## Planning for the Schools of Tomorrow



Marshall School District

- Marshall Schools


# School Enrollment Projections Series Marshall Public Schools 

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## Introduction

This report offers a summary of the Enrollment Projection Analysis completed for the Marshall Public Schools by the Applied Population Laboratory, University of Wisconsin-Madison. Projections from 2014 to 2023 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 and projections to create reasonable assumptions about future growth scenarios and the likely impact on the school district.

## District Enrollment History

Figure 1-A and Tables 1 and 2 display the last ten years of enrollment history for the Marshall Public Schools. District enrollment has decreased slightly over the last ten years. Enrollment shows a decrease since 2004/05 of 36 students, or a 3\% decrease.


TABLE 1
Student Enrollment
Marshall Public Schools

|  | SCHOOL YEAR |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 04-05 | 05-06 | 06-07 | 07-08 | 08-09 | 09-10 | 10-11 | 11-12 | 12-13 | 13-14 |
| 4K | 98 | 72 | 89 | 75 | 83 | 88 | 74 | 80 | 86 | 80 |
| K | 80 | 103 | 71 | 93 | 80 | 85 | 88 | 80 | 86 | 86 |
| 1 | 93 | 83 | 104 | 69 | 91 | 77 | 81 | 84 | 82 | 80 |
| 2 | 97 | 91 | 78 | 105 | 67 | 88 | 80 | 86 | 86 | 85 |
| 3 | 92 | 101 | 87 | 77 | 105 | 66 | 83 | 82 | 87 | 84 |
| 4 | 86 | 93 | 97 | 94 | 81 | 102 | 75 | 90 | 89 | 87 |
| 5 | 88 | 88 | 80 | 99 | 97 | 79 | 106 | 73 | 91 | 84 |
| 6 | 87 | 84 | 74 | 91 | 99 | 93 | 81 | 102 | 76 | 85 |
| 7 | 80 | 82 | 88 | 87 | 95 | 98 | 92 | 76 | 102 | 73 |
| 8 | 98 | 81 | 85 | 88 | 89 | 97 | 99 | 89 | 80 | 92 |
| 9 | 86 | 99 | 80 | 84 | 94 | 99 | 99 | 100 | 95 | 82 |
| 10 | 93 | 85 | 100 | 82 | 85 | 92 | 92 | 96 | 98 | 88 |
| 11 | 71 | 95 | 82 | 102 | 85 | 94 | 93 | 94 | 96 | 96 |
| 12 | 84 | 80 | 97 | 83 | 100 | 100 | 95 | 91 | 100 | 95 |
| TOTAL | 1,233 | 1,237 | 1,212 | 1,229 | 1,251 | 1,258 | 1,238 | 1,223 | 1,254 | 1,197 |
| K-12 | 1,135 | 1,165 | 1,123 | 1,154 | 1,168 | 1,170 | 1,164 | 1,143 | 1,168 | 1,117 |
| K-5 | 536 | 559 | 517 | 537 | 521 | 497 | 513 | 495 | 521 | 506 |
| 6-8 | 265 | 247 | 247 | 266 | 283 | 288 | 272 | 267 | 258 | 250 |
| 9-12 | 334 | 359 | 359 | 351 | 364 | 385 | 379 | 381 | 389 | 361 |

TABLE 2
Student Enrollment Changes
Marshall Public Schools

| GRADE | ABSOLUTE CHANGE |  |  | PERCENT CHANGE |  |  | AVERAGE ANNUAL PERCENT CHANGE |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | '04 to '13 | '04 to '08 | '09 to '13 | '04 to '13 | '04 to '08 | '09 to '13 | '04 to '13 | '04 to '08 | '09 to '13 |
| 4K | -18 | -15 | -8 | -18.4 | -15.3 | -9.1 | -2.0 | -3.8 | -2.3 |
| K | 6 | 0 | 1 | 7.5 | 0.0 | 1.2 | 0.8 | 0.0 | 0.3 |
| 1 | -13 | -2 | 3 | -14.0 | -2.2 | 3.9 | -1.6 | -0.5 | 1.0 |
| 2 | -12 | -30 | -3 | -12.4 | -30.9 | -3.4 | -1.4 | -7.7 | -0.9 |
| 3 | -8 | 13 | 18 | -8.7 | 14.1 | 27.3 | -1.0 | 3.5 | 6.8 |
| 4 | 1 | -5 | -15 | 1.2 | -5.8 | -14.7 | 0.1 | -1.5 | -3.7 |
| 5 | -4 | 9 | 5 | -4.5 | 10.2 | 6.3 | -0.5 | 2.6 | 1.6 |
| 6 | -2 | 12 | -8 | -2.3 | 13.8 | -8.6 | -0.3 | 3.4 | -2.2 |
| 7 | -7 | 15 | -25 | -8.8 | 18.8 | -25.5 | -1.0 | 4.7 | -6.4 |
| 8 | -6 | -9 | -5 | -6.1 | -9.2 | -5.2 | -0.7 | -2.3 | -1.3 |
| 9 | -4 | 8 | -17 | -4.7 | 9.3 | -17.2 | -0.5 | 2.3 | -4.3 |
| 10 | -5 | -8 | -4 | -5.4 | -8.6 | -4.3 | -0.6 | -2.2 | -1.1 |
| 11 | 25 | 14 | 2 | 35.2 | 19.7 | 2.1 | 3.9 | 4.9 | 0.5 |
| 12 | 11 | 16 | -5 | 13.1 | 19.0 | -5.0 | 1.5 | 4.8 | -1.3 |
| TOTAL | -36 | 18 | -61 | -2.9 | 1.5 | -4.8 | -0.3 | 0.4 | -1.2 |
| K-12 | -18 | 33 | -53 | -1.6 | 2.9 | -4.5 | -0.2 | 0.7 | -1.1 |
| K-5 | -30 | -15 | 9 | -5.6 | -2.8 | 1.8 | -0.6 | -0.7 | 0.5 |
| 6-8 | -15 | 18 | -38 | -5.7 | 6.8 | -13.2 | -0.6 | 1.7 | -3.3 |
| 9-12 | 27 | 30 | -24 | 8.1 | 9.0 | -6.2 | 0.9 | 2.2 | -1.6 |

