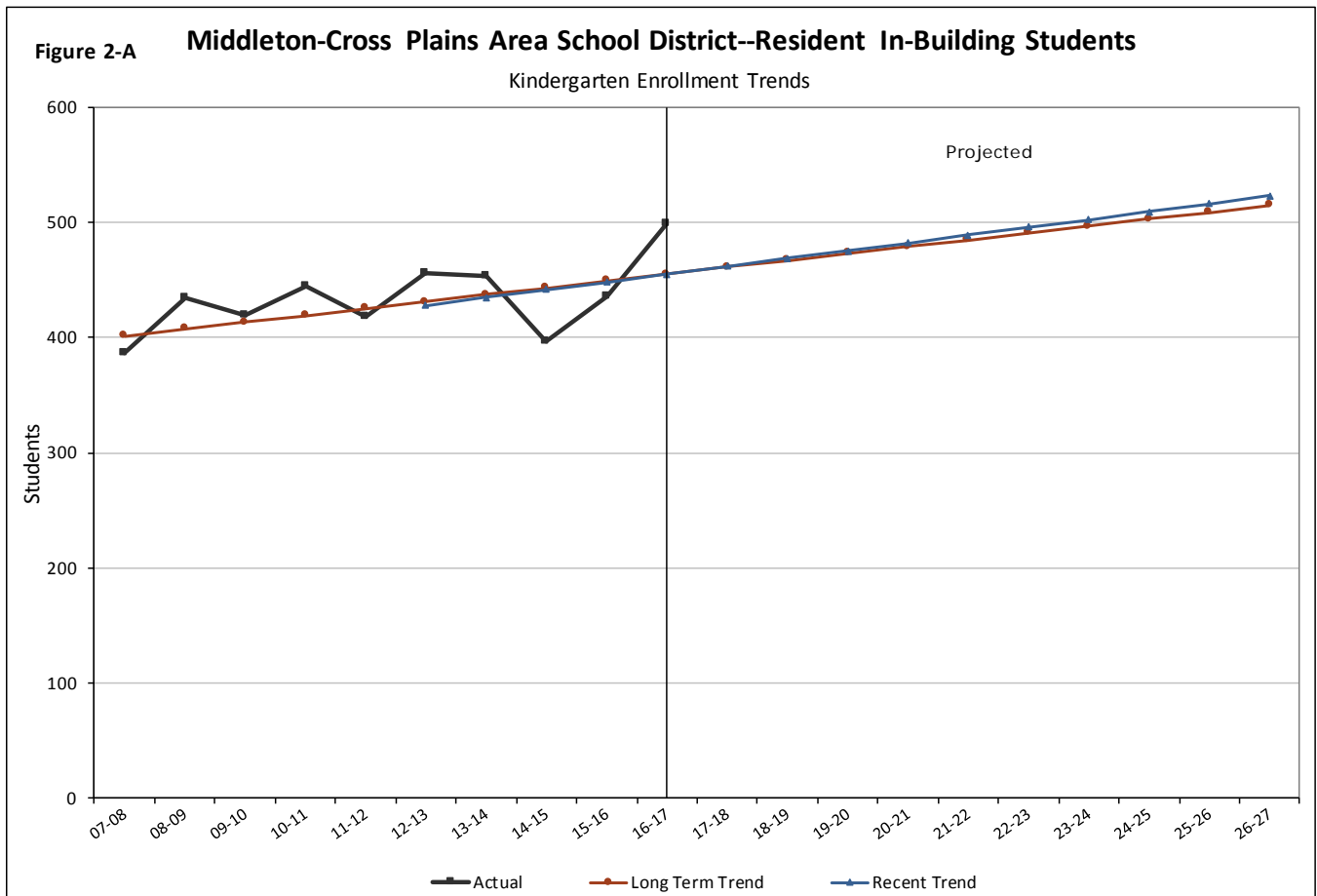
Figure 1-C shows the age structure in Fall 2016 of the student population with the number of 4-year-old kindergarteners at the bottom and the number of 12th graders at the top. The average class size for grades 9-12 is 512, lowered slightly by a smaller 11th grade, and grades 5-8 average 526, raised by a larger 6th grade. K-4 are smaller (average size of 486), but the district has an established history of class sizes increasing as cohorts of children age through the district, as will be discussed later in the section on Grade Progression Ratios.



Kindergarten Enrollment Trends

Examining trends in kindergarten enrollment is particularly informative for gaining perspective on future district enrollment, as today’s kindergarteners will gradually make up tomorrow’s students at the higher grade levels as they age and move through the school system. When kindergarten enrollment is increasing, elementary and middle school enrollment might be expected to increase in the near future, while high school enrollment may increase farther in the future.

Figure 2-A shows kindergarten enrollment history in black, and trend lines depicting kindergarten enrollment in red and blue. The “Long Term Trend” line (shown in dark red) averages kindergarten enrollment changes from 2007/08 through 2016/17. The “Recent Trend” line (shown in blue) emphasizes kindergarten enrollment changes over the last five years. In the Middleton-Cross Plains Area School District, both the long-term and recent kindergarten enrollment trends indicate increasing enrollment in nearly identical patterns.

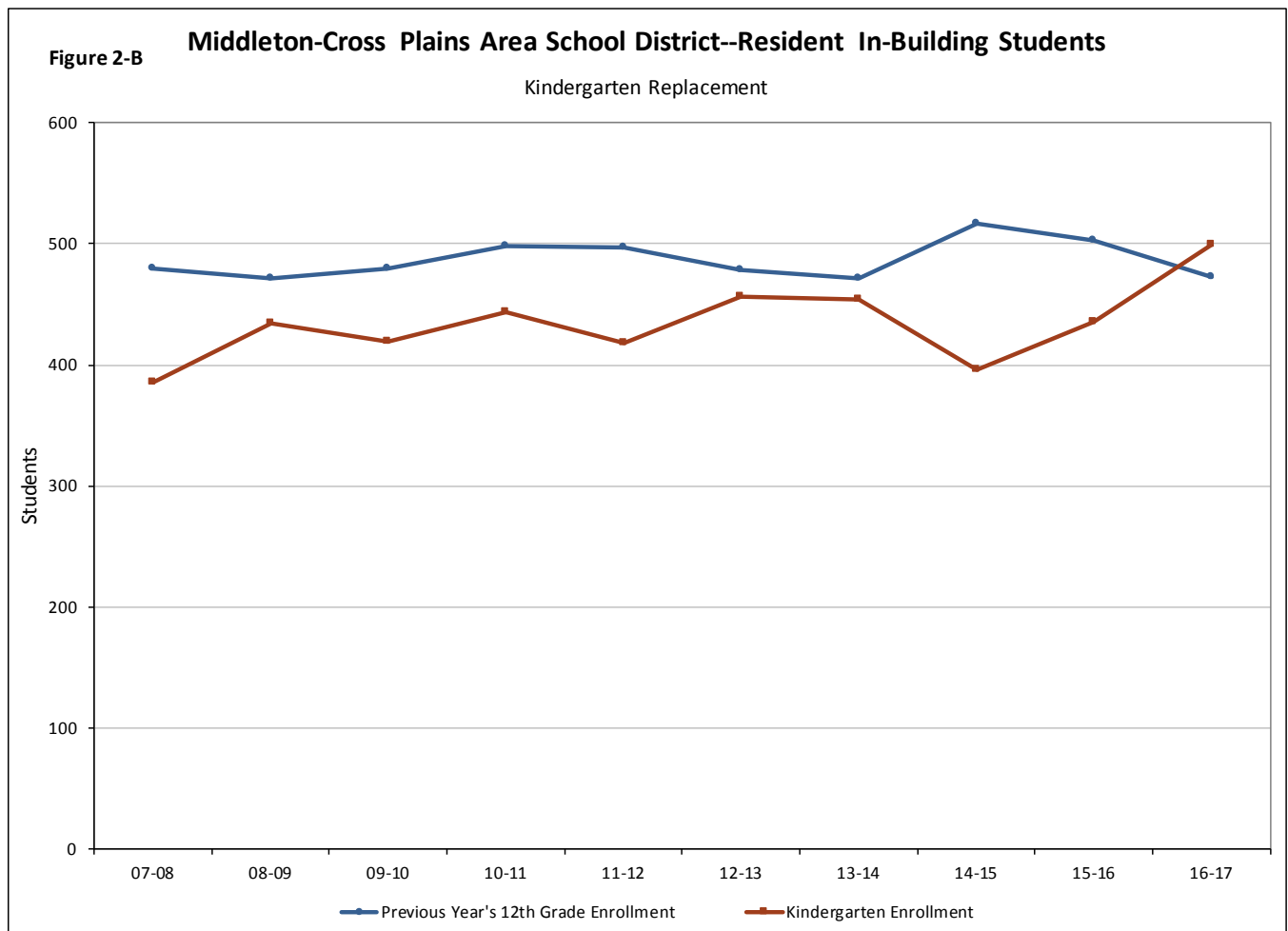


In addition to examining kindergarten enrollment on its own, comparing kindergarten enrollment to outgoing 12th graders offers a snapshot of how the age structure of district enrollment is shifting either from older to younger, or younger to older. Districts tend to experience overall growth when



kindergarten enrollment outpaces outgoing students, and they tend to experience decline when kindergarteners do not fully replace the number of graduates.

As illustrated in Figure 2-B below, the incoming kindergarten class of resident, in-building students has not exceeded the prior year's 12th graders for nine of the past ten years. The unusually large cohort of kindergarteners in 2016/17 is the only year where they exceed the prior year's senior class. Overall, given that the district tends to see class sizes increase as cohorts of children age through their schooling, this discrepancy between "entering" and "leaving" grades is not as important as in some districts where there is little or no in-migration of school-aged children.

