



**PLANNING  
DECISIONS**

Research & Planning

## **2014-15 SCHOOL ENROLLMENT PROJECTIONS FOR CAPE ELIZABETH**

**Prepared for:**

Cape Elizabeth School Department

**Prepared by:**

Planning Decisions, Inc.  
477 Congress Street, Suite 1005  
Portland, ME 04101-3406

**January 2015**



# Table of Contents

	<u>Page</u>
EXECUTIVE SUMMARY .....	1
I. Introduction & Methodology .....	9
II. First Grade Enrollment .....	10
A. Historical First Grade Enrollment .....	10
B. Factors Influencing Entering First Grade Class Sizes .....	11
C. Recent Resident Birth Trends .....	12
D. Projections of Entering First Grade Class Sizes .....	15
III. Elementary School Enrollment (Grades K-4) .....	18
A. 2014-15 Best Fit Model .....	18
B. 2014-15 20 New Homes Added Annually Model .....	19
IV. Middle School Enrollment (Grades 5-8) .....	21
A. 2014-15 Best Fit Model .....	21
B. 2014-15 20 New Homes Added Annually Model .....	22
V. High School Enrollment (Grades 9-12) .....	24
A. 2014-15 Best Fit Model .....	24
B. 2014-15 20 New Homes Added Annually Model .....	25

VI.	Assessment of Economic Conditions, Population Trends, and Residential Development and Their Relation to School Enrollment . . . . .	27
A.	Economic Conditions . . . . .	27
B.	Population Trends . . . . .	29
C.	Residential Development Trends . . . . .	31
D.	Relationship of Residential Development to School Enrollment . . . . .	35
E.	Summary and Recommendations Regarding Economic Conditions, Population Trends, and Residential Development . . . . .	41
VII.	Summary of Enrollment Projections for School Planning Purposes . . . . .	42
A.	2014-15 Best Fit Model . . . . .	42
B.	2014-15 20 New Homes Added Annually Model . . . . .	43
APPENDIX:	Grade by Grade Historical and Projected Enrollment, and Grade Group Summaries	

## EXECUTIVE SUMMARY

---

Two models were used to project future enrollment in Cape Elizabeth. The first model, or the 2014-15 “best fit” model, is a standard statistical model which projects enrollment based on historical trends. Planning Decisions considers the 2014-15 “best fit” model to be the most likely scenario to occur in Cape Elizabeth if future enrollment follows historical patterns of enrollment.

The second model, or the 2014-15 “20 new homes added annually” model was based on the impact of recent residential development on preschool and elementary migration in Cape Elizabeth. Planning Decisions considers the “20 new homes added annually” model to be the most likely scenario to occur in Cape Elizabeth *IF* new home development continues at an average rate of 20 new homes added annually and new home development continues to have a similar impact on preschool and elementary migration trends as it has over the last three years. However, if new home development occurs at an average level below 20 new homes added annually, then this alternative model would overestimate future school enrollment in Cape Elizabeth.

Planning Decisions strongly suggests the district closely monitor future local residential development, preschool and elementary net migration levels for potential changes in trends which may impact future enrollment. To provide reasonable cushions for use in planning school facilities, Planning Decisions summarized school enrollment projections by grade group and presented the projections within ranges of plus and minus 10% for the K-8 grade groups, and plus and minus 5% for grades 9-12.

In completing the enrollment projections for Cape Elizabeth, the major findings of this study are as follows:

- **A review of residential development, economic and population trends in Cape Elizabeth found the following:**
  - ▶ Over the last five years (2010 to 2014), 18 new homes were added annually while the previous five-year period (2005 to 2009) experienced a similar average level of growth, with 17 new homes added per year on average. However, looking at the last three years, (2012 to 2014), 22 homes were added annually, on average, a slightly higher level than both five-year averages.
  - ▶ Over the last five years, Cape Elizabeth experienced a decline in the unemployment rate as well as an increase in the civilian workforce. These positive economic changes help to support a rebound in new home development.

- ▶ The 2014-15 “best fit” model indirectly takes into account the impact from turnover of existing housing stock by using historical migration trends occurring over the last three to ten years to project future enrollment. Existing homes are bought and sold in Cape Elizabeth every year, and year-to-year variations in the number of homes sold, age of families buying and/or selling existing homes, and average home price can also vary year-to-year depending on a variety of reasons including, but not limited to, economic conditions. The turnover of existing housing stock would only impact future enrollment above and beyond what is accounted for in the historical migration trends if the transfer of existing homes changed in a significant way for a sustained period of time. Planning Decisions found no evidence to suggest a significant change occurred over the last year or two or would be changing significantly in the near future.
- ▶ When looking at new home development occurring over the last ten years compared with preschool and elementary migration occurring over the last ten years, Planning Decisions found a strong relationship between preschool and elementary migration and the addition of new homes.
- ▶ According to the Town Planner, future new home development is expected to range between 10 and 20 new homes added annually. Since Planning Decisions found a strong relationship between preschool and elementary migration, the 2014-15 “best fit” model was tested to determine if it adequately accounted for future new home development.
- ▶ The 2014-15 “best fit” model accounted for roughly 13 new homes added annually when looking at preschool migration trends, and about 18 new homes added annually when looking at elementary migration trends. Therefore, the 2014-15 “best fit” model did not adequately account for the impact of new home development on preschool and elementary in-migration *IF* we consider new home development occurring at the highest end of the estimated level of growth, or 20 new homes added annually. Therefore, a second model was created based on the impact of residential development called the 2014-15 “20 new homes added annually” model. This model should provide the Cape Elizabeth School Department with reasonable estimates of future enrollment *IF* new home development occurs at the higher levels than accounted for in the 2014-15 “best fit” model. However, if average new home development occurs at the lower estimated level, then the 2014-15 “best fit” model would provide reasonable estimates for future enrollment.
- ▶ It is important to note that if future recessions or economic booms occur, or if significant residential development and/or population changes occur in the district, these enrollment projections would need to be revisited to assess the potential impacts of any changes.

- **Factors Influencing Entering Class Size (First Grade):**

**Resident Birth Trends:**

- ▶ Birth levels among Cape Elizabeth residents during the ten-year period (1998-99 to 2007-08), fluctuated year-to-year, while declining, on average. The average number of births over the last five years of the period, (2003-04 to 2007-08), was 67 births, which was an average of 10 births per year lower than the previous five-year period (1998-99 to 2002-03), which averaged 77 births. However, resident births over the last three years of the period (2005-06 to 2007-08) remained stable, on average, also averaging 67 births. While the decline in the average level of resident births over the last five years placed downward pressure on average entering first grade class sizes, the fluctuations in the year-to-year level of resident births caused fluctuations in first grade class sizes.
- ▶ The most recent five-year period (2009-10 to 2013-14) averaged 53 births, while the previous five-year period (2004-05 to 2008-09) had a significantly higher average level of births at 65 births. What this means is, the 12 births per year (on average) decline will begin to impact future first grade enrollment starting in 2016-17.
- ▶ Over the last three years (2011-12 to 2013-14) the average of births to district residents was similar to the most recent five-year average, averaging 54 births. Planning Decisions based the projections on the three-year average (2011-12 to 2013-14) of births, or the 2014-15 “best fit” model assumes resident births should average about 54 births annually. Since year-to-year fluctuations will continue to occur, Planning Decisions recommends the district keep an eye on future resident birth trends due to their impact on entering first grade class sizes.

**Net Preschool Migration Trends:**

- ▶ The net migration of preschool-aged children over the last five years (2010-11 to 2014-15) was a slightly higher average level in-migration, compared with the average in-migration occurring during the previous five-year period (2005-06 to 2009-10). In addition, over the last three years, (2012-13 to 2014-15), the average in-migration of preschool-aged students continued at a similar level as the most recent five-year period. Planning Decisions projects preschool in-migration will remain at a level similar to what has occurred over the last eight years, continuing to place upward pressure on entering first grade class sizes in Cape Elizabeth.

Taken together, a decline in the average level of resident births despite being combined with an increase in the average in-migration of preschool students has resulted in entering first grade class sizes that, on average, have declined over the last ten years. In addition, fluctuations in the level of resident births and preschool migration levels caused year-to-year fluctuations in first grade class sizes. For future first grade class sizes, a projected in-migration of preschool-aged students combined with projected lower levels of resident births will result in future average first grade class sizes that are smaller than the average first grade enrollment experienced over the last ten years.

- **2014-15 Best Fit Projections for Cape Elizabeth Resident Students:**

Planning Decisions' 2014-15 "best fit" model is based on the three-year average of births occurring between 2011-12 and 2013-14, and on a continuation of an in-migration of preschool-aged children similar to the level occurring over the last eight years, except for the 2015-16 first grade which was based on the 2014-15 Kindergarten enrollment and the level of in-migration occurring between first grade and Kindergarten over the last three years.