Figure 1-B shows enrollment history broken down by grade groupings ( $4 \mathrm{~K}, \mathrm{~K}-5,6-8$, and $9-12$ ). 4 K enrollment declined by $2 \%$ annually. Elementary school enrollment has decreased over the last ten years by $0.6 \%$ annually. Middle school enrollment has also decreased by $0.6 \%$ annually the past ten years, while high school enrollment has increased by $0.9 \%$ annually.


Figure 1-C shows the age structure in Fall 2013 of the student population with the number of 4 year old kindergarteners at the bottom and the number of $12^{\text {th }}$ graders at top. First, $7^{\text {th }}$, and $9^{\text {th }}$ grades are the smallest in 2013/14. The largest grades this current school year include $8^{\text {th }}, 11^{\text {th }}$, and $12^{\text {th }}$ grades.


## 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 further 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 red) averages kindergarten enrollment changes between 2004/05 and 2013/14. The "Recent Trend" line emphasizes kindergarten enrollment changes over the last five years. In the Marshall Public Schools, long term trend shows slightly decreasing kindergarten enrollment while the recent trend remains steady. The recent trend will be used to project future kindergartners in the Kindergarten Trend model found later in the report.


In addition to examining kindergarten enrollment on its own, comparing kindergarten enrollment to outgoing $12^{\text {th }}$ 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. In the Marshall Public Schools, kindergarteners only replaced outgoing $12^{\text {th }}$ graders once during this ten year period (2005/06).


## Birth Trends and Projections

We use historical and projected birth data to forecast the number of kindergarten students who will enroll in the Marshall Public Schools in the future years. Figure 3 shows (in black) the number of births to mothers living in municipalities that fall within school district boundaries, by year, from 19952012, as collected from the Wisconsin Department of Health Services. We count resident births from the Village of Marshall and the Town of Medina plus partial counts from other towns in the district. We extrapolate these birth trends into the future to correspond with our Baseline and Recent Trend projection models, using the $\mathrm{B}: \mathrm{K}$ grade progression ratios to transform births into future kindergarteners. The red line in Figure 3 represents birth trends over the longer term (between 1995 and 2012). The blue line examines birth patterns for the last seven years and corresponds to the Recent Trend projection models shown later in this report. The long term trend indicates increasing births while the recent trend indicates declining births over time.


Source: WI Department of Health Services

## Population Trends

This section examines population trends of the recent past for municipalities that fall within the Marshall Public Schools area. 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 and Figure 4-A provide the Census population counts for 2000 and 2010 and Wisconsin Department of Administration (DOA) estimates for district area municipalities from 2011 to 2013. These municipal populations can be compared to Dane County and the State of Wisconsin. The district area grew $5.3 \%$ from 2000 to 2010 which was not as great as the overall growth in Dane County.

TABLE 3
Total Population by Municipality: 2000-2014
Marshall Public Schools

| Municipality | POPULATION |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Census 2000 | Census 2010 | $\begin{aligned} & \text { est. } \\ & 2011 \end{aligned}$ | $\begin{aligned} & \text { est. } \\ & 2012 \end{aligned}$ | $\begin{aligned} & \text { est. } \\ & 2013 \end{aligned}$ |
| T.Cottage Grove | 3,839 | 3,875 | 3,879 | 3,877 | 3,880 |
| T.Deerfield | 1,470 | 1,585 | 1,572 | 1,578 | 1,588 |
| T.Medina | 1,235 | 1,376 | 1,378 | 1,377 | 1,381 |
| T.Sun Prairie | 2,308 | 2,326 | 2,315 | 2,315 | 2,324 |
| T.York | 703 | 652 | 653 | 655 | 653 |
| V.Marshall | 3,432 | 3,862 | 3,864 | 3,864 | 3,861 |
| District Area | 12,987 | 13,676 | 13,661 | 13,666 | 13,687 |
| Dane County | 426,526 | 488,073 | 489,331 | 491,555 | 495,921 |
| State of Wisconsin | 5,363,715 | 5,686,986 | 5,694,236 | 5,703,525 | 5,716,000 |


|  | PERCENT CHANGE |  |  |  | AVG. |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Municipality | $\mathbf{2 0 0 0}$ to | $\mathbf{2 0 1 0}$ to | $\mathbf{2 0 1 1}$ to | $\mathbf{2 0 1 2}$ to | ANNUAL |
|  | $\mathbf{2 0 1 0}$ | $\mathbf{2 0 1 1}$ | $\mathbf{2 0 1 2}$ | $\mathbf{2 0 1 3}$ | $\mathbf{2 0 0 0 - 2 0 1 0}$ |
| T.Cottage Grove | $0.9 \%$ | $0.1 \%$ | $-0.1 \%$ | $0.1 \%$ | $0.1 \%$ |
| T.Deerfield | $7.8 \%$ | $-0.8 \%$ | $0.4 \%$ | $0.6 \%$ | $0.9 \%$ |
| T.Medina | $11.4 \%$ | $0.1 \%$ | $-0.1 \%$ | $0.3 \%$ | $1.3 \%$ |
| T.Sun Prairie | $0.8 \%$ | $-0.5 \%$ | $0.0 \%$ | $0.4 \%$ | $0.1 \%$ |
| T.York | $-7.3 \%$ | $0.2 \%$ | $0.3 \%$ | $-0.3 \%$ | $-0.8 \%$ |
| V.Marshall | $12.5 \%$ | $0.1 \%$ | $0.0 \%$ | $-0.1 \%$ | $1.4 \%$ |
| District Area | $5.3 \%$ | $-0.1 \%$ | $0.0 \%$ | $0.2 \%$ | $0.6 \%$ |
| Dane County | $14.4 \%$ | $0.3 \%$ | $0.5 \%$ | $0.9 \%$ | $1.6 \%$ |
| State of Wisconsin | $6.0 \%$ | $0.1 \%$ | $0.2 \%$ | $0.2 \%$ | $0.7 \%$ |