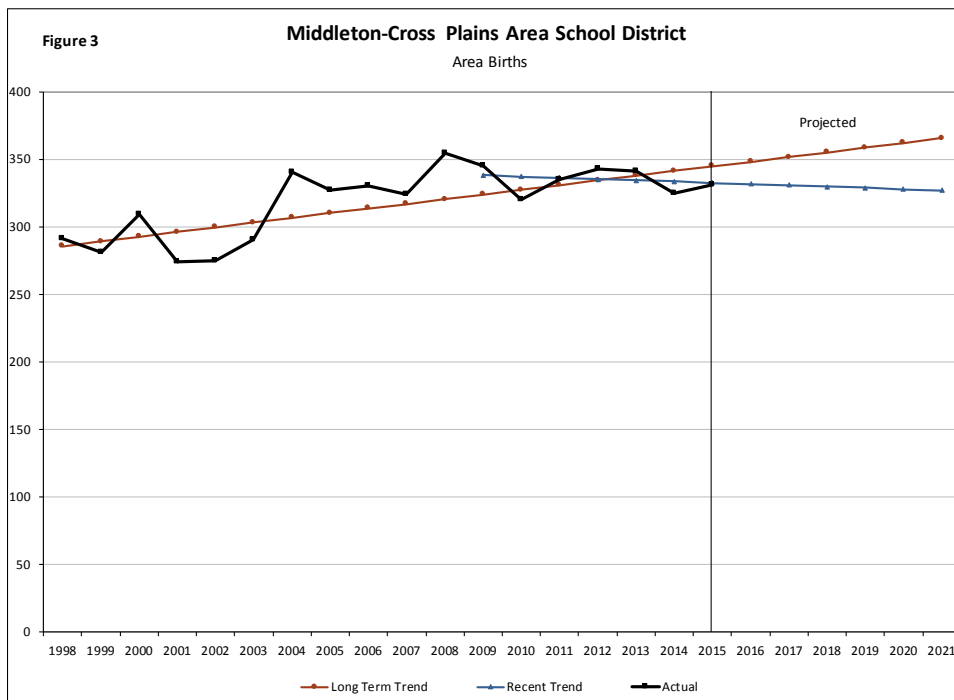


Birth Trends and Projections

We use historical and projected birth data to forecast the number of 4K and kindergarten students who will enroll in the Middleton-Cross Plains Area School District in future years. Birth data, as collected and summarized by the Wisconsin Department of Health Services, is available only at the municipal level. Thus, the birth history presented here includes six municipalities that are either completely or partially within the district’s boundaries: City of Middleton, Village of Cross Plains, and the towns of Berry, Cross Plains, Middleton, and Springfield. Figure 3 shows (in black) the number of births to mothers living in these municipalities, by year, from 1998 through 2015.

We extrapolate long-and short-range birth trends into the future to correspond with our Baseline and Recent Trend projection models, using the B:4K progression ratios to transform births (B) into future four-year-old kindergarteners (4K).

- The dark red line in Figure 3 represents the birth trend over the past 18 years, and is utilized in the Baseline method projections later in this report. There has been quite a wide range of variability in births in the area—from as few as 274 to as many as 354—but the long term pattern indicates increasing births in the next six years.
- The blue line denotes birth patterns for the last seven years and corresponds to the two Recent Trend projection models shown later. This short-range trend—which is impacted by a general decline in births during the Great Recession and subsequent years—projects a slight fall in births through 2021.



| Year | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|-------------|------|------|------|------|------|------|------|------|------|
| # of Births | 291 | 281 | 309 | 274 | 275 | 290 | 340 | 327 | 330 |
| Year | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
| # of Births | 324 | 354 | 345 | 320 | 335 | 343 | 341 | 325 | 331 |

Source: WI Department of Health Services



Population Estimates and Age Structure

This section examines population trends of the recent past for the Middleton-Cross Plains Area School District. Changes in the total population of the district area, particularly when examined by age, provide clues into how the school-age population may be changing.

Table 3 provides the Census population counts for 2010 and the Wisconsin Department of Administration's (WIDOA) estimates for 2011 to 2016 for the district's primary municipalities. The population in the district area has increased approximately 9.0% since 2010, well ahead of Dane County (+6.2%) and Wisconsin (+1.5%). Most of the numeric gain (approximately 2,400 of 2,900 in the district's municipalities) has occurred in the City and Town of Middleton.

TABLE 3
Total Population by Municipality: 2010-2016
Middleton-Cross Plains Area School District

| Municipality | POPULATION | | | | | | |
|---------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | Census 2010 | est. 2011 | est. 2012 | est. 2013 | est. 2014 | est. 2015 | est. 2016 |
| C. Middleton | 17,442 | 17,555 | 17,903 | 18,146 | 18,323 | 18,810 | 19,317 |
| T. Middleton | 5,877 | 5,921 | 5,950 | 6,021 | 6,143 | 6,273 | 6,399 |
| V. Cross Plains | 3,538 | 3,543 | 3,547 | 3,560 | 3,596 | 3,696 | 3,842 |
| T. Cross Plains | 1,507 | 1,510 | 1,511 | 1,519 | 1,520 | 1,533 | 1,551 |
| T. Berry | 1,127 | 1,131 | 1,135 | 1,139 | 1,138 | 1,138 | 1,140 |
| T. Springfield | 2,734 | 2,739 | 2,749 | 2,756 | 2,772 | 2,805 | 2,869 |
| District Area | 32,225 | 32,399 | 32,795 | 33,141 | 33,492 | 34,255 | 35,118 |
| County | 488,073 | 489,331 | 491,555 | 497,021 | 502,251 | 508,379 | 518,538 |
| State of Wisconsin | 5,686,986 | 5,694,236 | 5,703,525 | 5,717,110 | 5,732,981 | 5,753,324 | 5,775,120 |

| Municipality | PERCENT CHANGE | | | | | | |
|---------------------------|----------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | 2010 to 2011 | 2011 to 2012 | 2012 to 2013 | 2013 to 2014 | 2014 to 2015 | 2015 to 2016 | 2010 to 2016 |
| C. Middleton | 0.6% | 2.0% | 1.4% | 1.0% | 2.7% | 2.7% | 10.7% |
| T. Middleton | 0.7% | 0.5% | 1.2% | 2.0% | 2.1% | 2.0% | 8.9% |
| V. Cross Plains | 0.1% | 0.1% | 0.4% | 1.0% | 2.8% | 4.0% | 8.6% |
| T. Cross Plains | 0.2% | 0.1% | 0.5% | 0.1% | 0.9% | 1.2% | 2.9% |
| T. Berry | 0.4% | 0.4% | 0.4% | -0.1% | 0.0% | 0.2% | 1.2% |
| T. Springfield | 0.2% | 0.4% | 0.3% | 0.6% | 1.2% | 2.3% | 4.9% |
| District Area | 0.5% | 1.2% | 1.1% | 1.1% | 2.3% | 2.5% | 9.0% |
| County | 0.3% | 0.5% | 1.1% | 1.1% | 1.2% | 2.0% | 6.2% |
| State of Wisconsin | 0.1% | 0.2% | 0.2% | 0.3% | 0.4% | 0.4% | 1.5% |

Source: U. S. Census Bureau & Demographic Services Center, WIDOA



Figure 4 and Table 4 illustrate the population for the Middleton-Cross Plains Area School District at Census 2000 and Census 2010, showing the change in age structure. In the school district:

- The total population grew by more than 8,000 residents or 28%, far better than the state’s increase of 6.0% across the decade. Every five-year age category increased in numbers.
- The number of young people ages 0-19 increased by 1,660 or 21%, although this age group’s share of the total population slipped slightly from 27.1% to 25.7%.
- Young adults (ages 20-34) in the area increased by 1,170 residents or 20%.
- Adults age 35-44 increased by 200 or 4%, but this modest change was largely due to the large cohort of Baby Boomers (born 1946-1964, approximately ages 35-54 at 2000) aging out of this group. In contrast, the 45-64 age group increased 3,470 or 46% because the Boomers were 45-64 at 2010.
- Older adults age 65 and over increased 1,590 or 58%, with sizeable gains in all five-year age groups.

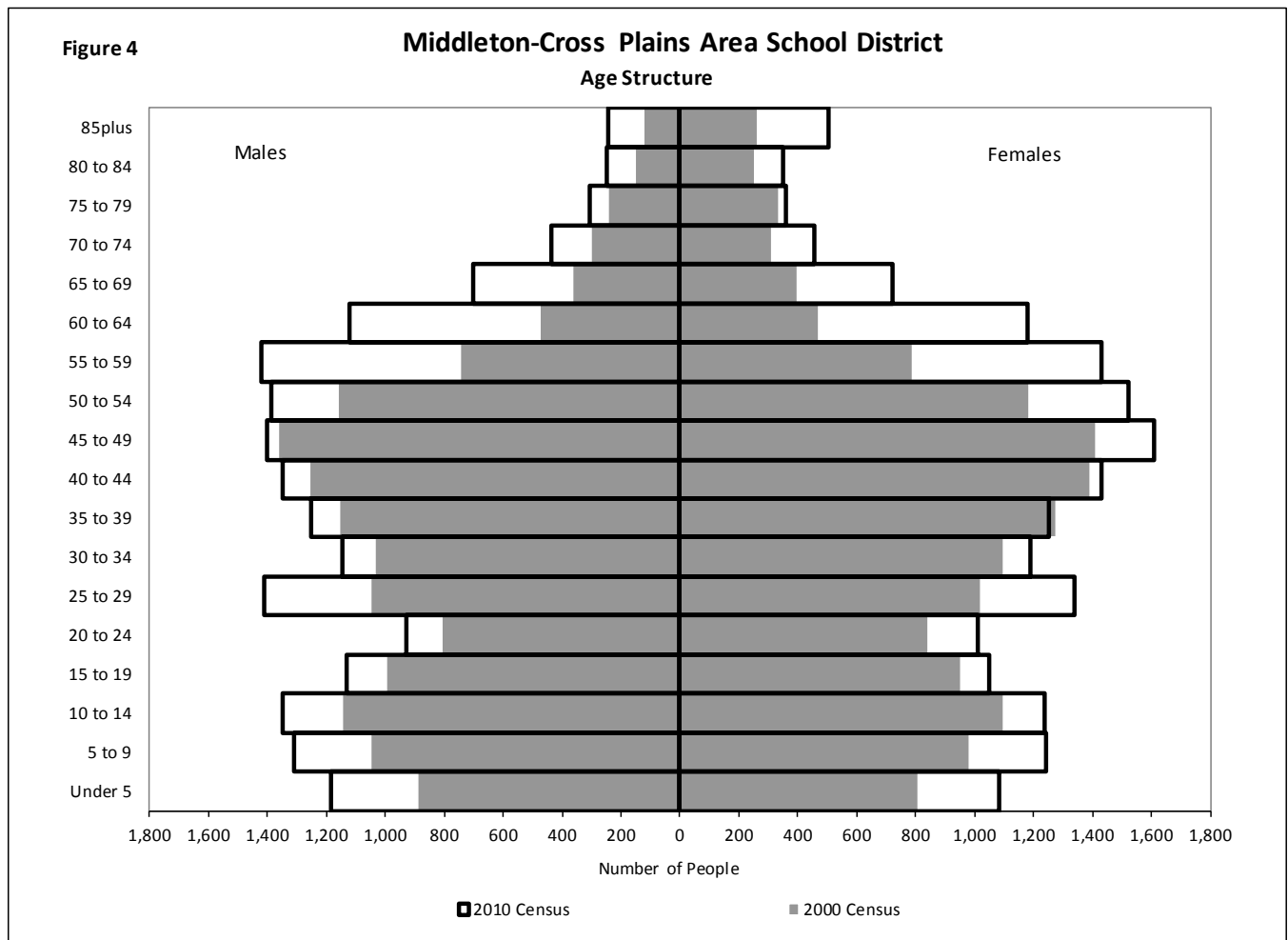


TABLE 4
Population by Age and Sex, 2000 & 2010
Middleton-Cross Plains Area School District