**First Grade Class Size:**

- ▶ Under the 2014-15 "best fit" model, Planning Decisions projects first grade enrollment will experience yearly swings corresponding with swings in resident births, with total enrollment ranging between 74 and 113 students through 2024-25. In addition, Cape Elizabeth should experience an average first grade enrollment of 89 students over the next ten years.

**Grade Group Enrollment:**

- ▶ Grades K-4 enrollment will decline from the current enrollment of 548 students to reach 474 students by 2017-18. Following 2017-18, enrollment will decline slightly more, but should level off, with enrollment ranging between 436 and 457 students through 2024-25.
- ▶ Grades 5-8 enrollment will decline slightly from the current enrollment of 552 students, to range between 520 and 541 students through 2017-18. Following 2017-18, enrollment will decline further to reach 410 students by 2024-25.
- ▶ Grades 9-12 enrollment will decline while fluctuating year-to-year as larger class sizes are replaced with smaller class sizes. Grades 9-12 enrollment will range between 513 and 542 students through 2020-21 before declining to reach 460 students by 2024-25.



**School Enrollment Projection Ranges - 2015-16 to 2024-25 (K-12)**  
**Cape Elizabeth - 2014-15 Best Fit Model**

School Year	Grades (K-4)			Grades (5-8)			Grades (9-12)			Total All Grades (K-12)		
	-10%	Proj.	+10%	-10%	Proj.	+10%	-5%	Proj.	+5%	-Sum	Proj.	+Sum
2014-15*	548			552			540			1,640		
2015-16	480	533	586	472	524	576	515	542	569	1,466	1,599	1,732
2016-17	446	496	546	487	541	595	487	513	539	1,421	1,550	1,679
2017-18	427	474	521	468	520	572	492	518	544	1,387	1,512	1,637
2018-19	411	457	503	452	502	552	513	540	567	1,376	1,499	1,622
2019-20	392	436	480	464	516	568	487	513	539	1,344	1,465	1,586
2020-21	398	442	486	423	470	517	504	530	557	1,324	1,442	1,560
2021-22	398	442	486	412	458	504	485	510	536	1,295	1,410	1,526
2022-23	411	457	503	380	422	464	466	491	516	1,258	1,370	1,482
2023-24	408	453	498	353	392	431	480	505	530	1,240	1,350	1,460
2024-25	398	442	486	369	410	451	437	460	483	1,204	1,312	1,420

**Sources:** \*2014-15 - current enrollment based on October 1st Resident enrollment, all other years - Projected by Planning Decisions, Inc., January 2015.

- **2014-15 20 New Homes Added Annually Projections for Cape Elizabeth Resident Students:**

Planning Decisions also created a second model based on recent residential development trends and the impact of new home development on preschool and elementary in-migration which was not adequately accounted for in the 2014-15 “best fit” model *IF* the highest estimated level of new home development was to occur in Cape Elizabeth. The 2014-15 “20 new homes added annually” model was first based on the 2014-15 “best fit” model, then between 2016-17 and 2024-25, another 19.1 students were added to each first grade class to account for preschool in-migration, and another 1.9 students in grades 1-6 were added (or 0.3 students per grade) to account for elementary in-migration. See **Section VI** for details on how these alternate projections were made.

**First Grade Class Size:**

- ▶ Under the 2014-15 “20 new homes added annually” model, Planning Decisions projects first grade enrollment will experience yearly swings corresponding with swings in resident births, with total enrollment ranging between 93 and 115 students through 2024-25. In addition, Cape Elizabeth should experience an average first grade enrollment of 106 students over the next ten years.

**Grade Group Enrollment:**

- ▶ Grades K-4 enrollment will remain similar to the current enrollment of 548 students to range between 531 and 557 students through 2024-25.
- ▶ Grades 5-8 enrollment will decline slightly from the current enrollment of 552 students, to range between 520 and 541 students through 2017-18. Following 2017-18, enrollment will decline further to range between 487 and 516 students through 2024-25.
- ▶ Grades 9-12 enrollment will decline while fluctuating year-to-year as larger class sizes are replaced with smaller class sizes. Grades 9-12 enrollment will range between 513 and 542 students through 2020-21 before declining to reach 484 students by 2024-25.

**School Enrollment Projection Ranges - 2015-16 to 2024-25 (K-12)**  
**Cape Elizabeth - 2014-15 20 New Homes Added Annually Model**

School Year	Grades (K-4)			Grades (5-8)			Grades (9-12)			Total All Grades (K-12)		
	-10%	Proj.	+10%	-10%	Proj.	+10%	-5%	Proj.	+5%	-Sum	Proj.	+Sum
2014-15*	548			552			540			1,640		
2015-16	496	551	606	472	524	576	515	542	569	1,482	1,617	1,752
2016-17	480	533	586	487	541	595	487	513	539	1,454	1,587	1,720
2017-18	478	531	584	468	520	572	492	518	544	1,438	1,569	1,700
2018-19	482	535	589	452	502	552	513	540	567	1,446	1,577	1,708
2019-20	482	536	590	464	516	568	487	513	539	1,434	1,565	1,696
2020-21	487	541	595	444	493	542	504	530	557	1,434	1,564	1,694
2021-22	488	542	596	453	503	553	485	510	536	1,425	1,555	1,685
2022-23	501	557	613	442	491	540	467	492	517	1,411	1,540	1,669
2023-24	498	553	608	438	487	536	481	506	531	1,417	1,546	1,675
2024-25	488	542	596	453	503	553	460	484	508	1,400	1,529	1,658

**Sources:** \*2014-15 - current enrollment based on October 1st Resident enrollment, all other years - Projected by Planning Decisions, Inc., January 2015.

## **TECHNICAL NOTES FROM THE ENROLLMENT STUDY:**

- **Resident Births:**

- ▶ Planning Decisions does not use the calendar year to determine the number of resident births in a year to project future entering first grade class sizes but instead bases the “birth year” on when a student is eligible to enroll, or from October 15<sup>th</sup> of one year to October 14<sup>th</sup> of the next. Because the data supplied by the Office of Data, Research, and Vital Statistics at the Maine Department of Health and Human Services for October is based on October 1<sup>st</sup> to the 31<sup>st</sup>, the October births were split in half so that one half is put into one year and the other half is put into the following year’s birth figures. This allows the cohort survival model to more accurately project entering first grade class sizes. Birth data from calendar years 2013 and 2014 is preliminary, but historically this data has been very accurate.

- **Grade-to-Grade Net Migration Ratios:**

- ▶ In making grade-to-grade projections, Planning Decisions analyzes the historical average grade-to-grade survival ratios over the last 10, 5, 4, and 3-year periods, and applies the average that displays the “strongest” statistical relationship to existing class sizes and the projections of entering first grade class sizes.
- ▶ When net migration ratios are discussed throughout the study, a ratio higher than 1.000 indicates a net in-migration of children occurred, and a ratio less than 1.000 indicates a net out-migration of children occurred.

- **Changes in Resident Student Counts:**

- ▶ Starting in 2006-07, the Maine Department of Education has school districts enter enrollment information into an online reporting system verse filing EF-M-11 Resident Enrollment reports. This change may have caused data consistency problems regarding which resident students are included in the resident enrollment data.

- **Resident Enrollment Projections Ranges:**

- ▶ To provide reasonable cushions for use in the planning of school facilities, Planning Decisions summarized school enrollment projections for the “best fit” model by grade group and presented the projections within ranges of plus and minus 10% for grades K-8 and plus and minus 5% for grades 9-12.

## I. INTRODUCTION & METHODOLOGY

---

Change in school enrollment derives from two sources: changes in the number of births to residents, and net migration of preschool and school-aged children into and out of a community. These projections reflect both sources of change.

These projections are based on Planning Decisions' in-house cohort survival model which contains two steps. First, we analyze historical trends and relationships between entering class sizes (first grade enrollment) and resident births in the year that is six years before the enrollment year. Correlation coefficients (using Pearson's r-squared) are calculated for the last three, four, five, six, seven, eight, nine and ten-year periods regarding the relationship between first grade enrollment and births. The correlation coefficients are examined to determine which period represents the statistical "best fit" for projecting future first grade enrollment based on resident birth data.

Second, we analyze historical trends at each grade level. Specifically, we examine the grade-to-grade survival ratios. These ratios represent the number of students in a grade in one year (i.e., 1<sup>st</sup> grade in 2013-14) in relation to the number of students in the next grade the following year (i.e., 2<sup>nd</sup> grade in 2014-15). Then we calculate correlation coefficients (using Pearson's r-squared) for the last three, four, five, and ten-year periods regarding the relationship between enrollment in a grade in one year and the next grade the following year to determine which period represents the statistical "best fit" at each of the grade levels. The grade-to-grade ratios that represent the "best fit" are then applied to the current enrollment in each grade and projected first grade classes to project enrollment for the next ten years.