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


Table 4 and Figure 4-B illustrate the population for the school district showing the change in age structure between 2000 and 2010. In the school district, the proportion of children under age 5 and in the age group 5-9 decreased, while the proportion of 10-14 year olds increased.

TABLE 4
Population by Age and Gender, 2000-2010
Marshall Public Schools

|  | 2010 Total |  |  |  | 2000 Total |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Age | Males | Females | Total | Age | Males | Females | Total |
| Under 5 | 220 | 202 | 422 | Under 5 | 223 | 211 | 434 |
| 5 to 9 | 243 | 188 | 431 | 5 to 9 | 240 | 218 | 458 |
| 10 to 14 | 265 | 250 | 515 | 10 to 14 | 218 | 227 | 445 |
| 15 to 19 | 231 | 188 | 419 | 15 to 19 | 183 | 158 | 341 |
| 20 to 24 | 129 | 116 | 245 | 20 to 24 | 99 | 109 | 208 |
| 25 to 29 | 172 | 165 | 337 | 25 to 29 | 164 | 196 | 360 |
| 30 to 34 | 185 | 196 | 381 | 30 to 34 | 208 | 222 | 430 |
| 35 to 39 | 206 | 200 | 406 | 35 to 39 | 250 | 218 | 468 |
| 40 to 44 | 224 | 259 | 483 | 40 to 44 | 208 | 213 | 421 |
| 45 to 49 | 253 | 228 | 481 | 45 to 49 | 206 | 186 | 392 |
| 50 to 54 | 221 | 223 | 444 | 50 to 54 | 161 | 162 | 323 |
| 55 to 59 | 189 | 178 | 367 | 55 to 59 | 129 | 125 | 254 |
| 60 to 64 | 165 | 146 | 311 | 60 to 64 | 83 | 91 | 174 |
| 65 to 69 | 118 | 96 | 214 | 65 to 69 | 82 | 69 | 151 |
| 70 to 74 | 78 | 76 | 154 | 70 to 74 | 62 | 60 | 122 |
| 75 to 79 | 46 | 55 | 101 | 75 to 79 | 55 | 67 | 122 |
| 80 to 84 | 36 | 39 | 75 | 80 to 84 | 32 | 49 | 81 |
| 85plus | 27 | 44 | 71 | 85plus | 30 | 44 | 74 |
|  | 3,008 | 2,849 | 5,857 |  | 2,633 | 2,625 | 5,258 |

Source: U. S. Census Bureau


## Past Housing Development

Table 5 shows the number of housing starts in the Marshall Public Schools area over the past ten years. Area housing starts have fluctuated from a high of 71 single family homes in 2005 , to a low of 7 new single family housing starts in 2011. The housing totals in the table do include the entire municipality even though some towns are only partially within the school district.

TABLE 5
School District Area Housing Starts
Marshall Public Schools

|  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| District Area |  |  |  |  |  |  |  |  |  |  |
| TOTAL | 57 | 80 | 77 | 50 | 29 | 20 | 18 | 13 | 7 | 12 |
| Single Family | 51 | 66 | 71 | 47 | 22 | 14 | 18 | 13 | 7 | 12 |
| Two Family | 6 | 2 | 6 | 0 | 2 | 6 | 0 | 0 | 0 | 0 |
| Multi-family | 0 | 12 | 0 | 3 | 5 | 0 | 0 | 0 | 0 | 0 |
| T.Cottage Grove |  |  |  |  |  |  |  |  |  |  |
| TOTAL | 15 | 18 | 10 | 9 | 4 | 5 | 3 | 4 | 3 | 4 |
| Single Family | 15 | 18 | 10 | 9 | 4 | 5 | 3 | 4 | 3 | 4 |
| 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.Deerfield |  |  |  |  |  |  |  |  |  |  |
| TOTAL | 8 | 14 | 10 | 11 | 8 | 4 | 3 | 1 | 1 | 1 |
| Single Family | 8 | 14 | 10 | 11 | 8 | 4 | 3 | 1 | 1 | 1 |
| 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.Medina |  |  |  |  |  |  |  |  |  |  |
| TOTAL | 7 | 4 | 5 | 5 | 4 | 1 | 2 | 1 | 0 | 1 |
| Single Family | 7 | 4 | 5 | 5 | 4 | 1 | 2 | 1 | 0 | 1 |
| 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.Sun Prairie |  |  |  |  |  |  |  |  |  |  |
| TOTAL | 10 | 16 | 16 | 9 | 4 | 3 | 4 | 4 | 2 | 5 |
| Single Family | 8 | 16 | 14 | 9 | 4 | 3 | 4 | 4 | 2 | 5 |
| Two Family | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Multi-family | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| T.York |  |  |  |  |  |  |  |  |  |  |
| TOTAL | 2 | 1 | 2 | 1 | 0 | 1 | 2 | 2 | 1 | 0 |
| Single Family | 2 | 1 | 2 | 1 | 0 | 1 | 2 | 2 | 1 | 0 |
| 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.Marshall |  |  |  |  |  |  |  |  |  |  |
| TOTAL | 15 | 27 | 34 | 15 | 9 | 6 | 4 | 1 | 0 | 1 |
| Single Family | 11 | 13 | 30 | 12 | 2 | 0 | 4 | 1 | 0 | 1 |
| Two Family | 4 | 2 | 4 | 0 | 2 | 6 | 0 | 0 | 0 | 0 |
| Multi-family | 0 | 12 | 0 | 3 | 5 | 0 | 0 | 0 | 0 | 0 |
|  |  |  |  |  |  |  |  |  |  |  |

Source: Demographic Services Center, WIDOA

Examining trends in recent housing development can help to explain how in-migration into the 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 inmigration 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.