| Age | 2000 Census | | | Age | 2010 Census | | |
|----------|-------------|---------|--------|----------|-------------|---------|--------|
| | Males | Females | Total | | Males | Females | Total |
| Under 5 | 888 | 809 | 1,697 | Under 5 | 1,184 | 1,082 | 2,266 |
| 5 to 9 | 1,049 | 981 | 2,030 | 5 to 9 | 1,308 | 1,243 | 2,551 |
| 10 to 14 | 1,146 | 1,100 | 2,246 | 10 to 14 | 1,346 | 1,238 | 2,584 |
| 15 to 19 | 995 | 953 | 1,948 | 15 to 19 | 1,133 | 1,049 | 2,182 |
| 20 to 24 | 810 | 840 | 1,650 | 20 to 24 | 930 | 1,011 | 1,941 |
| 25 to 29 | 1,051 | 1,020 | 2,071 | 25 to 29 | 1,411 | 1,338 | 2,749 |
| 30 to 34 | 1,037 | 1,097 | 2,134 | 30 to 34 | 1,144 | 1,190 | 2,334 |
| 35 to 39 | 1,155 | 1,275 | 2,430 | 35 to 39 | 1,251 | 1,251 | 2,502 |
| 40 to 44 | 1,257 | 1,392 | 2,649 | 40 to 44 | 1,346 | 1,433 | 2,779 |
| 45 to 49 | 1,363 | 1,411 | 2,774 | 45 to 49 | 1,403 | 1,611 | 3,014 |
| 50 to 54 | 1,162 | 1,186 | 2,348 | 50 to 54 | 1,389 | 1,524 | 2,913 |
| 55 to 59 | 745 | 791 | 1,536 | 55 to 59 | 1,420 | 1,429 | 2,849 |
| 60 to 64 | 477 | 471 | 948 | 60 to 64 | 1,123 | 1,178 | 2,301 |
| 65 to 69 | 365 | 398 | 763 | 65 to 69 | 703 | 723 | 1,426 |
| 70 to 74 | 303 | 311 | 614 | 70 to 74 | 437 | 455 | 892 |
| 75 to 79 | 242 | 336 | 578 | 75 to 79 | 304 | 361 | 665 |
| 80 to 84 | 151 | 252 | 403 | 80 to 84 | 250 | 349 | 599 |
| 85plus | 125 | 261 | 386 | 85plus | 245 | 506 | 751 |
| | 14,321 | 14,884 | 29,205 | | 18,327 | 18,971 | 37,298 |

Source: U. S. Census Bureau

Residential Development

Examining trends in recent housing development can help to explain how in-migration into the Middleton-Cross Plains Area School District area might be affecting school enrollment. If the number of housing starts in the district area is expected to be reasonably consistent for the next several years, then we assume that in-migration of school-age children will also remain relatively consistent. If the number of housing starts is expected to increase significantly above and beyond recent levels, in-migration may play an increasing role in school district enrollment. However, it is important to recognize that the number of housing starts in any given year is dependent upon a large number of confounding variables (decisions of local, county, and state policy makers, residential developers, interest rates, demand for housing, etc.), making future growth patterns difficult to predict.

Table 5 shows the number of housing starts in the municipalities of the Middleton-Cross Plains Area School District, including the portion of the city of Madison in the district, over the past ten years. Housing starts reached their highest point in 2015, aided by large multi-family development approvals



in the cities of Middleton and Madison and the Village of Cross Plains. In addition, single-family construction has returned to pre-Great Recession levels.

TABLE 5
School District Area Housing Starts
Middleton-Cross Plains Area School District

| | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|--------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| District Area | | | | | | | | | | |
| TOTAL | 312 | 112 | 257 | 141 | 112 | 288 | 216 | 269 | 415 | 587 |
| Single Family | 160 | 93 | 90 | 79 | 86 | 89 | 137 | 169 | 140 | 159 |
| Two Family | 10 | 4 | 4 | 2 | 2 | 0 | 0 | 4 | 6 | 0 |
| Multi-family | 142 | 15 | 163 | 60 | 24 | 199 | 79 | 96 | 269 | 428 |
| C. Middleton | | | | | | | | | | |
| TOTAL | 52 | 29 | 70 | 97 | 69 | 248 | 102 | 122 | 275 | 259 |
| Single Family | 28 | 27 | 27 | 38 | 43 | 49 | 51 | 64 | 47 | 64 |
| Two Family | 8 | 2 | 4 | 2 | 2 | 0 | 0 | 2 | 4 | 0 |
| Multi-family | 16 | 0 | 39 | 57 | 24 | 199 | 51 | 56 | 224 | 195 |
| C. Madison (part) | | | | | | | | | | |
| TOTAL | 200 | 46 | 138 | 12 | 6 | 8 | 59 | 35 | 29 | 213 |
| Single Family | 74 | 31 | 14 | 12 | 6 | 8 | 31 | 35 | 29 | 33 |
| Two Family | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Multi-family | 126 | 15 | 124 | 0 | 0 | 0 | 28 | 0 | 0 | 180 |
| T. Middleton | | | | | | | | | | |
| TOTAL | 30 | 18 | 27 | 12 | 24 | 17 | 36 | 41 | 46 | 33 |
| Single Family | 30 | 18 | 27 | 12 | 24 | 17 | 36 | 41 | 46 | 33 |
| Two Family | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Multi-family | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| V. Cross Plains | | | | | | | | | | |
| TOTAL | 9 | 6 | 4 | 5 | 3 | 3 | 4 | 49 | 51 | 57 |
| Single Family | 7 | 4 | 4 | 5 | 3 | 3 | 4 | 7 | 4 | 4 |
| Two Family | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 |
| Multi-family | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 40 | 45 | 53 |
| T. Cross Plains | | | | | | | | | | |
| TOTAL | 5 | 5 | 7 | 3 | 2 | 1 | 7 | 5 | 5 | 5 |
| Single Family | 5 | 5 | 7 | 3 | 2 | 1 | 7 | 5 | 5 | 5 |
| Two Family | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Multi-family | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| T. Berry | | | | | | | | | | |
| TOTAL | 4 | 3 | 4 | 3 | 4 | 2 | 2 | 2 | 1 | 5 |
| Single Family | 4 | 3 | 4 | 3 | 4 | 2 | 2 | 2 | 1 | 5 |
| Two Family | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Multi-family | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| T. Springfield | | | | | | | | | | |
| TOTAL | 12 | 5 | 7 | 9 | 4 | 9 | 6 | 15 | 8 | 15 |
| Single Family | 12 | 5 | 7 | 6 | 4 | 9 | 6 | 15 | 8 | 15 |
| Two Family | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Multi-family | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |

Source: Demographic Services Center, WIDOA



Figure 5-A shows the number of residential building permits issued by municipality (with the smaller towns of Berry, Cross Plains and Springfield aggregated). Nearly one-half of the district’s housing development over the last ten years has occurred in Middleton city, more than one-fourth in Madison city, 10% in Middleton town, and 7% in Cross Plains village.