**Sections II through V** of this report provide historical enrollment trends and two sets of enrollment projections which project enrollment through 2024-25 for each grade and by grade group.

**Section VI** of this report presents economic trends, population trends, and residential development factors that may influence enrollment projections.

**Section VII** contains tables that summarize enrollment projections for each grade grouping within ranges of plus and minus 10% for grades K-8 and plus and minus 5% for grades 9-12 for use in planning of school facilities.

Grade by grade historical and projected enrollment are presented for Cape Elizabeth in the report **Appendix**.

## II. FIRST GRADE ENROLLMENT

### A. Historical First Grade Enrollment

A review of first grade enrollment over the last ten years (2005-06 to 2014-15) reveals enrollment that fluctuated significantly year-to-year while declining, on average. During this ten-year period, first grade enrollment ranged between 97 and 137 students, with an average enrollment of 115 students. The average first grade enrollment over the last five years (2010-11 to 2014-15), was 108 students, a lower average enrollment compared with the average of the previous five-year period (2005-06 to 2009-10), or 122 students. However, while enrollment over the last three years (2012-13 to 2014-15) fluctuated significantly year-to-year, it remained stable, on average, with first grade enrollment averaging 108 students. (See Table II-1 and Figure II-2).

**Table II-1 - Relationship of Entering First Grade Class Size to Resident Births  
Cape Elizabeth**

Birth Year (Oct. 15 - Oct. 14)	# of Resident Births	First Grade Year	First Grade Resident Enrollment	Ratio First/Births
1998-99	78	2005-06	134	1.718
1999-00	74	2006-07	113	1.527
2000-01	86	2007-08	137	1.593
2001-02	65	2008-09	104	1.600
2002-03	81	2009-10	122	1.506
2003-04	69	2010-11	115	1.667
2004-05	64	2011-12	102	1.594
2005-06	73	2012-13	122	1.671
2006-07	67	2013-14	97	1.448
2007-08	60	2014-15	104	1.733
<b>5 Yr Avg. (99-03)</b>	77	<b>5 Yr Avg. (05-09)</b>	122	1.589
<b>5 Yr Avg. (04-08)</b>	67	<b>5 Yr Avg. (10-14)</b>	108	1.623
<b>3 Yr Avg. (06-08)</b>	67	<b>3 Yr Avg. (12-14)</b>	108	1.617
<b>10 Yr Avg. (99-08)</b>	72	<b>10 Yr Avg. (05-14)</b>	115	1.606

Births - Office of Data, Research, and Vital Statistics; Maine Department of Health and Human Services; 1<sup>st</sup> Grade Enrollment - October 1<sup>st</sup>, Enrollment. All else calculated by Planning Decisions, Inc. **Note:** Enrollment includes all resident students attending district schools and resident students attending out of district schools.

## B. Factors Influencing Entering First Grade Class Size

The size of the first grade class is influenced by two factors: the number of births to residents of a community during the year that is six years prior to the enrollment year; and, net migration of preschool-aged children (number of preschool-aged children moving into the community minus the number of preschool-aged children moving out of the community) during the first grade enrollment year and the year that was six years prior. The level of preschool migration can be measured by the ratio of enrollment for the entering first grade class to the number of births to residents in the year that was six years prior.

### 1. Resident Birth Levels

Birth levels among Cape Elizabeth residents during the ten-year period (1998-99 to 2007-08), fluctuated year-to-year, while declining, on average. The average number of births over the last five years of the period, (2003-04 to 2007-08), was 67 births, which was an average of 10 births per year lower than the previous five-year period (1998-99 to 2002-03), which averaged 77 births. However, resident births over the last three years of the period (2005-06 to 2007-08) remained stable, on average, also averaging 67 births. **While the decline in the average level of resident births over the last five years placed downward pressure on average entering first grade class sizes, the fluctuations in the year-to-year level of resident births caused fluctuations in first grade class sizes. (See Table II-1 and Figure II-1).**

### 2. Net Preschool Migration

In the first five years of the last decade, (2005-06 to 2009-10), Cape Elizabeth experienced an in-migration of preschool-aged children, with an average migration ratio of 1.589. In the past five years, (2010-11 to 2014-15), Cape Elizabeth continued to experience an in-migration of preschool-aged children, with a slightly higher average in-migration, with a ratio of 1.623. In addition, over the last three years, (2012-13 to 2014-15), preschool in-migration continued at a level similar to the last five-year period, with an average ratio of 1.617. **Over the last three to five years, preschool in-migration has increased placing upward pressure on first grade class sizes, while fluctuations in migration levels resulted in fluctuations in entering first grade class sizes. (See Table II-1).**

**Taken together, a decline in the average level of resident births despite being combined with an increase in the average in-migration of preschool students has resulted in entering first grade class sizes that, on average, have declined over the last ten years. In addition, fluctuations in the level of resident births and preschool migration levels caused year-to-year fluctuations in first grade class sizes.**

### C. Recent Resident Birth Trends

Over the last ten-year period, 2004-05 to 2013-14, births to residents of Cape Elizabeth averaged 59 births annually, with births fluctuating year-to-year, to range between 46 and 73 births annually. The most recent ten-year average is 17 births lower than the average of births occurring during the previous six-years (1998-99 to 2003-04), which averaged 76 births. This significant decline in resident births over the last ten-years has had an impact not only on historical first grade enrollment, but will continue to have an impact on future first grade enrollment and on the total enrollment in Cape Elizabeth as smaller first grade classes move throughout the grade levels.

The most recent five-year period (2009-10 to 2013-14) averaged 53 births, while the previous five-year period (2004-05 to 2008-09) had a significantly higher average level of births at 65 births. What this means is, the 12 births per year (on average) decline will begin to impact future first grade enrollment starting in 2016-17.

Over the last three years (2011-12 to 2013-14) the average of births to district residents was similar to the most recent five-year average, averaging 54 births. Planning Decisions based the projections on the three-year average (2011-12 to 2013-14) of births, or the 2014-15 "best fit" model assumes resident births should average about 54 births annually. **Since year-to-year fluctuations will continue to occur, Planning Decisions recommends the district keep an eye on future resident birth trends due to their impact on entering first grade class sizes. (See Table II-2 and Figure II-1).**



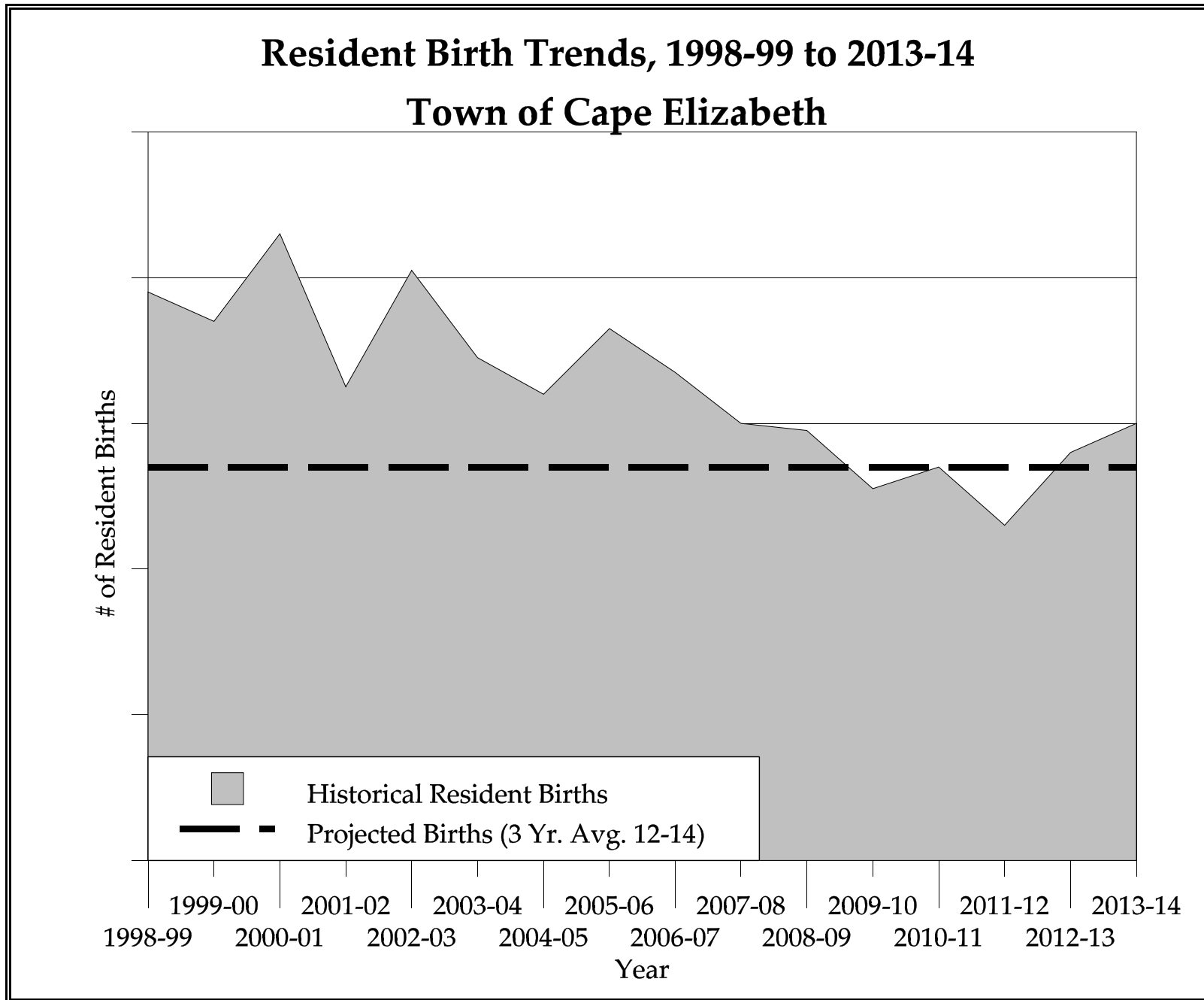
**Table II-2 - Trends in Resident Births - 2004-05 to 2013-14**