The majority of housing development over the last ten years has occurred in the Village of Marshall and the Town of Sun Prairie (although most of the town is in the Sun Prairie Area School District). New housing development declined dramatically after 2006 and due to the economic recession the district has seen very little new housing since that time. Most of the development in the area has consisted of single-family homes. Households in single family homes, on average, contain more school-aged children than in two-family and multi-family complexes. The district area saw a slight uptick in housing development in 2012, but little activity has occurred in the village.

It is also important to consider that turnover in ownership of existing housing stock also contributes 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-perhousehold ration. However, within a few years a turnover in ownership in an older community may result in an increase in the child-per-household number. 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. Turnover in ownership does not happen overnight, however, and slow turnover may happen for several years at varying rates.

Figure 5-A shows the number of residential building permits issued by municipality for communities that fall within the Marshall Public Schools. Figure 5-B shows housing starts in the area by type of housing unit-single family home, duplex, and multi-family housing unit.



## Method

In order to generate school enrollment projections, we rely on a commonly used demographic technique called the "cohort survival method." 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 kindergarten students, we gather data on births from the Wisconsin Department of Health Services and assume that a certain percentage of the children born to mothers residing in the school district area will enroll as kindergarteners five to six years later.

## Grade Progression Ratios

Grade progression ratios are used to measure district enrollment changes, year to year and grade to grade that have occurred within the school district in the recent past. By examining these, we can better understand recent changes in enrollment, and we use these ratios as the rates of transfer mentioned above to inform projections of future students.

Table 6 shows the grade progression ratios for the Marshall Public Schools. The ratios measure the effects of in- and out-migration and the transfer of students between private and public schools. The ratios are calculated for several pairs of years and then averages of these based on different time frames are calculated for each grade.

TABLE 6
Grade Progression Ratios
Marshall Public Schools

| YEAR <br> CHANGES | B:K | K:1 | 1:2 | 2:3 | 3:4 | 4:5 | 5:6 | 6:7 | 7:8 | 8:9 | 9:10 | 10:11 | 11:12 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 04-05/05-06 | 1.210 | 1.038 | 0.978 | 1.041 | 1.011 | 1.023 | 0.955 | 0.943 | 1.013 | 1.010 | 0.988 | 1.022 | 1.127 |
| 05-06/06-07 | 0.668 | 1.010 | 0.940 | 0.956 | 0.960 | 0.860 | 0.841 | 1.048 | 1.037 | 0.988 | 1.010 | 0.965 | 1.021 |
| 06-07/07-08 | 1.021 | 0.972 | 1.010 | 0.987 | 1.080 | 1.021 | 1.138 | 1.176 | 1.000 | 0.988 | 1.025 | 1.020 | 1.012 |
| 07-08/08-09 | 1.059 | 0.978 | 0.971 | 1.000 | 1.052 | 1.032 | 1.000 | 1.044 | 1.023 | 1.068 | 1.012 | 1.037 | 0.980 |
| 08-09/09-10 | 0.989 | 0.963 | 0.967 | 0.985 | 0.971 | 0.975 | 0.959 | 0.990 | 1.021 | 1.112 | 0.979 | 1.106 | 1.176 |
| 09-10/10-11 | 1.166 | 0.953 | 1.039 | 0.943 | 1.136 | 1.039 | 1.025 | 0.989 | 1.010 | 1.021 | 0.929 | 1.011 | 1.011 |
| 10-11/11-12 | 1.080 | 0.955 | 1.062 | 1.025 | 1.084 | 0.973 | 0.962 | 0.938 | 0.967 | 1.010 | 0.970 | 1.022 | 0.978 |
| 11-12/12-13 | 0.934 | 1.025 | 1.024 | 1.012 | 1.085 | 1.011 | 1.041 | 1.000 | 1.053 | 1.067 | 0.980 | 1.000 | 1.064 |
| 11-12/12-13 | 0.817 | 0.930 | 1.037 | 0.977 | 1.000 | 0.944 | 0.934 | 0.961 | 0.902 | 1.025 | 0.926 | 0.980 | 0.990 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Baseline | 1.016 | 0.972 | 1.004 | 0.992 | 1.052 | 0.997 | 0.982 | 0.879 | 1.010 | 1.034 | 0.990 | 1.013 | 1.008 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 Year Trend | 0.997 | 0.965 | 1.026 | 0.988 | 1.055 | 0.989 | 0.984 | 0.976 | 0.991 | 1.047 | 0.957 | 1.024 | 1.044 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 Year "Trend" | 0.876 | 0.978 | 1.030 | 0.994 | 1.043 | 0.977 | 0.988 | 0.980 | 0.977 | 1.046 | 0.953 | 0.990 | 1.027 |

[^0]The grade progression ratios can be interpreted in the following manner. The Baseline ratio for 1:2 is 1.004 . This means that in the Marshall Public Schools, the second grade is on average $0.4 \%$ larger than the first grade class was the previous year (the result of transfers from other schools and inmigration into the district). The B:K (birth to kindergarten) Baseline ratio of 1.016 indicates that on average, approximately $1.6 \%$ additional births from outside the district's municipalities enroll in kindergarten five years later in the Marshall Public Schools. Outliers (ratios outside of one standard deviation of the mean) are not included in the calculation of the Baseline average ratios.