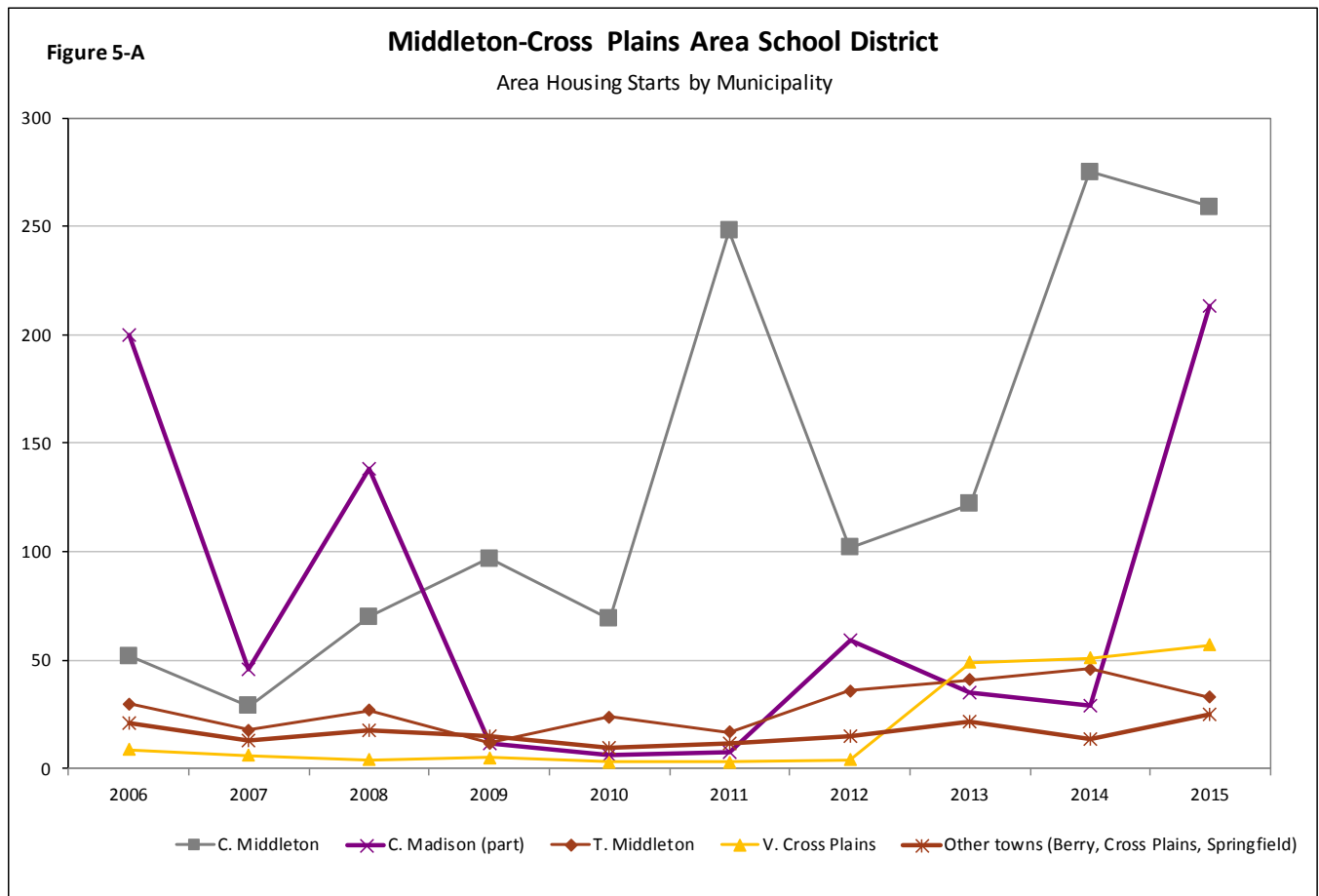


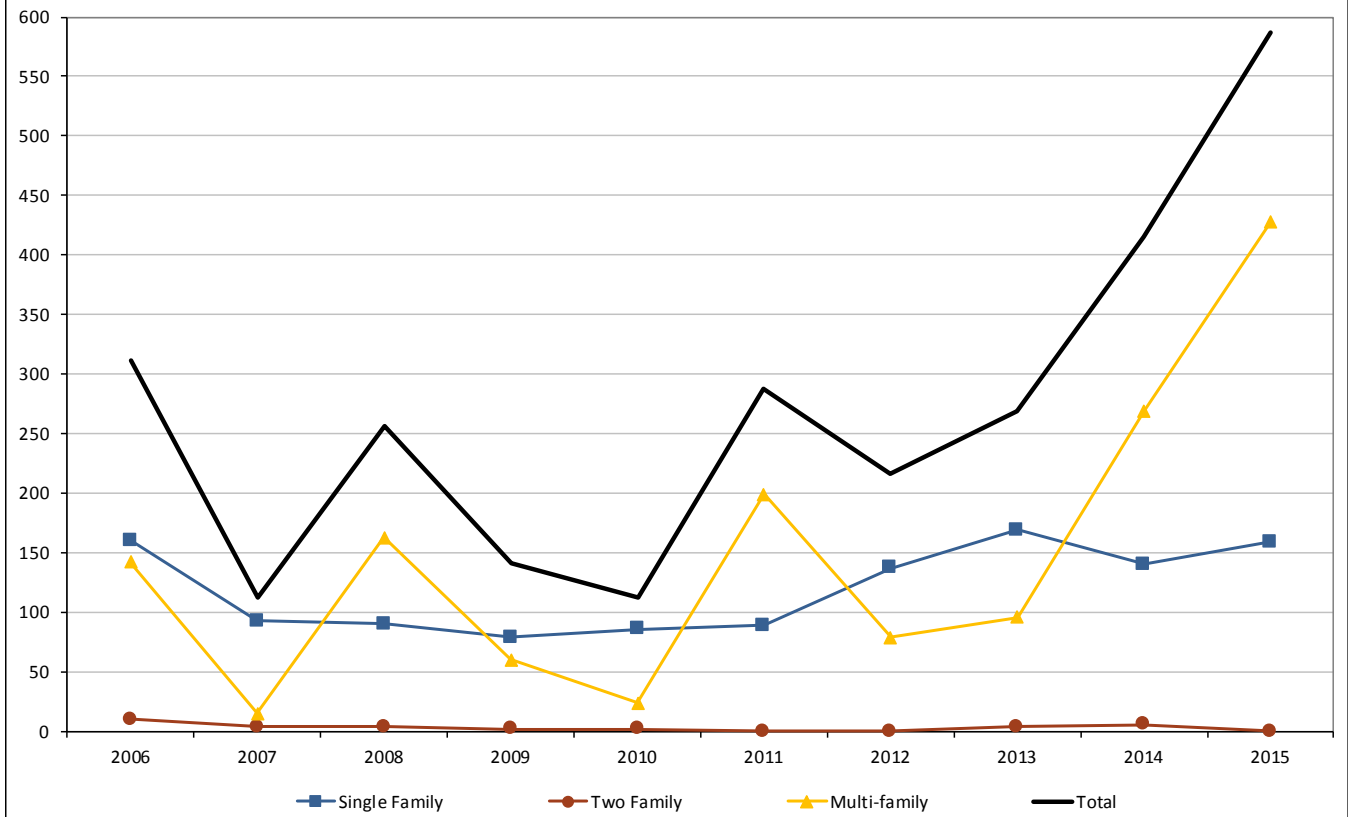
Figure 5-B on the next page shows housing starts in the area by type of housing unit—single-family home, duplex, and multi-family housing unit. Multi-family construction has been the dominant form of construction for the past two years, accounting for 70% of newly-approved units. Over the past decade, 44% of new units constructed have been single-family housing and 54% have been in multi-family structures.



Figure 5-B

Middleton-Cross Plains Area School District

Area Housing Starts by Type



It is also important to consider that turnover in ownership of existing housing stock can contribute to changes in enrollment. A district can maintain or even increase enrollment depending upon the cycle of resident homeowners, regardless of housing starts. For instance, a younger community will have a higher child-per-household ratio, whereas an older community will have a lower child-per-household ratio. As younger families move into the area, the school district will tend to see new students enrolling into the district's schools. Absent new housing development or housing turnover, families age in place and the number of school-aged children eventually declines.



Projection Method

In order to generate school enrollment projections, we rely on a commonly used demographic technique called the “cohort survival method,” also called the “grade progression ratio method” when applied in an educational setting. This method advances current students through the school system over time and applies rates of transfer (or “survival”) as the students who are now in school age from year to year and grade to grade. It is through these rates of transfer that we make assumptions about how migration into and out of the district and transfers to and from different schools or home schooling will impact future enrollment. In order to project incoming 4K students, we gather data on births from the Wisconsin Department of Health Services and assume that, based on recent historical patterns, a certain percentage of the children born to mothers residing in the school district area will enroll in the 4K program four to five years later.

Grade Progression Ratios

In order to predict future enrollment under different growth assumptions, three sets of grade progression ratios are calculated:

- Baseline: averages 10 years of progression ratios, with outlying ratios (those outside of one standard deviation of the mean) excluded;
- Five-year Trend: averages the past five years of progression ratios with no exclusions;
- Two-year “Trend”: averages the past two years of progression ratios with no exclusions.

These long-, medium- and short-range bases produce varying projections that indicate a range of likely enrollment outcomes in the future.

Table 6 shows the grade progression ratios for the Middleton-Cross Plains Area School District.

TABLE 6
Grade Progression Ratios
Middleton-Cross Plains Area School District--Resident In-Building Students

| YEAR CHANGES | K:1 | 1:2 | 2:3 | 3:4 | 4:5 | 5:6 | 6:7 | 7:8 | 8:9 | 9:10 | 10:11 | 11:12 |
|-----------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 07-08/08-09 | 1.036 | 1.051 | 1.036 | 1.007 | 1.054 | 1.015 | 1.031 | 1.026 | 1.134 | 0.957 | 1.006 | 1.028 |
| 08-09/09-10 | 0.972 | 1.000 | 0.971 | 0.973 | 0.993 | 0.993 | 0.996 | 1.000 | 1.092 | 0.949 | 0.988 | 1.031 |
| 09-10/10-11 | 1.053 | 1.045 | 1.038 | 1.070 | 1.082 | 1.066 | 1.028 | 0.981 | 1.175 | 0.960 | 1.009 | 1.029 |
| 10-11/11-12 | 1.038 | 0.998 | 0.986 | 0.990 | 1.023 | 0.998 | 1.019 | 0.975 | 1.087 | 0.980 | 0.998 | 1.109 |
| 11-12/12-13 | 1.038 | 1.043 | 1.014 | 1.074 | 0.985 | 1.055 | 1.033 | 0.979 | 1.101 | 1.014 | 0.986 | 1.033 |
| 12-13/13-14 | 1.013 | 1.048 | 1.010 | 0.989 | 1.002 | 1.040 | 1.004 | 0.993 | 1.097 | 0.974 | 0.982 | 1.062 |
| 13-14/14-15 | 1.029 | 1.017 | 1.026 | 1.033 | 1.082 | 1.028 | 1.048 | 1.039 | 1.122 | 0.986 | 1.020 | 1.010 |
| 14-15/15-16 | 1.073 | 1.021 | 1.036 | 1.045 | 1.058 | 1.057 | 1.056 | 1.057 | 1.097 | 1.010 | 1.006 | 1.013 |
| 15-16/16-17 | 1.067 | 1.052 | 1.082 | 1.029 | 1.078 | 1.034 | 0.994 | 1.035 | 1.094 | 1.006 | 0.990 | 1.018 |
| Baseline | 1.035 | 1.040 | 1.027 | 1.015 | 1.043 | 1.038 | 1.023 | 1.012 | 1.103 | 0.981 | 0.998 | 1.028 |
| 5 Year Trend | 1.044 | 1.036 | 1.034 | 1.034 | 1.041 | 1.042 | 1.027 | 1.021 | 1.102 | 0.998 | 0.997 | 1.027 |
| 2 Year "Trend" | 1.070 | 1.037 | 1.059 | 1.037 | 1.068 | 1.045 | 1.025 | 1.046 | 1.096 | 1.008 | 0.998 | 1.015 |

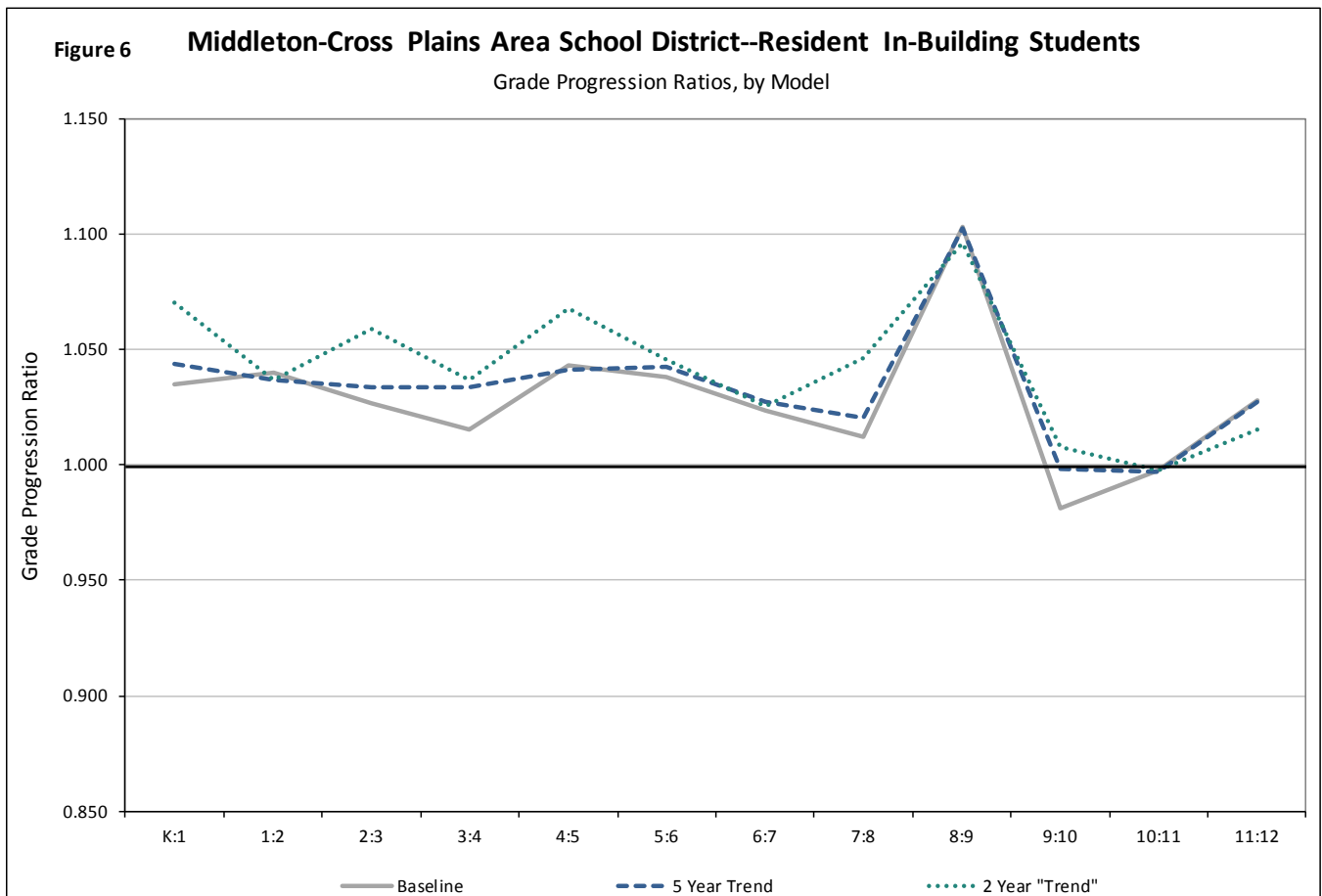
*Shaded progression ratios are excluded from the Baseline Average



As examples, the grade progression ratios can be interpreted in the following manner:

- The Baseline ratio for 1:2 is 1.040. This means that, in the Middleton-Cross Plains Area School District, the second grade is on average 4% larger (4 students per 100) than the first grade class of the previous year, the result of transfers from other schools and net in-migration into the district.
- The 2 Year Trend ratio for 4:5 of 1.068 indicates that, averaging the past two years, the district's fifth grade enrollment has been nearly 7% greater than the fourth grade in the previous year.