**Town of Cape Elizabeth**

Year	Jan	Feb	Mar	Apr	May	June	July	Aug.	Sept.	October		Nov.	Dec.	Calendar Year Total	Birth Year (Oct. 15 - Oct. 14)	Birth Year Total
										½	½					
2004	8	3	7	11	5	5	2	8	3	4	4	7	3	70	Data used for Projections	
2005	5	4	6	6	7	3	4	9	3	3	3	5	6	64	2004-05	64
2006	6	2	7	5	10	8	8	4	5	4	4	3	10	76	2005-06	73
2007	4	2	3	5	11	6	3	9	3	4	4	1	7	62	2006-07	67
2008	6	3	4	6	5	4	4	3	8	5	4	7	3	62	2007-08	60
2009	7	1	3	3	6	5	8	6	3	3	2	3	3	53	2008-09	59
2010	2	4	2	4	7	4	6	5	5	4	3	3	3	52	2009-10	51
2011	6	2	5	4	5	8	5	1	7	2	2	3	6	56	2010-11	54
2012	7	7	1	1	2	5	1	6	2	3	3	1	8	47	2011-12	46
2013 pre	1	5	4	7	4	8	3	4	6	2	2	3	5	54	2012-13 pre	56
2014 pre	5	3	3	5	6	9	7	2	7	3	2	4	6	62	2013-14 pre	60
<b>10 Yr Avg. (05-14)</b>	5	3	4	5	6	6	5	5	5	3	3	3	6	59	<b>10 Yr Avg. (05-14)</b>	<b>59</b>
<b>5 Yr Avg.(05-09)</b>	6	2	5	5	8	5	5	6	4	4	3	4	6	63	<b>5 Yr Avg.(05-09)</b>	<b>65</b>
<b>5 Yr Avg. (10-14)</b>	4	4	3	4	5	7	4	4	5	3	2	3	6	54	<b>5 Yr Avg. (10-14)</b>	<b>53</b>
<b>3 Yr Avg. (12-14)</b>	4	5	3	4	4	7	4	4	5	3	2	3	6	54	<b>3 Yr Avg. (12-14)</b>	<b>54</b>

Source: Office of Data, Research, and Vital Statistics; Maine Department of Health and Human Services, \* 2013 and 2014 births are preliminary.

Figure II-1



#### D. Projections of Entering First Grade Class Sizes

Planning Decisions' 2014-15 "best fit" model is based on the three-year average of births occurring between 2011-12 and 2013-14, and on a continuation of an in-migration of preschool-aged children similar to the level occurring over the last eight years, except for the 2015-16 first grade which was based on the 2014-15 Kindergarten enrollment and the level of in-migration occurring between first grade and Kindergarten over the last three years.

Planning Decisions also created a second model based on recent residential development trends and the impact of new home development on preschool and elementary in-migration which was not adequately accounted for in the 2014-15 "best fit" model if the highest estimated level of new home development was to occur in Cape Elizabeth. The 2014-15 "20 new homes added annually" model was first based on the 2014-15 "best fit" model, then between 2016-17 and 2024-25, another 19.1 students were added to each first grade class to account for preschool in-migration, and another 1.9 students in grades 1-6 were added (or 0.3 students per grade) to account for elementary in-migration. See **Section VI** for details on how these alternative projections were made. (*See Table II-3 and Figure II-2*).

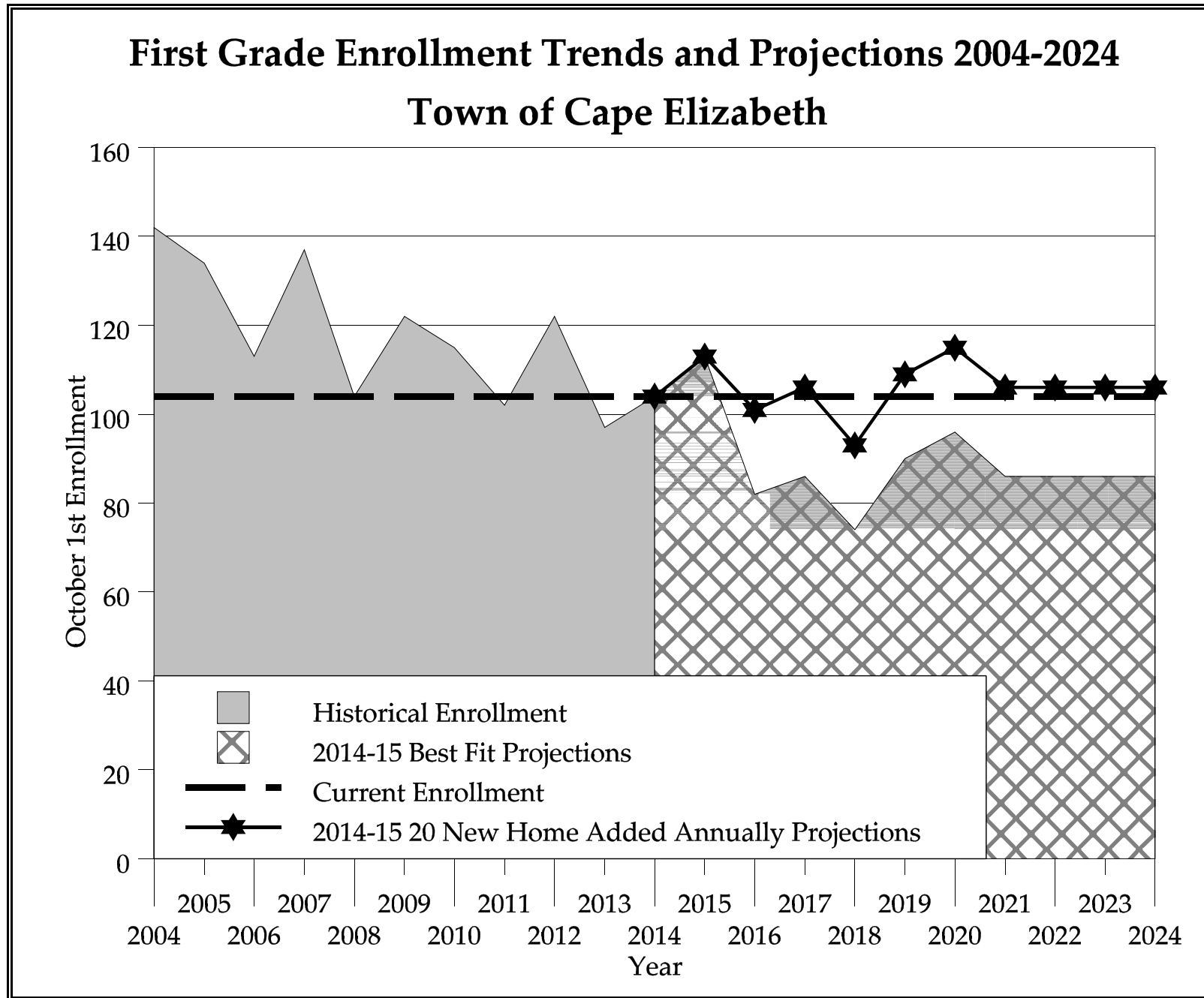
- ▶ Under the 2014-15 "best fit" model, Planning Decisions projects first grade enrollment will experience yearly swings corresponding with swings in resident births, with total enrollment ranging between 74 and 113 students through 2024-25. In addition, Cape Elizabeth should experience an average first grade enrollment of 89 students over the next ten years.
- ▶ Under the 2014-15 "20 new homes added annually" model, Planning Decisions projects first grade enrollment will experience yearly swings corresponding with swings in resident births, with total enrollment ranging between 93 and 115 students through 2024-25. In addition, Cape Elizabeth should experience an average first grade enrollment of 106 students over the next ten years.