In order to examine future enrollment under different growth assumptions, we generate three sets of grade progression ratios that correspond to the different projection models shown later in this report. In addition to the Baseline ratios (averages 10 years of enrollment), we examine rates of transfer in the last 5 years and the last 2 years, effectively weighing enrollment change patterns from different time periods more heavily than the Baseline. Any significant deviations from the rates of inand out-migration in the district area will have a corresponding effect on enrollment. These additional models allow us to examine alternative outcomes compared to the overall trends of the Baseline model. Figure 6 shows the differences between these three sets of grade progression ratios.


## 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 further into the future. This is especially true for grades K-5, because the students who will enter kindergarten after 2017/18 have not yet been born. Overall, our projections are more reliable over the next five years (up to the 2018/19 school year) than they are in the latter half of the next decade.

## 4K Enrollment and Projections

To generate 4 K enrollment projections, we assume that the number of children born in the district area who will enter the 4 K program will remain the same or decrease slightly over the next ten years. Table 7 shows the observed transfer ratio between birth and 4 K and from 4 K to kindergarten and the grade progression ratio averages for the Baseline ( 10 year), 5 Year and 2 Year trends. The B:4K Baseline and 5 Year Trend averages will be used to project future 4K students for the various models.

TABLE 7
4K Grade Progression Ratios
Marshall Public Schools

|  | B:4K | 4K:K |
| :--- | :--- | :--- |
| 04-05/05-06 | 0.677 | 1.051 |
| $05-06 / 06-07$ | 0.977 | 0.986 |
| $06-07 / 07-08$ | 0.992 | 1.045 |
| $07-08 / 08-09$ | 0.965 | 1.067 |
| $08-09 / 09-10$ | 1.166 | 1.024 |
| $09-10 / 10-11$ | 0.999 | 1.000 |
| $10-11 / 11-12$ | 0.868 | 1.081 |
| $11-12 / 12-13$ | 0.817 | 1.075 |
| 12-13/13-14 | 0.750 | 1.000 |
| Baseline | $\mathbf{0 . 9 1 3}$ | $\mathbf{1 . 0 3 7}$ |
| 5 Year Trend | $\mathbf{0 . 9 2 0}$ | $\mathbf{1 . 0 3 6}$ |
| 2 Year "Tend" | $\mathbf{0 . 7 8 4}$ | $\mathbf{1 . 0 3 8}$ |

The Baseline model (Table 8) projects enrollments using the assumption that average trends year to year, grade to grade, will continue into the future. This model assumes that long term trends (past ten years) in enrollment, migration, and births will be representative of future trends in the district. This model projects that $4 \mathrm{~K}-12$ enrollment will increase over the next five years, increasing from 1,197 students in 2013/14 to 1,219 students in 2018/19. This is an increase of 22 students over the next five years.

TABLE 8
Baseline Projection Model
Marshall Public Schools

|  | SCHOOL YEAR |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 14-15 | 15-16 | 16-17 | 17-18 | 18-19 | 19-20 | 20-21 | 21-22 | 22-23 | 23-24 |
| 4K | 95 | 91 | 87 | 90 | 92 | 93 | 93 | 94 | 95 | 96 |
| K | 99 | 105 | 101 | 97 | 100 | 102 | 103 | 104 | 105 | 106 |
| 1 | 84 | 96 | 102 | 98 | 95 | 97 | 99 | 100 | 101 | 102 |
| 2 | 80 | 84 | 96 | 103 | 99 | 95 | 98 | 99 | 100 | 102 |
| 3 | 84 | 80 | 83 | 96 | 102 | 98 | 94 | 97 | 99 | 100 |
| 4 | 88 | 89 | 84 | 88 | 101 | 107 | 103 | 99 | 102 | 104 |
| 5 | 87 | 88 | 88 | 84 | 87 | 100 | 107 | 103 | 99 | 102 |
| 6 | 83 | 85 | 87 | 87 | 82 | 86 | 99 | 105 | 101 | 97 |
| 7 | 75 | 73 | 75 | 76 | 76 | 72 | 75 | 87 | 92 | 89 |
| 8 | 74 | 75 | 73 | 76 | 77 | 77 | 73 | 76 | 88 | 93 |
| 9 | 95 | 76 | 78 | 76 | 78 | 79 | 80 | 75 | 79 | 91 |
| 10 | 81 | 94 | 75 | 77 | 75 | 77 | 79 | 79 | 75 | 78 |
| 11 | 89 | 82 | 95 | 76 | 78 | 76 | 78 | 80 | 80 | 76 |
| 12 | 97 | 90 | 83 | 96 | 77 | 79 | 77 | 79 | 80 | 81 |
| TOTAL | 1,210 | 1,208 | 1,209 | 1,219 | 1,219 | 1,239 | 1,258 | 1,278 | 1,296 | 1,315 |
| K-12 | 1,115 | 1,118 | 1,122 | 1,130 | 1,127 | 1,147 | 1,164 | 1,183 | 1,201 | 1,219 |
| K-5 | 522 | 542 | 556 | 565 | 584 | 600 | 604 | 602 | 606 | 615 |
| 6-8 | 231 | 233 | 235 | 239 | 235 | 235 | 247 | 268 | 281 | 279 |
| 9-12 | 362 | 342 | 332 | 325 | 308 | 312 | 313 | 313 | 314 | 325 |

## 5 Year Trend Projections

The 5 Year Trend model (Table 9) uses the grade progression ratios from the last five years and recent birth trends in the school district area to project what future enrollments would look like if more recent patterns were representative of future trends. With recent migration rates and birth trends weighted more heavily, $4 \mathrm{~K}-12$ enrollment in the Marshall Public Schools is projected to increase from 1,197 students in 2013/14 to 1,236 students in 2018/19. This is an increase of 39 students over the next five years.