Figure 6 illustrates the patterns among these three sets of grade progression ratios. All of the trend lines are mostly above 1.0, indicating that enrollment, on average, tends to increase year to year as each cohort of resident, in-building students age through their schooling. The nearly identical increases in GPRs at the grade 8:9 transition are influenced by gains of students from private schools in the area that operate only through 8th grade.



In order to predict the future enrollment of kindergarten more accurately, this year’s projections employ a pair of progression ratios: Births to 4-year Kindergarten (B:4K) and then 4K to regular Kindergarten (4K:K). The relatively short history of the Middleton-Cross Plains 4K precluded the use of this alternative method in prior projection analyses, but an additional year of data indicates greater consistency from births to 4K and the subsequent 4K:K transition than the traditional B:K ratios that the Applied Population Laboratory has used in the past.

Table 7 shows the observed progression ratios between births and 4K and between 4K and kindergarten for the years in which the Middleton-Cross Plains Area School District has operated its program. The same three grade progression techniques are applied as with kindergarten through 12th grade. Across the three models, the birth-to-4K ratios range from .95 to about 1.03; then the kindergarten classes are roughly 32% to 35% larger than the prior year’s 4K.

TABLE 7
4K Grade Progression Ratios
Middleton-Cross Plains Area School District--
Resident In-Building Students

| | B:4K | 4K:K |
|-----------------------|--------------|--------------|
| 10-11/11-12 | 0.930 | |
| 11-12/12-13 | 1.095 | 1.490 |
| 12-13/13-14 | 0.863 | 1.272 |
| 13-14/14-15 | 0.945 | 1.333 |
| 14-15/15-16 | 1.136 | 1.325 |
| 15-16/16-17 | 0.918 | 1.338 |
| Baseline | 0.950 | 1.317 |
| 5 Year Trend | 0.992 | 1.352 |
| 2 Year "Trend" | 1.027 | 1.332 |

*Shaded progression ratios are excluded from the Baseline Average



School Enrollment Projections

When considering all of the projections provided in this report for decision-making, it is important to recognize that population projections of all types, including school enrollment projections, are more accurate in the immediate future than they are farther into the future. This is especially true for grades 4K-4, because the students who may enroll in 4K starting in 2021/22 have not yet been born. Overall, our projections are more reliable over the next five years (up to the 2021/22 school year) than they are in the latter half of the next decade.

Baseline Projection

The Baseline model (Table 8) projects enrollments using the assumption that relatively long-term progression ratios, year to year and grade to grade, will continue into the future, as well as the longer-range trend in births. This model projects that 4K-12 enrollment in the Middleton-Cross Plains Area School District will increase fairly consistently over the next five years, from 6,880 students in 2016/17 to 7,200 students in 2021/22, a rise of 320 students or 4.7%. The model then predicts a sizeable increase for an additional year before enrollment levels off.

TABLE 8
Baseline Projection Model
Middleton-Cross Plains Area School District--Resident In-Building Students

| | SCHOOL YEAR | | | | | | | | | |
|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | 17-18 | 18-19 | 19-20 | 20-21 | 21-22 | 22-23 | 23-24 | 24-25 | 25-26 | 26-27 |
| 4K | 325 | 314 | 313 | 328 | 336 | 340 | 343 | 346 | 350 | 353 |
| K | 399 | 428 | 414 | 412 | 431 | 443 | 447 | 452 | 456 | 460 |
| 1 | 516 | 413 | 442 | 428 | 426 | 446 | 458 | 463 | 467 | 472 |
| 2 | 483 | 537 | 429 | 460 | 445 | 443 | 464 | 477 | 481 | 486 |
| 3 | 459 | 496 | 551 | 441 | 472 | 457 | 455 | 476 | 489 | 494 |
| 4 | 524 | 466 | 504 | 560 | 447 | 480 | 464 | 462 | 484 | 497 |
| 5 | 523 | 547 | 486 | 526 | 584 | 467 | 500 | 484 | 482 | 505 |
| 6 | 546 | 542 | 567 | 504 | 546 | 606 | 484 | 519 | 502 | 500 |
| 7 | 562 | 559 | 555 | 580 | 516 | 558 | 620 | 496 | 531 | 514 |
| 8 | 507 | 569 | 565 | 562 | 588 | 523 | 565 | 627 | 502 | 538 |
| 9 | 580 | 559 | 627 | 624 | 620 | 648 | 576 | 623 | 692 | 553 |
| 10 | 500 | 569 | 549 | 615 | 612 | 608 | 636 | 566 | 612 | 679 |
| 11 | 533 | 499 | 568 | 548 | 614 | 611 | 607 | 634 | 564 | 610 |
| 12 | 501 | 548 | 513 | 584 | 563 | 631 | 628 | 623 | 652 | 580 |
| TOTAL | 6,958 | 7,046 | 7,083 | 7,172 | 7,200 | 7,261 | 7,247 | 7,248 | 7,264 | 7,241 |
| K-12 | 6,633 | 6,732 | 6,770 | 6,844 | 6,864 | 6,921 | 6,904 | 6,902 | 6,914 | 6,888 |
| K-4 | 2,381 | 2,340 | 2,340 | 2,301 | 2,221 | 2,269 | 2,288 | 2,330 | 2,377 | 2,409 |
| 5-8 | 2,138 | 2,217 | 2,173 | 2,172 | 2,234 | 2,154 | 2,169 | 2,126 | 2,017 | 2,057 |
| 9-12 | 2,114 | 2,175 | 2,257 | 2,371 | 2,409 | 2,498 | 2,447 | 2,446 | 2,520 | 2,422 |



5 Year Trend Projection

The 5 Year Trend model (Table 9) uses the grade progression ratios from the last five years and recent trends in the number of births in the school district area to project what future enrollments would look like if more recent patterns were representative of future trends. With these recent progression rates and birth trends weighted more heavily, 4K-12 enrollment in the Middleton-Cross Plains Area School District is projected to increase strongly over the next five years, from 6,880 students in 2016/17 to 7,463 in 2021/22, a gain of 583 students or 8.5%. The model then predicts another year of solid growth before levelling off through 2026/27.

TABLE 9
5 Year Trend Projection Model
Middleton-Cross Plains Area School District--Resident In-Building Students

| GRADE | SCHOOL YEAR | | | | | | | | | |
|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | 17-18 | 18-19 | 19-20 | 20-21 | 21-22 | 22-23 | 23-24 | 24-25 | 25-26 | 26-27 |
| 4K | 339 | 328 | 326 | 329 | 328 | 327 | 326 | 325 | 324 | 324 |
| K | 410 | 458 | 443 | 441 | 444 | 443 | 442 | 441 | 440 | 439 |
| 1 | 521 | 428 | 478 | 462 | 460 | 464 | 463 | 462 | 460 | 459 |
| 2 | 482 | 540 | 443 | 496 | 479 | 477 | 481 | 480 | 479 | 477 |
| 3 | 462 | 498 | 558 | 458 | 512 | 495 | 493 | 497 | 496 | 495 |
| 4 | 533 | 478 | 515 | 577 | 474 | 529 | 512 | 510 | 513 | 513 |
| 5 | 522 | 555 | 497 | 536 | 601 | 493 | 551 | 533 | 531 | 535 |
| 6 | 548 | 544 | 579 | 518 | 559 | 626 | 514 | 575 | 556 | 553 |
| 7 | 564 | 563 | 558 | 595 | 532 | 574 | 643 | 528 | 590 | 571 |
| 8 | 511 | 575 | 575 | 570 | 607 | 543 | 586 | 656 | 539 | 602 |
| 9 | 580 | 564 | 634 | 633 | 628 | 669 | 599 | 646 | 723 | 594 |
| 10 | 509 | 579 | 563 | 633 | 632 | 627 | 667 | 598 | 644 | 722 |
| 11 | 532 | 507 | 577 | 561 | 631 | 630 | 625 | 665 | 596 | 642 |
| 12 | 500 | 547 | 521 | 592 | 576 | 648 | 647 | 642 | 683 | 612 |
| TOTAL | 7,013 | 7,164 | 7,267 | 7,401 | 7,463 | 7,545 | 7,549 | 7,558 | 7,574 | 7,538 |
| K-12 | 6,674 | 6,836 | 6,941 | 7,072 | 7,135 | 7,218 | 7,223 | 7,233 | 7,250 | 7,214 |
| K-4 | 2,408 | 2,402 | 2,437 | 2,434 | 2,369 | 2,408 | 2,391 | 2,390 | 2,388 | 2,383 |
| 5-8 | 2,145 | 2,237 | 2,209 | 2,219 | 2,299 | 2,236 | 2,294 | 2,292 | 2,216 | 2,261 |
| 9-12 | 2,121 | 2,197 | 2,295 | 2,419 | 2,467 | 2,574 | 2,538 | 2,551 | 2,646 | 2,570 |



2 Year "Trend" Projection

The 2 Year "Trend" model (Table 10) uses the grade progression ratios from the last two years to project what future enrollments would look like if even more recent patterns were representative of future trends. For the 2 Year "Trend" model, 4K-12 enrollment in the Middleton-Cross Plains Area School District is projected to increase robustly over the next five years, from 6,880 students in 2016/17 to 7,800 in 2021/22, an increase of 920 or 13.4%. Enrollment is then predicted to continue growing more moderately through 2026/27.