**Table II-3 - Projected Entering First Grade Class Sizes, 2015-16 to 2024-25  
Cape Elizabeth**

Birth Year (Oct. 15 - Oct. 14)	# of Resident Births	First Grade Year	First Grade Resident Enrollment			
			2014-15 Best Fit Model	Ratio First Grade/Births	2014-15 20 NHAA Model	Ratio First Grade/Births
2008-09	59	2015-16	113	1.915	113	1.915
2009-10	51	2016-17	82	1.608	101	1.980
2010-11	54	2017-18	86	1.593	106	1.963
2011-12	46	2018-19	74	1.609	93	2.022
2012-13 pre	56	2019-20	90	1.607	109	1.946
2013-14 pre	60	2020-21	96	1.600	115	1.917
2014-15*	54	2021-22	86	1.593	106	1.963
2015-16*	54	2022-23	86	1.593	106	1.963
2016-17*	54	2023-24	86	1.593	106	1.963
2017-18*	54	2024-25	86	1.593	106	1.963
<b>3 Yr Avg. 12-14</b>	<b>54</b>	<b>10 Yr Avg. 15-24</b>	<b>89</b>	<b>1.639</b>	<b>106</b>	<b>1.965</b>

**Sources:** Births 2008-2014 - Office of Data, Research, and Vital Statistics; Maine Department of Health and Human Services, 2013 and 2014 births are preliminary. \*2014-15 to 2017-18 births estimated by Planning Decisions based on the three-year (2011-12 to 2013-14) average of resident births. 1<sup>st</sup> Grade Enrollment - Projected by Planning Decisions, Inc.

Figure II-2



### III. ELEMENTARY SCHOOL ENROLLMENT (GRADES K-4)

#### A. 2014-15 Best Fit Model

Table III-1 - Historical & Projected Elementary School Enrollment (K-4) 2004-05 to 2024-25 - Cape Elizabeth - 2014-15 Best Fit Model						
School Year	Enrollment by Grade					Total (K-4)
	K	1st	2nd	3rd	4th	
2004-05	111	142	128	138	140	659
2005-06	115	134	143	139	138	669
2006-07	108	113	136	148	136	641
2007-08	89	137	114	137	149	626
2008-09	107	104	137	113	142	603
2009-10	101	122	112	136	110	581
2010-11	89	115	124	117	143	588
2011-12	105	102	119	126	118	570
2012-13	88	122	104	123	130	567
2013-14	96	97	126	112	132	563
2014-15*	101	104	100	131	112	548
2015-16	73	113	107	105	135	533
2016-17	78	82	116	112	108	496
2017-18	66	86	84	122	116	474
2018-19	80	74	89	88	126	457
2019-20	86	90	76	93	91	436
2020-21	78	96	92	80	96	442
2021-22	78	86	99	97	82	442
2022-23	78	86	89	104	100	457
2023-24	78	86	89	93	107	453
2024-25	78	86	89	93	96	442

**Note:** Enrollment includes all resident students attending district schools and resident students attending out of district schools. Source: 2004-05 to 2014-15 - October 1<sup>st</sup> enrollment; all other years - projected by Planning Decisions, Inc.

The elementary level in Cape Elizabeth consists of Kindergarten to the fourth grade. (See Tables III-1 and III-2 and Figure III-1).

#### Historical Enrollment Trends:

- ▶ Enrollment of K-4 Cape Elizabeth resident students fluctuated year-to-year, with enrollment ranging between 641 and 669 students through 2006-07. Following 2006-07, enrollment declined to reach 548 students by 2014-15.

#### 2014-15 Best Fit Model Projections:

- ▶ Under the 2014-15 “best fit” model, Planning Decisions projects K-4 enrollment will decline from the current enrollment of 548 students to reach 474 students by 2017-18. Following 2017-18, enrollment will decline slightly more, but should level off, with enrollment ranging between 436 and 457 students through 2024-25.

**B. 2014-15 20 New Homes Added Annually Model**

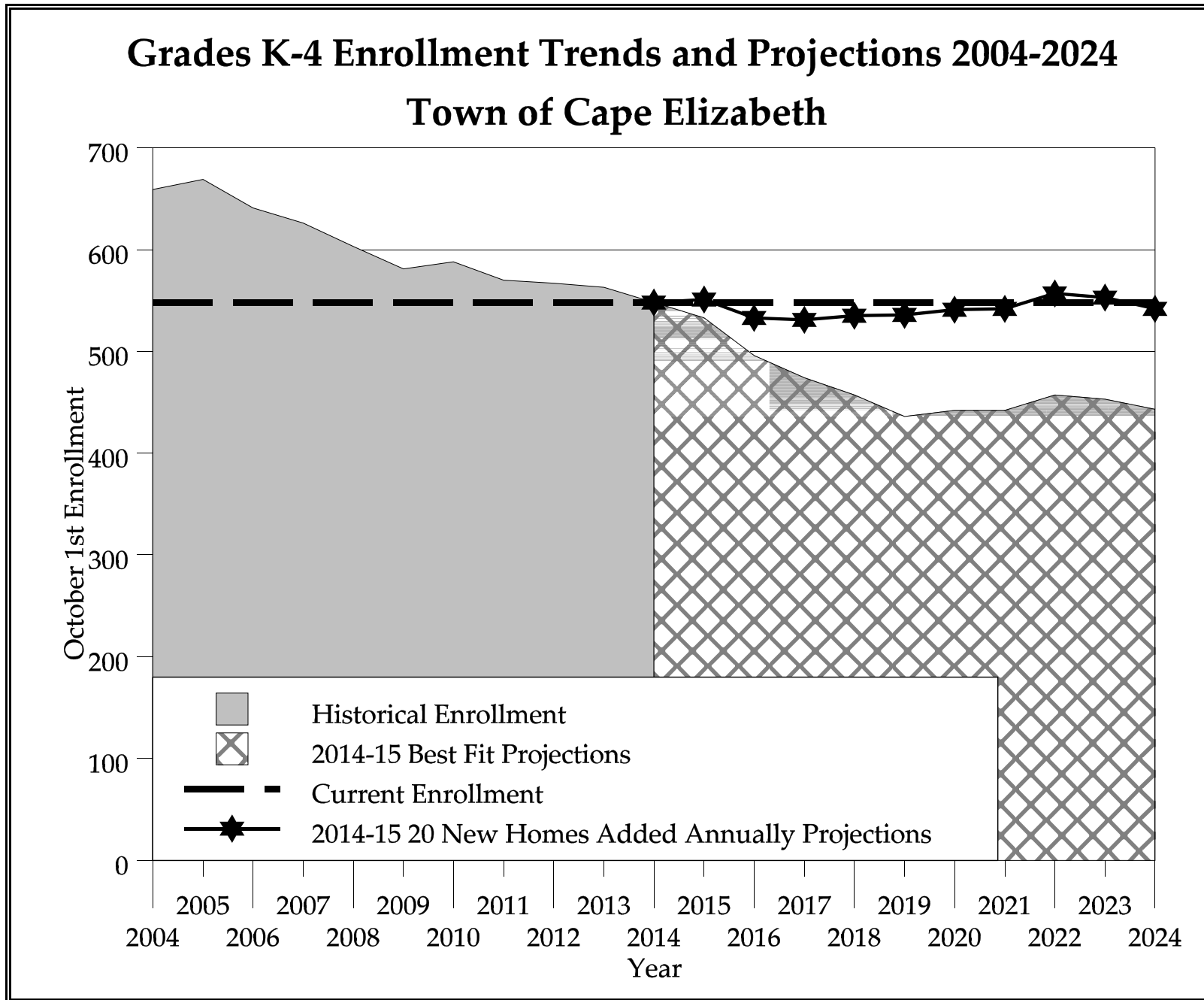
<b>Table III-2 - Historical &amp; Projected Elementary School Enrollment (K-4)</b>						
<b>2004-05 to 2024-25 - Cape Elizabeth</b>						
<b>2014-15 20 New Homes Added Annually Model</b>						
<b>School Year</b>	<b>Enrollment by Grade</b>					<b>Total (K-4)</b>
	<b>K</b>	<b>1st</b>	<b>2nd</b>	<b>3rd</b>	<b>4th</b>	
2004-05	111	142	128	138	140	659
2005-06	115	134	143	139	138	669
2006-07	108	113	136	148	136	641
2007-08	89	137	114	137	149	626
2008-09	107	104	137	113	142	603
2009-10	101	122	112	136	110	581
2010-11	89	115	124	117	143	588
2011-12	105	102	119	126	118	570
2012-13	88	122	104	123	130	567
2013-14	96	97	126	112	132	563
2014-15*	101	104	100	131	112	548
2015-16	91	113	107	105	135	551
2016-17	95	101	116	112	109	533
2017-18	83	106	104	122	116	531
2018-19	98	93	109	109	126	535
2019-20	104	109	96	114	113	536
2020-21	95	115	112	101	118	541
2021-22	95	106	119	118	104	542
2022-23	95	106	109	125	122	557
2023-24	95	106	109	114	129	553
2024-25	95	106	109	114	118	542

**Note:** Enrollment includes all resident students attending district schools and resident students attending out of district schools. Source: 2004-05 to 2014-15 - October 1<sup>st</sup> enrollment; all other years - projected by Planning Decisions, Inc.