TABLE 9
5 Year Trend Projection Model
Marshall Public Schools

|  |  |  |  |  | SCHOOL YEAR |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| GRADE | $\mathbf{1 4 - 1 5}$ | $\mathbf{1 5 - 1 6}$ | $\mathbf{1 6 - 1 7}$ | $\mathbf{1 7 - 1 8}$ | $\mathbf{1 8 - 1 9}$ | $\mathbf{1 9 - 2 0}$ | $\mathbf{2 0 - 2 1}$ | $\mathbf{2 1 - 2 2}$ | $\mathbf{2 2 - 2 3}$ | $\mathbf{2 3 - 2 4}$ |
| 4 K | 95 | 92 | 88 | 84 | 82 | 83 | 84 | 85 | 86 | 87 |
| K | 97 | 103 | 99 | 96 | 97 | 96 | 95 | 94 | 93 | 92 |
| 1 | 83 | 94 | 100 | 96 | 92 | 93 | 93 | 92 | 91 | 90 |
| 2 | 82 | 85 | 96 | 102 | 98 | 95 | 96 | 95 | 94 | 93 |
| 3 | 84 | 81 | 84 | 95 | 101 | 97 | 93 | 95 | 94 | 93 |
| 4 | 89 | 89 | 86 | 89 | 100 | 107 | 102 | 99 | 100 | 100 |
| 5 | 86 | 88 | 88 | 85 | 88 | 99 | 106 | 101 | 98 | 99 |
| 6 | 83 | 85 | 86 | 86 | 83 | 86 | 98 | 104 | 100 | 96 |
| 7 | 83 | 81 | 83 | 84 | 84 | 81 | 84 | 95 | 101 | 97 |
| 8 | 72 | 82 | 80 | 82 | 83 | 83 | 80 | 84 | 94 | 100 |
| 9 | 96 | 76 | 86 | 84 | 86 | 87 | 87 | 84 | 87 | 99 |
| 10 | 78 | 92 | 72 | 82 | 80 | 82 | 84 | 84 | 81 | 84 |
| 11 | 90 | 80 | 94 | 74 | 84 | 82 | 84 | 86 | 86 | 83 |
| 12 | 100 | 94 | 84 | 98 | 77 | 88 | 86 | 88 | 89 | 89 |
| TOTAL | $\mathbf{1 , 2 1 9}$ | $\mathbf{1 , 2 2 1}$ | $\mathbf{1 , 2 2 6}$ | $\mathbf{1 , 2 3 7}$ | $\mathbf{1 , 2 3 6}$ | $\mathbf{1 , 2 6 0}$ | $\mathbf{1 , 2 7 2}$ | $\mathbf{1 , 2 8 4}$ | $\mathbf{1 , 2 9 4}$ | $\mathbf{1 , 3 0 0}$ |
|  |  |  |  |  |  |  |  |  |  |  |
| K-12 | 1,124 | 1,129 | 1,138 | 1,153 | 1,155 | 1,178 | 1,188 | 1,200 | 1,208 | 1,214 |
| K-5 | 521 | 540 | 553 | 562 | 576 | 587 | 586 | 576 | 570 | 566 |
| $6-8$ | 238 | 247 | 249 | 252 | 251 | 251 | 262 | 283 | 295 | 294 |
| $9-12$ | 365 | 342 | 337 | 339 | 327 | 339 | 340 | 341 | 343 | 354 |

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, 4 K -12 enrollment is projected to decrease from 1,197 students in 2013/14 to 1,167 students in 2018/19. This is a decrease of 30 students over the next five years.

TABLE 10
2 Year "Trend" Projection Model
Marshall Public Schools

| GRADE | SCHOOL YEAR |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 14-15 | 15-16 | 16-17 | 17-18 | 18-19 | 19-20 | 20-21 | 21-22 | 22-23 | 23-24 |
| 4K | 95 | 92 | 88 | 84 | 82 | 83 | 84 | 85 | 86 | 87 |
| K | 85 | 91 | 87 | 84 | 85 | 85 | 84 | 83 | 82 | 81 |
| 1 | 84 | 83 | 89 | 85 | 82 | 83 | 83 | 82 | 81 | 80 |
| 2 | 82 | 87 | 86 | 92 | 88 | 84 | 86 | 85 | 84 | 83 |
| 3 | 85 | 82 | 86 | 85 | 91 | 87 | 84 | 85 | 85 | 84 |
| 4 | 88 | 88 | 85 | 90 | 89 | 95 | 91 | 88 | 89 | 88 |
| 5 | 85 | 86 | 86 | 84 | 88 | 87 | 93 | 89 | 86 | 87 |
| 6 | 83 | 84 | 85 | 85 | 82 | 87 | 86 | 92 | 88 | 85 |
| 7 | 83 | 81 | 82 | 83 | 83 | 81 | 85 | 84 | 90 | 86 |
| 8 | 71 | 81 | 79 | 80 | 81 | 81 | 79 | 83 | 82 | 88 |
| 9 | 96 | 75 | 85 | 83 | 84 | 85 | 85 | 83 | 87 | 86 |
| 10 | 78 | 92 | 71 | 81 | 79 | 80 | 81 | 81 | 79 | 83 |
| 11 | 87 | 77 | 91 | 70 | 80 | 78 | 79 | 80 | 80 | 78 |
| 12 | 99 | 89 | 79 | 93 | 72 | 83 | 81 | 82 | 82 | 83 |
|  |  |  |  |  |  |  |  |  |  |  |
| TOTAL | 1,202 | 1,188 | 1,181 | 1,179 | 1,167 | 1,179 | 1,179 | 1,180 | 1,179 | 1,177 |
| K-12 | 1,107 | 1,096 | 1,092 | 1,096 | 1,085 | 1,096 | 1,096 | 1,095 | 1,094 | 1,090 |
| K-5 | 509 | 516 | 520 | 519 | 523 | 521 | 520 | 511 | 506 | 502 |
| 6-8 | 238 | 247 | 246 | 248 | 247 | 249 | 250 | 259 | 260 | 258 |
| 9-12 | 360 | 333 | 327 | 328 | 316 | 326 | 326 | 325 | 328 | 329 |