TABLE 10
2 Year "Trend" Projection Model
Middleton-Cross Plains Area School District--Resident In-Building Students

| GRADE | SCHOOL YEAR | | | | | | | | | |
|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | 17-18 | 18-19 | 19-20 | 20-21 | 21-22 | 22-23 | 23-24 | 24-25 | 25-26 | 26-27 |
| 4K | 351 | 339 | 338 | 340 | 340 | 339 | 338 | 337 | 336 | 335 |
| K | 403 | 467 | 452 | 450 | 453 | 453 | 451 | 450 | 449 | 447 |
| 1 | 534 | 432 | 500 | 483 | 481 | 485 | 484 | 483 | 481 | 480 |
| 2 | 482 | 553 | 447 | 518 | 501 | 499 | 503 | 502 | 500 | 499 |
| 3 | 473 | 510 | 586 | 474 | 549 | 531 | 528 | 532 | 531 | 530 |
| 4 | 535 | 491 | 529 | 608 | 491 | 569 | 550 | 548 | 552 | 551 |
| 5 | 535 | 571 | 524 | 565 | 649 | 525 | 608 | 587 | 585 | 589 |
| 6 | 550 | 559 | 597 | 548 | 591 | 678 | 548 | 635 | 614 | 611 |
| 7 | 563 | 564 | 573 | 612 | 562 | 606 | 695 | 562 | 651 | 629 |
| 8 | 524 | 589 | 590 | 600 | 640 | 587 | 633 | 727 | 588 | 681 |
| 9 | 576 | 574 | 645 | 646 | 657 | 702 | 644 | 694 | 797 | 644 |
| 10 | 514 | 581 | 579 | 650 | 651 | 662 | 707 | 649 | 700 | 803 |
| 11 | 533 | 513 | 580 | 578 | 649 | 650 | 661 | 706 | 647 | 698 |
| 12 | 494 | 541 | 521 | 589 | 586 | 659 | 660 | 671 | 717 | 657 |
| TOTAL | 7,067 | 7,284 | 7,461 | 7,661 | 7,800 | 7,945 | 8,010 | 8,083 | 8,148 | 8,154 |
| K-12 | 6,716 | 6,945 | 7,123 | 7,321 | 7,460 | 7,606 | 7,672 | 7,746 | 7,812 | 7,819 |
| K-4 | 2,427 | 2,453 | 2,514 | 2,533 | 2,475 | 2,537 | 2,516 | 2,515 | 2,513 | 2,507 |
| 5-8 | 2,172 | 2,283 | 2,284 | 2,325 | 2,442 | 2,396 | 2,484 | 2,511 | 2,438 | 2,510 |
| 9-12 | 2,117 | 2,209 | 2,325 | 2,463 | 2,543 | 2,673 | 2,672 | 2,720 | 2,861 | 2,802 |



Kindergarten Trend Projection

For this method we perform a trend analysis to project the number of future kindergarten students. Rather than relying upon the birth-to-4K and 4K-to-K progression ratios used in the previous three models, the kindergarten enrollment of the past 10 years is trended forward. Then, the Five-Year Trend grade progression ratios are used for projecting the other grades (1-12) in the district. Thus, this model assumes that the number of new kindergarteners each year over the next decade will continue to follow a trend similar to the trend in kindergarten enrollment change over the last decade, regardless of the number of observed births in the school district area.

According to this projection method (Table 11), 4K-12 enrollment in the Middleton-Cross Plains Area School District is projected to increase solidly over the next five years, from 6,880 students in 2016/17 to 7,682 in 2021/22, a gain of 802 or 11.7%. Enrollment is then predicted to grow moderately every year through 2026/27.

TABLE 11
Kindergarten Trend Projection Model
Middleton-Cross Plains Area School District--Resident In-Building Students

| GRADE | 17-18 | 18-19 | 19-20 | 20-21 | 21-22 | 22-23 | 23-24 | 24-25 | 25-26 | 26-27 |
|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 4K | 346 | 351 | 355 | 360 | 364 | 369 | 373 | 377 | 382 | 386 |
| K | 461 | 467 | 473 | 479 | 485 | 491 | 497 | 503 | 509 | 515 |
| 1 | 521 | 481 | 488 | 494 | 500 | 506 | 512 | 519 | 525 | 531 |
| 2 | 482 | 540 | 499 | 505 | 512 | 518 | 525 | 531 | 538 | 544 |
| 3 | 462 | 498 | 558 | 516 | 522 | 529 | 536 | 542 | 549 | 556 |
| 4 | 533 | 478 | 515 | 577 | 533 | 540 | 547 | 554 | 561 | 568 |
| 5 | 522 | 555 | 497 | 536 | 601 | 555 | 562 | 569 | 576 | 584 |
| 6 | 548 | 544 | 579 | 518 | 559 | 626 | 578 | 586 | 593 | 601 |
| 7 | 564 | 563 | 558 | 595 | 532 | 574 | 643 | 594 | 602 | 609 |
| 8 | 511 | 575 | 575 | 570 | 607 | 543 | 586 | 656 | 606 | 614 |
| 9 | 580 | 564 | 634 | 633 | 628 | 669 | 599 | 646 | 723 | 668 |
| 10 | 509 | 579 | 563 | 633 | 632 | 627 | 667 | 598 | 644 | 722 |
| 11 | 532 | 507 | 577 | 561 | 631 | 630 | 625 | 665 | 596 | 642 |
| 12 | 500 | 547 | 521 | 592 | 576 | 648 | 647 | 642 | 683 | 612 |
| TOTAL | 7,071 | 7,249 | 7,392 | 7,569 | 7,682 | 7,825 | 7,897 | 7,982 | 8,087 | 8,152 |
| K-12 | 6,725 | 6,898 | 7,037 | 7,209 | 7,318 | 7,456 | 7,524 | 7,605 | 7,705 | 7,766 |
| K-4 | 2,459 | 2,464 | 2,533 | 2,571 | 2,552 | 2,584 | 2,617 | 2,649 | 2,682 | 2,714 |
| 5-8 | 2,145 | 2,237 | 2,209 | 2,219 | 2,299 | 2,298 | 2,369 | 2,405 | 2,377 | 2,408 |
| 9-12 | 2,121 | 2,197 | 2,295 | 2,419 | 2,467 | 2,574 | 2,538 | 2,551 | 2,646 | 2,644 |



Comparison of Projection Models

Figures 7-11 and Tables 12-16 compare the four enrollment projection models broken down by total 4K-12 and K-12 resident, in-building district enrollment and by grade groupings.

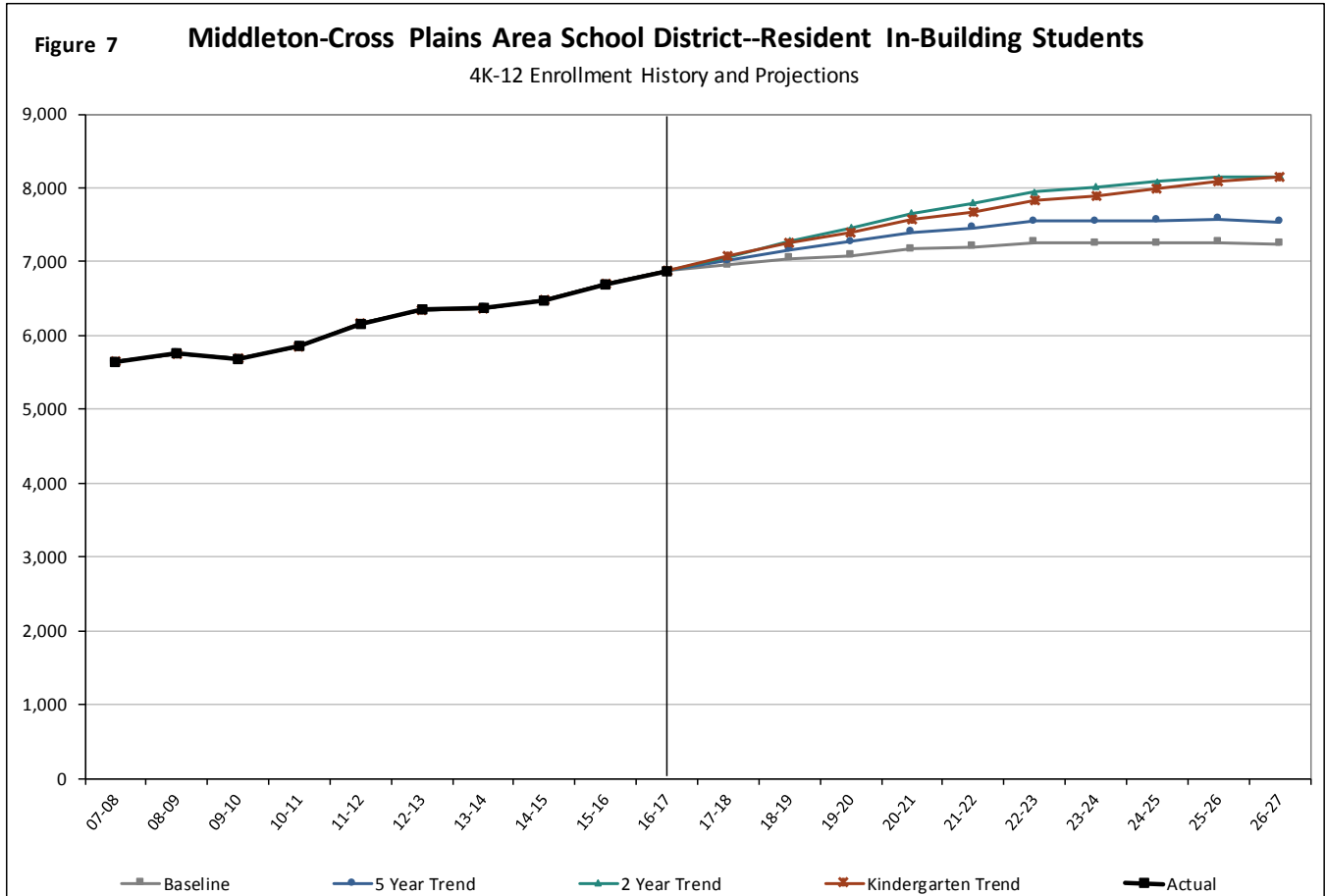


TABLE 12
Summary of 4K-12 Enrollment Projections
Middleton-Cross Plains Area School District--Resident In-Building Students

| | 17-18 | 18-19 | 19-20 | 20-21 | 21-22 | 22-23 | 23-24 | 24-25 | 25-26 | 26-27 |
|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Baseline | 6,958 | 7,046 | 7,083 | 7,172 | 7,200 | 7,261 | 7,247 | 7,248 | 7,264 | 7,241 |
| 5 Year Trend | 7,013 | 7,164 | 7,267 | 7,401 | 7,463 | 7,545 | 7,549 | 7,558 | 7,574 | 7,538 |
| 2 Year "Trend" | 7,067 | 7,284 | 7,461 | 7,661 | 7,800 | 7,945 | 8,010 | 8,083 | 8,148 | 8,154 |
| Kindergarten Trend | 7,071 | 7,249 | 7,392 | 7,569 | 7,682 | 7,825 | 7,897 | 7,982 | 8,087 | 8,152 |

From the 2016/17 enrollment of 6,880, all models project solid 4K-12 increases over the next five years; the projections five years from now (2021/22) predict a range from 7,200 to 7,800 students, with the percentage increases spanning 5 to 13 percent. The models then project continued growth: the Baseline and 5 Year Trend continue to increase moderately while the 2 Year and Kindergarten Trends project more rapid growth.