**2014-15 20 New Homes Added Annually Model Projections:**

- ▶ Under the 2014-15 “20 new homes added annually” model, Planning Decisions projects K-4 enrollment will remain similar to the current enrollment of 548 students to range between 531 and 557 students through 2024-25. (See Table III-2 and Figure III-1).

Figure III-1





## IV. MIDDLE SCHOOL ENROLLMENT (GRADES 5-8)

### A. 2014-15 Best Fit Model

Table IV-1 - Historical and Projected Middle School Enrollment (5-8) 2004-05 to 2024-25 - Cape Elizabeth - 2014-15 Best Fit Model					
School Year	Enrollment by Grades				Total (5-8)
	5th	6th	7th	8th	
2004-05	134	155	141	156	586
2005-06	142	137	156	144	579
2006-07	136	139	130	159	564
2007-08	136	137	140	136	549
2008-09	151	140	133	140	564
2009-10	134	150	141	134	559
2010-11	118	138	149	140	545
2011-12	145	119	142	149	555
2012-13	121	147	123	141	532
2013-14	135	128	149	123	535
2014-15*	137	137	128	150	552
2015-16	116	141	139	128	524
2016-17	140	119	143	139	541
2017-18	112	144	121	143	520
2018-19	120	115	146	121	502
2019-20	130	123	117	146	516
2020-21	94	134	125	117	470
2021-22	100	97	136	125	458
2022-23	85	103	98	136	422
2023-24	103	87	104	98	392
2024-25	111	106	89	104	410

**Note:** Enrollment includes all resident students attending district schools and resident students attending out of district schools. **Source:** 2004-05 to 2014-15 - historical enrollment, October 1<sup>st</sup> Enrollment Reports; all other years - projected by Planning Decisions, Inc.

The middle high school level in Cape Elizabeth consists of the fifth through eighth grade. (See Tables IV-1 and IV-2 and Figure IV-1).

#### Historical Enrollment Trends:

- ▶ Enrollment in grades 5-8 declined from 586 students in 2004-05 to reach 549 students by 2007-08. Following 2007-08, enrollment fluctuated year-to-year, ranging between 532 and 564 students through 2014-15.

#### 2014-15 Best Fit Model Projections:

- ▶ Under the 2014-15 “best fit” model, Planning Decisions projects 5-8 attending enrollment will decline slightly from the current enrollment of 552 students, to range between 520 and 541 students through 2017-18. Following 2017-18, enrollment will decline further to reach 410 students by 2024-25.

**B. 20 New Homes Added Annually Model**

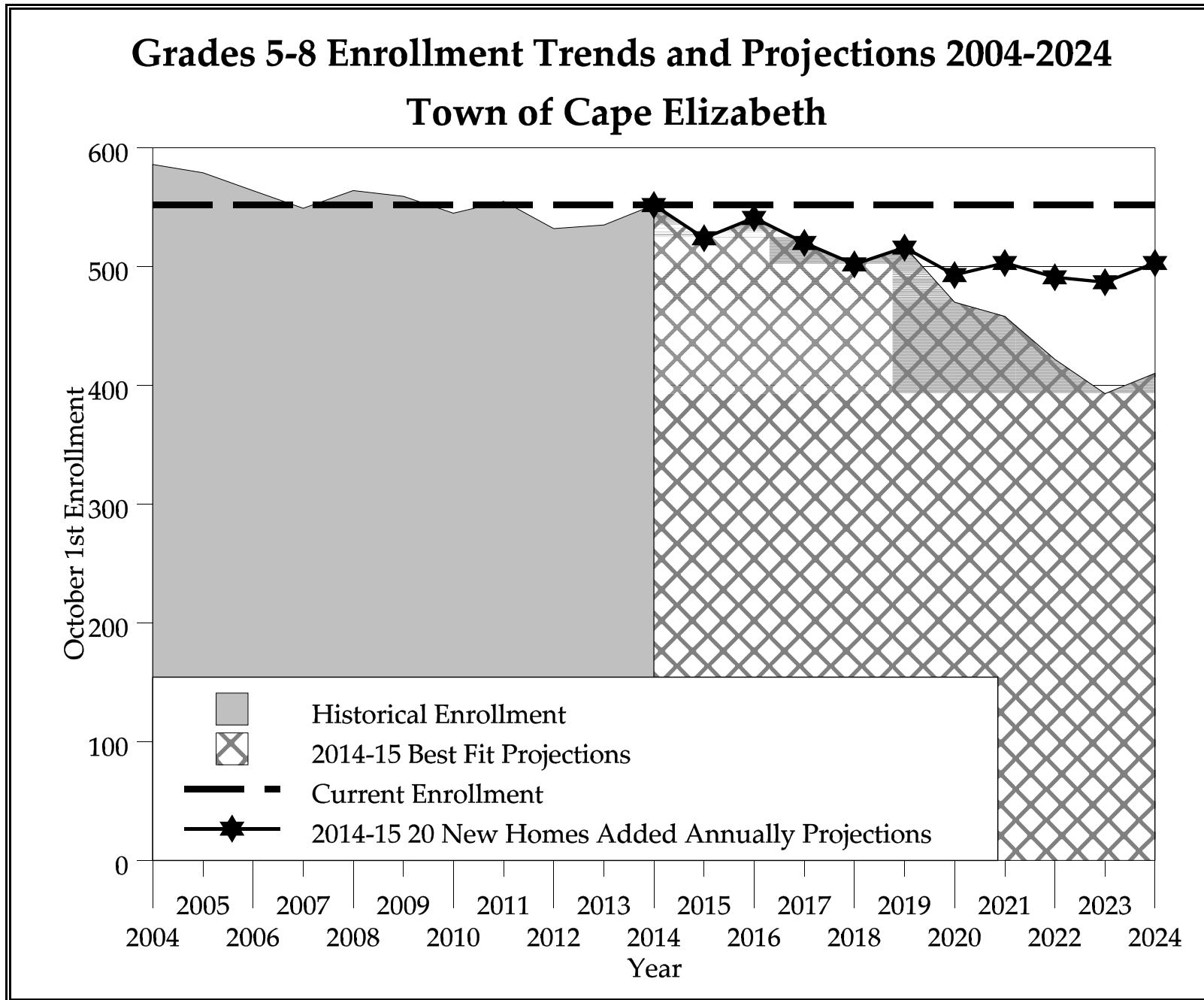
Table IV-2 - Historical and Projected Middle School Enrollment (5-8) 2004-05 to 2024-25 - Cape Elizabeth 2014-15 New Homes Added Annually Model					
School Year	Enrollment by Grade				Total (5-8)
	5th	6th	7th	8th	
2004-05	134	155	141	156	586
2005-06	142	137	156	144	579
2006-07	136	139	130	159	564
2007-08	136	137	140	136	549
2008-09	151	140	133	140	564
2009-10	134	150	141	134	559
2010-11	118	138	149	140	545
2011-12	145	119	142	149	555
2012-13	121	147	123	141	532
2013-14	135	128	149	123	535
2014-15*	137	137	128	150	552
2015-16	116	141	139	128	524
2016-17	140	119	143	139	541
2017-18	112	144	121	143	520
2018-19	120	115	146	121	502
2019-20	130	123	117	146	516
2020-21	117	134	125	117	493
2021-22	122	120	136	125	503
2022-23	107	126	122	136	491
2023-24	126	111	128	122	487
2024-25	133	130	112	128	503

**Note:** Enrollment includes all resident students attending district schools and resident students attending out of district schools. **Source:** 2004-05 to 2014-15 - historical enrollment, October 1<sup>st</sup> Enrollment Reports; all other years - projected by Planning Decisions, Inc.