## Kindergarten Trend Projections

For this method, we perform a trend analysis to project the number of future kindergarten students, rather than relying upon the traditional birth to kindergarten (B:K) grade progression ratio. Then, the 5 Year Trend progression ratios are used for projecting the other grades (1-12) in the district. In other words, this model assumes that the number of new kindergarteners each year over the next decade will continue to follow a trend similar to the long term kindergarten trend, regardless of the number of observed births in the school district area. According to this hybrid projection model (Table $11), 4 \mathrm{~K}-12$ enrollment would decrease over the next five years from 1,197 students in 2013/14 to 1,165 students in 2018/19, or a decrease of 32 students.

TABLE 11
Kindergarten Trend Projection Model Marshall Public Schools

| GRADE | $\mathbf{1 4 - 1 5}$ | $\mathbf{1 5 - 1 6}$ | $\mathbf{1 6 - 1 7}$ | $\mathbf{1 7 - 1 8}$ | $\mathbf{1 8 - 1 9}$ | $\mathbf{1 9 - 2 0}$ | $\mathbf{2 0 - 2 1}$ | $\mathbf{2 1 - 2 2}$ | $\mathbf{2 2 - 2 3}$ | $\mathbf{2 3 - 2 4}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $4 K$ | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | $\mathbf{7 7}$ |
| K | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 |
| 1 | 83 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 |
| 2 | 82 | 85 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 |
| 3 | 84 | 81 | 84 | 83 | 83 | 83 | 83 | 83 | 83 | 83 |
| 4 | 89 | 89 | 86 | 89 | 88 | 88 | 88 | 88 | 88 | 88 |
| 5 | 86 | 88 | 88 | 85 | 88 | 87 | 87 | 87 | 87 | 87 |
| 6 | 83 | 85 | 86 | 86 | 83 | 86 | 85 | 85 | 85 | 85 |
| 7 | 83 | 81 | 83 | 84 | 84 | 81 | 84 | 83 | 83 | 83 |
| 8 | 72 | 82 | 80 | 82 | 83 | 83 | 80 | 84 | 83 | 83 |
| 9 | 96 | 76 | 86 | 84 | 86 | 87 | 87 | 84 | 87 | 86 |
| 10 | 78 | 92 | 72 | 82 | 80 | 82 | 84 | 84 | 81 | 84 |
| 11 | 90 | 80 | 94 | 74 | 84 | 82 | 84 | 86 | 86 | 83 |
| 12 | 100 | 94 | 84 | 98 | 77 | 88 | 86 | 88 | 89 | 89 |
| TOTAL | $\mathbf{1 , 1 8 8}$ | $\mathbf{1 , 1 7 6}$ | $\mathbf{1 , 1 7 0}$ | $\mathbf{1 , 1 7 5}$ | $\mathbf{1 , 1 6 5}$ | $\mathbf{1 , 1 7 6}$ | $\mathbf{1 , 1 7 6}$ | $\mathbf{1 , 1 7 8}$ | $\mathbf{1 , 1 7 9}$ | $\mathbf{1 , 1 7 8}$ |
|  |  |  |  |  |  |  |  |  |  |  |
| K-12 | 1,112 | 1,099 | 1,094 | 1,099 | 1,088 | 1,099 | 1,099 | 1,102 | 1,103 | 1,102 |
| K-5 | 509 | 510 | 509 | 508 | 510 | 509 | 509 | 509 | 509 | 509 |
| $6-8$ | 238 | 247 | 249 | 252 | 251 | 251 | 250 | 252 | 251 | 251 |
| $9-12$ | 365 | 342 | 337 | 339 | 327 | 339 | 340 | 341 | 343 | 342 |

Figures 7-11 and Tables 12-16 compare the four enrollment projection models broken down by total $4 \mathrm{~K}-12$ and K-12 district enrollment and by grade groupings.


TABLE 12
Summary of 4K-12 Enrollment Projections
Marshall Public Schools

|  | $\mathbf{1 4 - 1 5}$ | $\mathbf{1 5 - 1 6}$ | $\mathbf{1 6 - 1 7}$ | $\mathbf{1 7 - 1 8}$ | $\mathbf{1 8 - 1 9}$ | $\mathbf{1 9 - 2 0}$ | $\mathbf{2 0 - 2 1}$ | $\mathbf{2 1 - 2 2}$ | $\mathbf{2 2 - 2 3}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Baseline | 1,210 | 1,208 | 1,209 | 1,219 | 1,219 | 1,239 | 1,258 | 1,278 | 1,296 |
| 5 Year Trend | 1,219 | 1,221 | 1,226 | 1,237 | 1,236 | 1,260 | 1,272 | 1,284 | 1,294 |
| 2 Year "Trend" | 1,202 | 1,188 | 1,181 | 1,179 | 1,167 | 1,179 | 1,179 | 1,180 | 1,179 |
| Kindergarten Trend | 1,188 | 1,176 | 1,170 | 1,175 | 1,165 | 1,176 | 1,176 | 1,178 | 1,179 |
|  |  |  |  |  |  |  | 1,178 |  |  |