Figure 8

Middleton-Cross Plains Area School District--Resident In-Building Students

K-12 Enrollment History and Projections

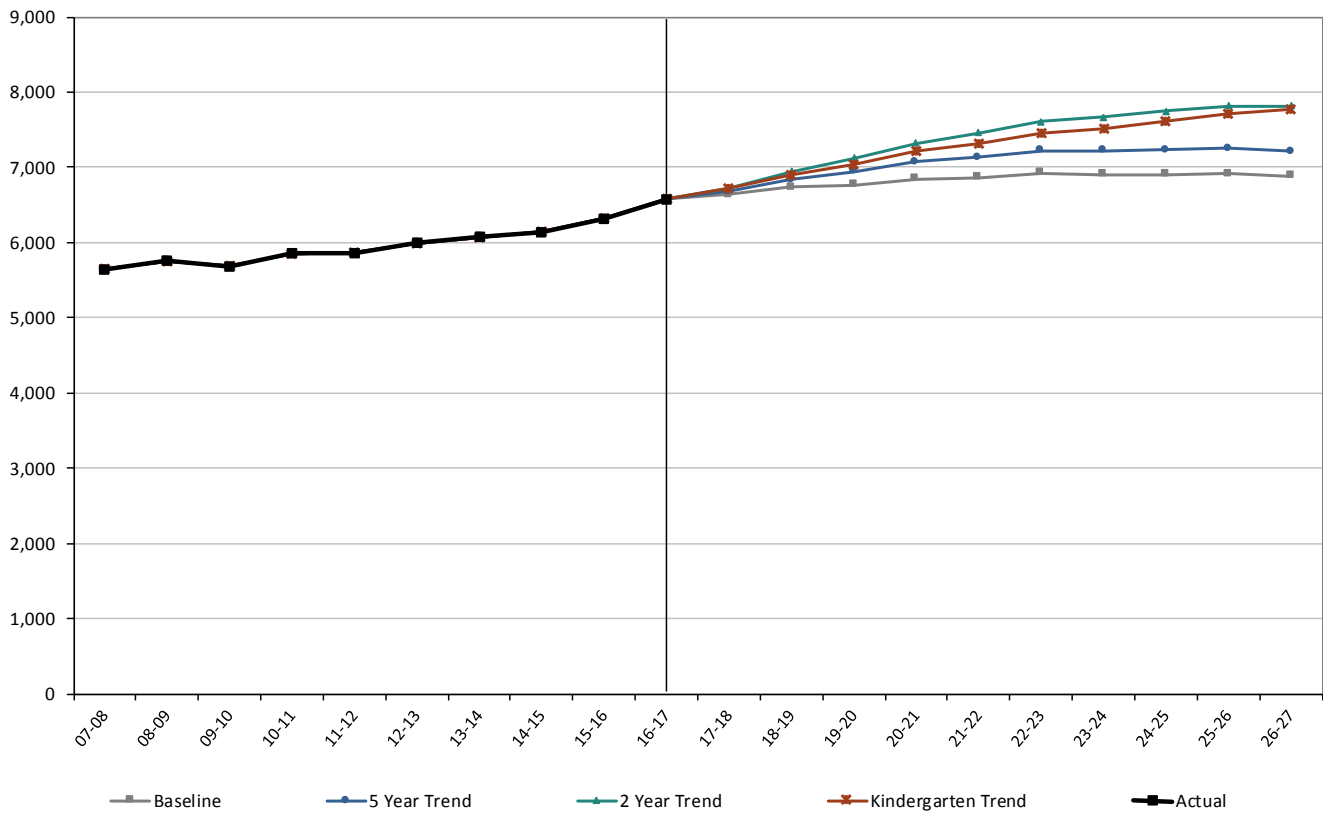


TABLE 13

Summary of K-12 Enrollment Projections

Middleton-Cross Plains Area School District--Resident In-Building Students

| | 17-18 | 18-19 | 19-20 | 20-21 | 21-22 | 22-23 | 23-24 | 24-25 | 25-26 | 26-27 |
|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Baseline | 6,633 | 6,732 | 6,770 | 6,844 | 6,864 | 6,921 | 6,904 | 6,902 | 6,914 | 6,888 |
| 5 Year Trend | 6,674 | 6,836 | 6,941 | 7,072 | 7,135 | 7,218 | 7,223 | 7,233 | 7,250 | 7,214 |
| 2 Year "Trend" | 6,716 | 6,945 | 7,123 | 7,321 | 7,460 | 7,606 | 7,672 | 7,746 | 7,812 | 7,819 |
| Kindergarten Trend | 6,725 | 6,898 | 7,037 | 7,209 | 7,318 | 7,456 | 7,524 | 7,605 | 7,705 | 7,766 |

From the K-12 2016/17 enrollment of 6,577, all models project sustained K-12 increases over the next five years; the projections five years from now (2021/22) predict a range from 6,864 to 7,460 students. The Baseline model then projects one additional year of growth before levelling off; the 5 Year Trend rises modestly; and the 2 Year and Kindergarten trends predict continuing growth.



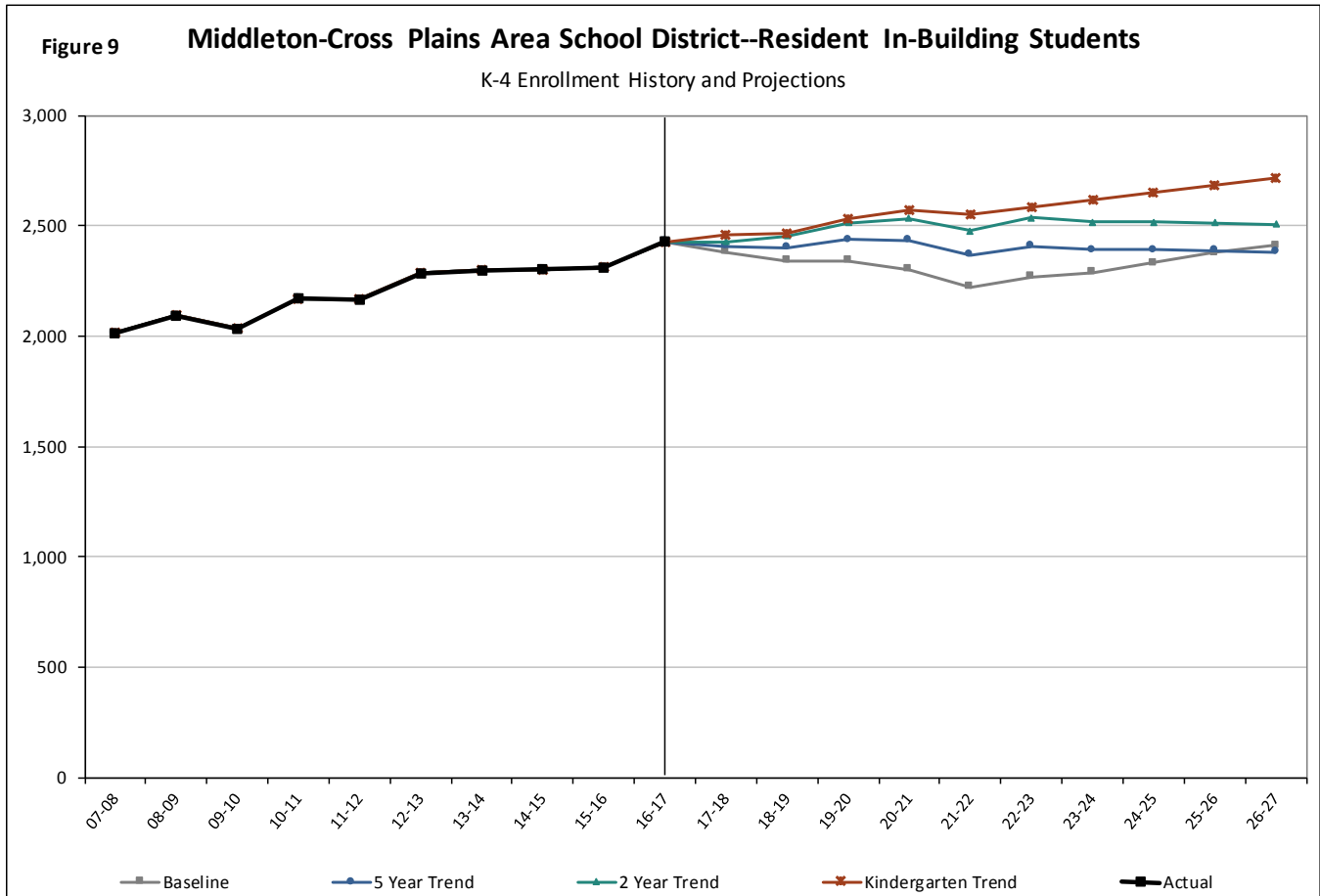


TABLE 14
Summary of K-4 Enrollment Projections
Middleton-Cross Plains Area School District--Resident In-Building Students

| | 17-18 | 18-19 | 19-20 | 20-21 | 21-22 | 22-23 | 23-24 | 24-25 | 25-26 | 26-27 |
|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Baseline | 2,381 | 2,340 | 2,340 | 2,301 | 2,221 | 2,269 | 2,288 | 2,330 | 2,377 | 2,409 |
| 5 Year Trend | 2,408 | 2,402 | 2,437 | 2,434 | 2,369 | 2,408 | 2,391 | 2,390 | 2,388 | 2,383 |
| 2 Year "Trend" | 2,427 | 2,453 | 2,514 | 2,533 | 2,475 | 2,537 | 2,516 | 2,515 | 2,513 | 2,507 |
| Kindergarten Trend | 2,459 | 2,464 | 2,533 | 2,571 | 2,552 | 2,584 | 2,617 | 2,649 | 2,682 | 2,714 |

From the K-4 2016/17 enrollment of 2,428, the Baseline and 5 Year Trends project moderate decline, the 2-Year and Kindergarten Trends show modest increases in enrollment. The projections five years from now (2021/22) predict a range from 2,221 to 2,552 students. Beyond that point, the Baseline and 5 Year Trends regain some students. the 2-Year Trend remains relatively flat, and the Kindergarten Trend increases steadily.