**2014-15 20 New Homes Added Annually Model Projections:**

Under the 2014-15 “20 new home added annually” model, Planning Decisions projects 5-8 enrollment will decline slightly from the current enrollment of 552 students, to range between 520 and 541 students through 2017-18. Following 2017-18, enrollment will decline further to range between 487 and 516 students through 2024-25. (See *Table IV-2 and Figure IV-1*).

Figure IV-1



## V. HIGH SCHOOL ENROLLMENT (GRADES 9-12)

### A. 2014-15 Best Fit Model

Table V-1 - Historical and Projected High School Enrollment (9-12) 2004-05 to 2024-25 - Cape Elizabeth - 2014-15 Best Fit Model					
School Year	Enrollment by Grade				Total (9-12)
	9th	10th	11th	12th	
2004-05	156	140	151	134	581
2005-06	151	158	137	150	596
2006-07	134	152	155	146	587
2007-08	151	138	147	155	591
2008-09	135	147	138	151	571
2009-10	137	135	150	135	557
2010-11	131	135	137	149	552
2011-12	136	137	138	138	549
2012-13	154	142	128	136	560
2013-14	129	159	136	126	550
2014-15*	116	132	152	140	540
2015-16	145	120	125	152	542
2016-17	124	150	114	125	513
2017-18	134	128	142	114	518
2018-19	138	139	121	142	540
2019-20	117	143	132	121	513
2020-21	141	121	136	132	530
2021-22	113	146	115	136	510
2022-23	121	117	138	115	491
2023-24	131	125	111	138	505
2024-25	95	135	119	111	460

**Note:** Enrollment includes all resident students attending district schools and resident students attending out of district schools **Source:** 2004-05 to 2014-15 - historical enrollment, October 1<sup>st</sup> Enrollment Reports; all other years - projected by Planning Decisions, Inc.

The high school level in Cape Elizabeth consists of the ninth through twelfth grade. (See Tables V-1 and V-2 and Figure V-1).

#### Historical Enrollment Trends:

- ▶ Enrollment at the high school ranged between 571 and 596 students through 2008-09. Following 2008-09, enrollment of Cape Elizabeth students in grades 9-12 declined, to range between 540 and 560 students through 2014-15.

#### 2014-15 Best Fit Model Projections:

- ▶ Under the 2014-15 “best fit” model, Planning Decisions projects 9-12 enrollment will decline while fluctuating year-to-year as larger class sizes are replaced with smaller class sizes. Grades 9-12 enrollment will range between 513 and 542 students through 2020-21 before declining to reach 460 students by 2024-25.

**B. 2014-15 20 New Homes Added Annually Model**

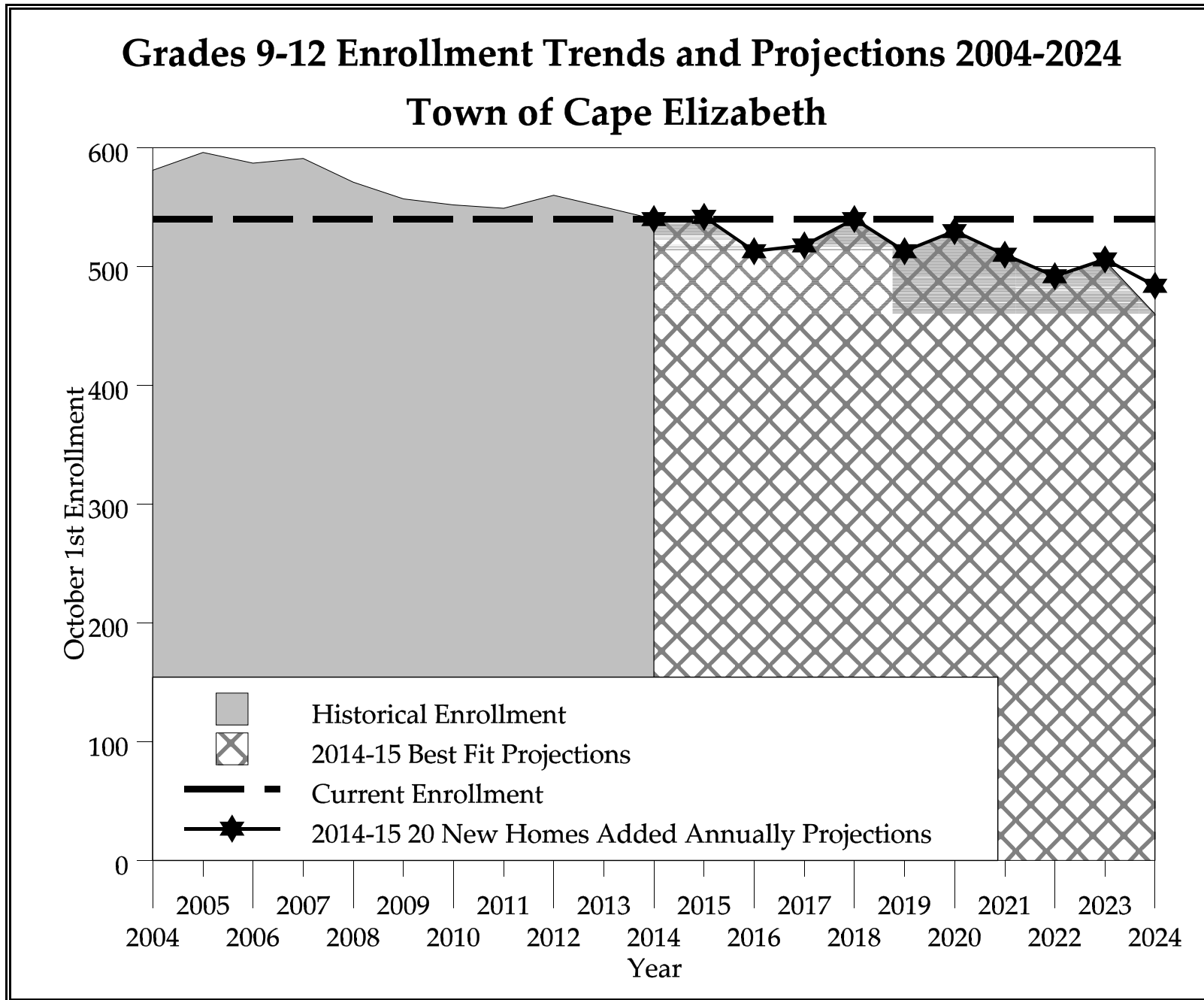
<b>Table V-2 - Historical and Projected High School Enrollment (9-12)</b>					
<b>2004-05 to 2024-25 - Cape Elizabeth</b>					
<b>2014-15 20 New Homes Added Annually Model</b>					
<b>School Year</b>	<b>Enrollment by Grade</b>				<b>Total (9-12)</b>
	<b>9th</b>	<b>10th</b>	<b>11th</b>	<b>12th</b>	
2004-05	156	140	151	134	581
2005-06	151	158	137	150	596
2006-07	134	152	155	146	587
2007-08	151	138	147	155	591
2008-09	135	147	138	151	571
2009-10	137	135	150	135	557
2010-11	131	135	137	149	552
2011-12	136	137	138	138	549
2012-13	154	142	128	136	560
2013-14	129	159	136	126	550
2014-15*	116	132	152	140	540
2015-16	145	120	125	152	542
2016-17	124	150	114	125	513
2017-18	134	128	142	114	518
2018-19	138	139	121	142	540
2019-20	117	143	132	121	513
2020-21	141	121	136	132	530
2021-22	113	146	115	136	510
2022-23	121	117	139	115	492
2023-24	131	125	111	139	506
2024-25	118	136	119	111	484

**Note:** Enrollment includes all resident students attending district schools and resident students attending out of district schools **Source:** 2004-05 to 2014-15 - historical enrollment, October 1<sup>st</sup> Enrollment Reports; all other years - projected by Planning Decisions, Inc.

**2014-15 20 New Homes Added Annually Model Projections:**

- ▶ Under the 2014-15 “20 new homes added annually” model, Planning Decisions projects 9-12 enrollment will decline while fluctuating year-to-year as larger class sizes are replaced with smaller class sizes. Grades 9-12 enrollment will range between 513 and 542 students through 2020-21 before declining to reach 484 students by 2024-25. (See Table V-2 and Figure V-1).