TABLE 13
Summary of K-12 Enrollment Projections
Marshall Public Schools

|  | $\mathbf{1 4 - 1 5}$ | $\mathbf{1 5 - 1 6}$ | $\mathbf{1 6 - 1 7}$ | $\mathbf{1 7 - 1 8}$ | $\mathbf{1 8 - 1 9}$ | $\mathbf{1 9 - 2 0}$ | $\mathbf{2 0 - 2 1}$ | $\mathbf{2 1 - 2 2}$ | $\mathbf{2 2 - 2 3}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $\mathbf{2 3 - 2 4}$ |  |  |  |  |  |  |  |  |  |
| Baseline | 1,115 | 1,118 | 1,122 | 1,130 | 1,127 | 1,147 | 1,164 | 1,183 | 1,201 |
| 5 Year Trend | 1,124 | 1,129 | 1,138 | 1,153 | 1,155 | 1,178 | 1,188 | 1,200 | 1,208 |
| 2 Year "Trend" | 1,107 | 1,096 | 1,092 | 1,096 | 1,085 | 1,096 | 1,096 | 1,095 | 1,094 |
| Kindergarten Trend | 1,112 | 1,099 | 1,094 | 1,099 | 1,088 | 1,099 | 1,099 | 1,102 | 1,103 |

4 K -12 enrollment is 1,197 and K -12 enrollment is 1,117 for 2013/14. The Baseline and 5 Year Trend models project increasing enrollment, while the 2 Year "Trend" and Kindergarten Trend models project slightly declining enrollment in the district. 4K-12 enrollment projections five years from now (2018/19) forecast a range of enrollment from 1,165 to 1,236. K-12 enrollment projections five years from now (2018/19) forecast a range of enrollment from 1,088 to 1,155.


Summary of K-5 Enrollment Projections
Marshall Public Schools

|  | $\mathbf{1 4 - 1 5}$ | $\mathbf{1 5 - 1 6}$ | $\mathbf{1 6 - 1 7}$ | $\mathbf{1 7 - 1 8}$ | $\mathbf{1 8 - 1 9}$ | $\mathbf{1 9 - 2 0}$ | $\mathbf{2 0 - 2 1}$ | $\mathbf{2 1 - 2 2}$ | $\mathbf{2 2 - 2 3}$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Baseline | 522 | 542 | 556 | 565 | 584 | 600 | 604 | 602 | 606 |
| 5 Year Trend | 521 | 540 | 553 | 562 | 576 | 587 | 586 | 576 | 570 |
| 2 Year "Trend" | 509 | 516 | 520 | 519 | 523 | 521 | 520 | 511 | 506 |
| Kindergarten Trend | 509 | 510 | 509 | 508 | 510 | 509 | 509 | 509 | 509 |
|  |  |  |  |  |  |  |  | 509 |  |

K-5 enrollment for 2013/14 is 506. The Baseline and 5 Year Trend models project increasing enrollment, while the 2 Year "Trend" and Kindergarten Trend models project steady to slightly declining enrollment in the district in the long term. All models project increased K-5 enrollment over the five year period. K-5 enrollment projections five years from now (2018/19) forecast a range of enrollment from 510 to 584.


Summary of 6-8 Enrollment Projections
Marshall Public Schools

|  | $\mathbf{1 4 - 1 5}$ | $\mathbf{1 5 - 1 6}$ | $\mathbf{1 6 - 1 7}$ | $\mathbf{1 7 - 1 8}$ | $\mathbf{1 8 - 1 9}$ | $\mathbf{1 9 - 2 0}$ | $\mathbf{2 0 - 2 1}$ | $\mathbf{2 1 - 2 2}$ | $\mathbf{2 2 - 2 3}$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Baseline | 231 | 233 | 235 | 239 | 235 | 235 | 247 | $\mathbf{2 6 8}$ | $\mathbf{2 8 1}$ |
| 5 Year Trend | 238 | 247 | 249 | 252 | 251 | 251 | 262 | 283 | 295 |
| 2 Year "Trend" | 238 | 247 | 246 | 248 | 247 | 249 | 250 | 259 | 260 |
| Kindergarten Trend | 238 | 247 | 249 | 252 | 251 | 251 | 250 | 252 | 251 |
|  |  |  |  |  |  |  |  | 258 |  |

$6-8$ enrollment for $2013 / 14$ is 250 . At the middle school grade level, all models project enrollment decline in the next year followed by steady enrollment. 6-8 enrollment projections five years from now (2018/19) predict a range of enrollment from 235 to 251.


9-12 enrollment for 2013/14 is 361 . At the high school level, all projection models forecast similar enrollment in 2014/15 followed by declining enrollment in the next four years. The last five years of the projections indicate steady enrollment. 9-12 enrollment projections five years from now (2018/19) project a range of enrollment from 316 to 327.

## 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 highly 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 is that birth trends, in-migration of pre-school age children, and transfers into the district are more difficult to predict and therefore this makes meaningful incorporation into enrollment projections a challenge. As with nearly all types of forecasts, accuracy in these enrollment projections decreases over time.

In sum, the information provided in this school enrollment projections report points to steady to increasing enrollment in the Marshall Public Schools over the next decade. While the Baseline and Five Year trend models project enrollment increases, the Two Year and Kindergarten trend models project steady to ever so slightly decreasing enrollment. Enrollment in the elementary grades will likely remain steady or increase over time depend which model is observed. If future grade transfers are similar to the last five years then enrollment will increase, but if future grade transfers are similar to the last two years then enrollment will remain steady. In middle school, the enrollment will decline next year followed by steady enrollment the following years. In high school, the district will likely see decreasing enrollment over the next five years followed by steady enrollment.

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 past migration patterns will erode these models' accuracy from the initiation point of the new pattern. The various projection models provide a realistic range of migration and transfer effects on the school district. 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 might help the district to determine which of the models seems to be the most realistic to use for planning purposes.


[^0]:    *Shaded progression ratios are excluded from the Baseline Average