Figure 10 Middleton-Cross Plains Area School District--Resident In-Building Students

5-8 Enrollment History and Projections

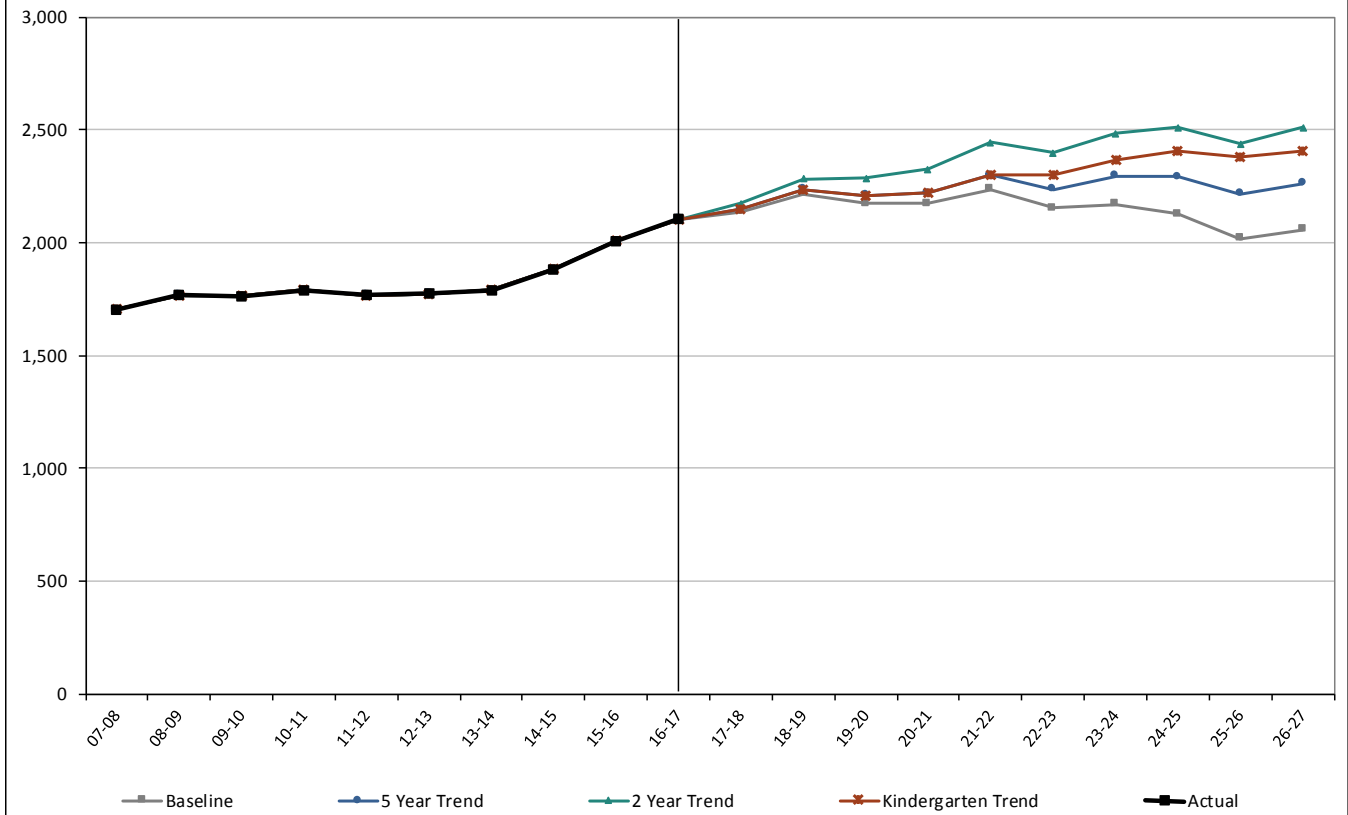


TABLE 15

Summary of 5-8 Enrollment Projections

Middleton-Cross Plains Area School District--Resident In-Building Students

| | 17-18 | 18-19 | 19-20 | 20-21 | 21-22 | 22-23 | 23-24 | 24-25 | 25-26 | 26-27 |
|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Baseline | 2,138 | 2,217 | 2,173 | 2,172 | 2,234 | 2,154 | 2,169 | 2,126 | 2,017 | 2,057 |
| 5 Year Trend | 2,145 | 2,237 | 2,209 | 2,219 | 2,299 | 2,236 | 2,294 | 2,292 | 2,216 | 2,261 |
| 2 Year "Trend" | 2,172 | 2,283 | 2,284 | 2,325 | 2,442 | 2,396 | 2,484 | 2,511 | 2,438 | 2,510 |
| Kindergarten Trend | 2,145 | 2,237 | 2,209 | 2,219 | 2,299 | 2,298 | 2,369 | 2,405 | 2,377 | 2,408 |

From the 5th-8th grades' 2016/17 count of 2,102 students, all models project solid increasing enrollment for the middle school for the next five years, ranging from 2,234 to 2,442 students (6 to 16 percent). The Baseline model then projects moderately decreasing enrollment, the 5 Year Trend levels off, and the 2 Year and Kindergarten Trend models indicate continuing growth.



Figure 11 Middleton-Cross Plains Area School District--Resident In-Building Students

9-12 Enrollment History and Projections

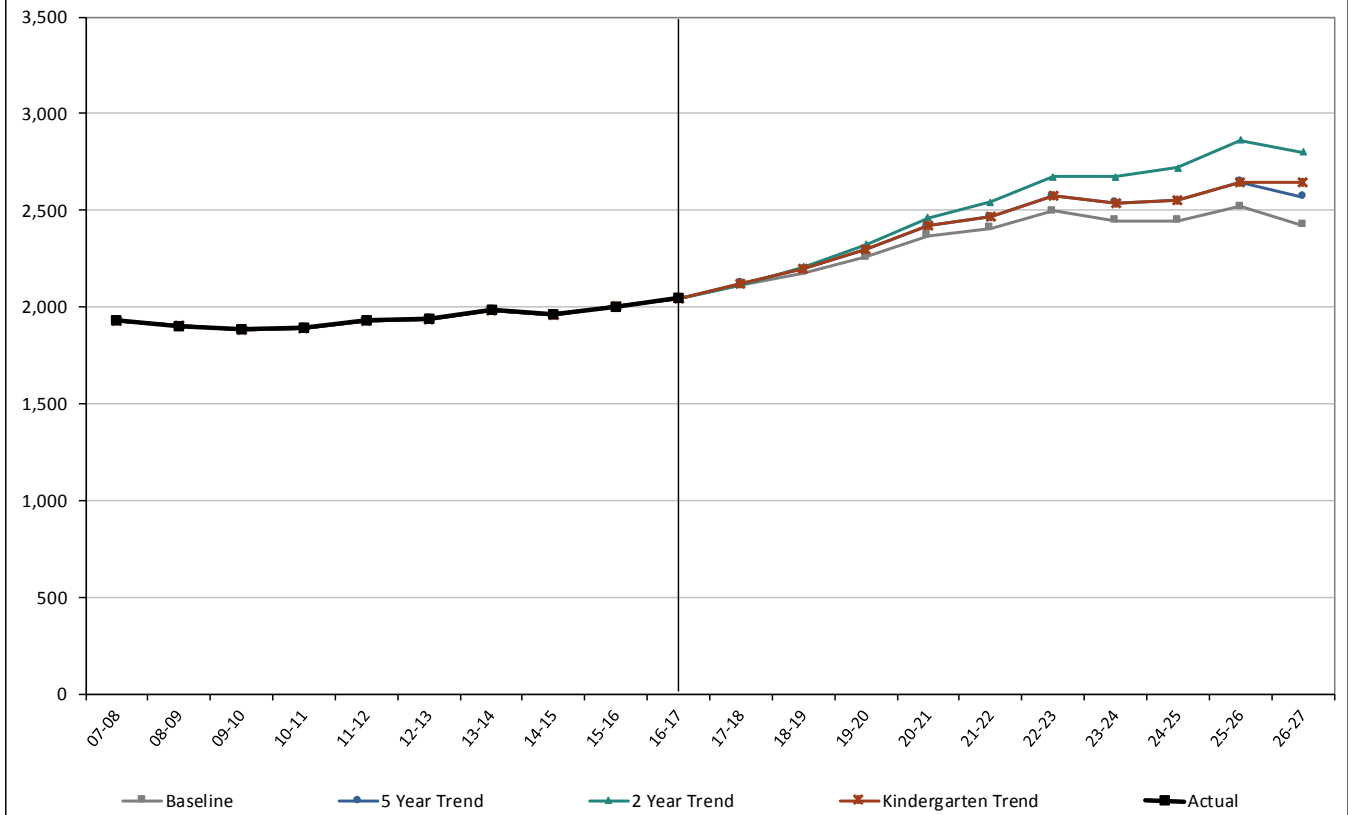


TABLE 16

Summary of 9-12 Enrollment Projections

Middleton-Cross Plains Area School District--Resident In-Building Students

| | 17-18 | 18-19 | 19-20 | 20-21 | 21-22 | 22-23 | 23-24 | 24-25 | 25-26 | 26-27 |
|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Baseline | 2,114 | 2,175 | 2,257 | 2,371 | 2,409 | 2,498 | 2,447 | 2,446 | 2,520 | 2,422 |
| 5 Year Trend | 2,121 | 2,197 | 2,295 | 2,419 | 2,467 | 2,574 | 2,538 | 2,551 | 2,646 | 2,570 |
| 2 Year "Trend" | 2,117 | 2,209 | 2,325 | 2,463 | 2,543 | 2,673 | 2,672 | 2,720 | 2,861 | 2,802 |
| Kindergarten Trend | 2,121 | 2,197 | 2,295 | 2,419 | 2,467 | 2,574 | 2,538 | 2,551 | 2,646 | 2,644 |

From the 9th-12th grades' 2016/17 count of 2,047 students, all four models project substantial gains in high school enrollment for the next five years. The projections five years from now (2021/22) predict a range from 2,409 to 2,543 students, 18 to 24 percent higher than current enrollment. Beyond that point, all models continue to rise at least through 2025/26.



Conclusions

These district-level enrollment projections are based on models that incorporate recent past and current demographic information as well as the district's own enrollment data and assumptions about future housing development in the school district area. Because most of the students in the district's schools over the next few years have already been born or are already in school, and because their grade progression from one year to another is fairly predictable, the total district-level projections should be viewed as having high accuracy over the next few years. After a few years, and increasingly for the lower elementary grades, actual enrollment figures will likely deviate from these projections by ever-increasing amounts. The reason for this divergence is that birth trends, in-migration of pre-school age children, and transfers into the district are more difficult to predict, making meaningful incorporation into enrollment projections a challenge. As with nearly all types of forecasts, accuracy in these enrollment projections decreases over time.

Because the projections found in this report incorporate the consequences of migration to and from the district, any significant and sustained interruption of current or recent migration patterns will erode these models' accuracy from the initiation point of the new pattern. Overall, the various projection models provide a realistic range of migration and transfer effects on the school district.

In sum, the information provided in this school enrollment projections report points to the Middleton-Cross Plains Area School District experiencing continued resident, in-building enrollment growth. In particular, increases at the high school level will likely be robust, as relatively larger 3rd through 5th grade and middle-school cohorts now age into 9th through 12th grades. For lower grades, enrollment change is predicted to be more mixed, with future patterns hinging on the potential number of births and in-migration of pre-school children in the next few years. Even though birth data for the City of Madison portion within the district is not obtainable, the pattern of births for the remaining communities is demonstrating a consistent relationship with 4K enrollment (near parity, in the range of 95% to 103%), and then the progression from 4K to K is also quite consistent across the projection models, in the range of 32% to 35% increases over the prior year's 4K.

The 2 Year and Kindergarten Trend models tend to predict the highest kindergarten and 1st grade enrollments, which has the tendency to push the overall projections of these models higher than those of the Baseline and 5 Year Trend models.

Enrollment growth should be closely monitored for the next few years, and compared with these projections, to determine the trajectory of future growth. This type of monitoring program may help the district to determine which of the models seems to be the most realistic to use for planning purposes.