Figure V-1



## VI. ASSESSMENT OF ECONOMIC CONDITIONS, POPULATION TRENDS, AND RESIDENTIAL DEVELOPMENT AND THEIR RELATION TO SCHOOL ENROLLMENT

---

Future school enrollment in Cape Elizabeth will be impacted by past, current, and future trends in population, housing development, and economic conditions. With the growth of a population and development of new homes comes the potential for new students in the school system. Because school enrollment is impacted by residential development, Planning Decisions analyzed development trends in Cape Elizabeth. This information is then used to test whether the “best fit” cohort survival enrollment projections adequately reflect the impact of potential future residential development trends.

### A. Economic Conditions

*Table VI-1* presents trends in the Civilian Labor Force in Cape Elizabeth, the **Portland-South Portland-Biddeford Metropolitan Area (MA)**, and the State of Maine. Between 2009 and 2013, the **Portland-South Portland-Biddeford MA’s** Civilian Labor Force increased from 203,156 to 210,284, an increase of 7,128 workers or 3.5%, while the State of Maine's Civilian Labor Force increased by 1.3% over the same time period. The number of people unemployed declined in the **MA** with the unemployment rate declining from 6.7% in 2009 to 5.5% in 2013, and in the State of Maine, the unemployment rate declined from 8.1% in 2009 to 6.7% in 2013. The decline in the unemployment rate across the State of Maine reflects some recovery from recessionary impacts on employment.

Cape Elizabeth’s Civilian Labor Force experienced growth of 4.7% with a gain of 219 workers between 2009 and 2013. The gain in the Civilian Labor Force occurred at a greater rate from what was experienced in the **Portland-South Portland-Biddeford MA** which has the greatest influence on the district. In addition, Cape Elizabeth did experience a decline in the unemployment rate between 2009 and 2013, with the unemployment rate declining to 4.5% in 2013 from 5.7% in 2009.

The changes in Civilian Labor Force and the declines in unemployment rates indicate some recovery from the recession is occurring. Planning Decisions speculates that changes in the unemployment rate and the Civilian Labor Force in Cape Elizabeth likely have had an impact on school enrollment over the last five years, although any impact would already be accounted for in the last three to five-year historical enrollment trends used to make projections. Therefore, no changes to the 2014-15 “best fit” model are necessary to account for changes in employment levels in Cape Elizabeth at this time. However, if significant change in the Civilian Labor Force occurs in the future, then the impact of these changes on school enrollment should be assessed.

**Table VI-1 - Trends in Civilian Labor Force, 2009 - 2013**  
**Labor Market Area Influencing Cape Elizabeth vs. State of Maine**

	Cape Elizabeth				Portland-South Portland-Biddeford MA				State of Maine			
	2009	2013	Change (2009-13)		2009	2013	Change (2009-13)		2009	2013	Change (2009-13)	
			#	%			#	%			#	%
Civilian Labor Force	4,654	4,873	219	4.7%	203,156	210,284	7,128	3.5%	700,075	708,967	8,892	1.3%
Employment	4,387	4,652	265	6.0%	189,447	198,705	9,258	4.9%	643,105	661,615	18,510	2.9%
Unemployment	267	221	(46)	-17.2%	13,709	11,579	(2,130)	-15.5%	56,970	47,352	(9,618)	-16.9%
Unemployment Rate	5.7%	4.5%	-1.2%		6.7%	5.5%	-1.2%		8.1%	6.7%	-1.5%	

**Source:** Maine Department of Labor, Center for Workforce Research and Information



## B. Population Trends

**Table VI-2** presents the population trends for Cape Elizabeth in comparison to Cumberland County, and the State using data from the U.S. Census. In 2000, Cape Elizabeth's total population was 9,068 people. Total population in Cape Elizabeth declined by 53 people to become 9,015 people by the year 2010, or less than 1% loss in total population. Cumberland County experienced an increase of 6%, while the State of Maine experienced lower levels of growth, increasing by 4.2%. Census population estimates for 2013 indicate total population in Cape Elizabeth increased to around 9,070 people since 2010, a level similar to the total population in 2000.

The under 18 years of age population of Cape Elizabeth was 2,402 in 2000, by 2010, total population declined by 6.1% to 2,256 children, with a loss of 146 children. When we looked at Cumberland County, the population of people under 18 years of age declined by 5%, while the State of Maine declined by 8.9%. Therefore, the loss in the under 18 population is not limited to Cape Elizabeth and is occurring throughout the State of Maine.

The school-aged population of Cape Elizabeth (5 to 17 years of age) was 1,932 in 2000. By 2010, that figure declined by 3.4% to 1,866 students, for a loss of 66 school-aged children. While the total under 18 population declined by 146, the school-aged population declined by 66 students, meaning the infant to four-years-old population lost 80 children over the decade. Looking at Cumberland County, the population of people 5 to 17 years of age declined by 5.1% while the State of Maine experienced a larger decline of 11.1%. Therefore, the loss in the school-aged population is not limited to Cape Elizabeth and is occurring throughout the State of Maine.

When we look at the population fertile females (women who are 18 to 44 years of age), in 2000 there were 1,317 fertile females in Cape Elizabeth. By 2010, that figure declined by 22.2% to 1,024, for a loss of 293 fertile females. Looking at Cumberland County, the population of fertile females declined by 7.6%, while the State of Maine declined by 10%. The decline in the fertile female population helps to explain the loss in the under 18 population.

In addition, we looked at the population of women who are generally considered past their fertile age, or women 45 years of age or older. In this age group, Cape Elizabeth experienced a significant increase in population. Between 2000 and 2010, the population of women who are 45 years of age or older increased from 2,278 women to reach 2,591 women in 2010, for a gain of 313 women, or 13.7% over the period. When looking at Cumberland County, the population of women who are 45 years of age or older increased by 25%, while the State of Maine experienced an increase of 22.8% during the period. Therefore, based on the data, the aging female population is a statewide trend.

The implication is while the fertile female population has declined, there also has been growth in the population of women who have matured past the generally accepted age of fertility, or women who are 45 years of age or older. This demographic change helps to explain the decline in recent resident birth trends discussed previously in **Section II**. The growth in the 45 years of age or older female population will most likely continue, unless something occurs to reverse or slow this trend, and combined with the decline in the fertile female population, the result will be fewer children will be born in Cape Elizabeth.

**Table VI-2 - Population Trends 2000 and 2010  
Cape Elizabeth vs. Cumberland County and the State of Maine**

Area	2000	2010	2000-10	
			#	%
<b>TOTAL POPULATION</b>				
Cape Elizabeth	9,068	9,015	(53)	(0.6)%
Cumberland County	265,612	281,674	16,062	6.0%
State	1,274,923	1,328,361	53,438	4.2%
<b>POPULATION UNDER 18 YEARS OF AGE</b>				
Cape Elizabeth	2,402	2,256	(146)	(6.1)%
Cumberland County	61,962	58,894	(3,068)	(5.0)%
State of Maine	301,238	274,533	(26,705)	(8.9)%
<b>SCHOOL-AGED POPULATION (Ages 5 to 17)</b>				
Cape Elizabeth	1,932	1,866	(66)	(3.4)%
Cumberland County	46,519	44,139	(2,380)	(5.1)%
State of Maine	230,512	205,013	(25,499)	(11.1)%
<b>FERTILE FEMALE POPULATION (18 to 44 years of age)</b>				
Cape Elizabeth	1,317	1,024	(293)	(22.2)%
Cumberland County	53,660	49,568	(4,092)	(7.6)%
State of Maine	240,816	216,748	(24,068)	(10.0)%
<b>FEMALE POPULATION (45 years of age and older)</b>				
Cape Elizabeth	2,278	2,591	313	13.7%
Cumberland County	53,435	66,770	13,335	25.0%
State of Maine	267,123	328,076	60,953	22.8%

Source: 2000 and 2010 Decennial U.S. Census.

## C. Residential Development Trends

Trends in housing development are influenced by national and regional economic trends and local land-use policies. Two sets of data are used to examine residential development trends in Cape Elizabeth, the U.S. decennial Census for year-round housing units and annual local new housing unit data.

### 1. U.S. Census Data

In 2010, total year-round housing units in Cape Elizabeth had increased to 3,770 units, an increase of 5.2% (186 units) since 2000, or an average of 19 new year-round units were added annually over the period. The year-round housing unit increase experienced in Cape Elizabeth during this period was about half of the increase in Cumberland County (10.9%), and less than the increase experienced through the State of Maine (9.6%). This data indicates that while Cumberland County as a whole experienced an increase in the number of new year-round housing units built, Cape Elizabeth experienced a lower percentage increase in new year-round housing units over the period. (See Table VI-3).

Area	# of Year-Round Housing Units		Change (2000-2010)		Average # Added/Year
	2000	2010	# of units	% Change	
Cape Elizabeth	3,584	3,770	186	5.2%	19
Cumberland County	111,750	123,977	12,227	10.9%	1,223
State of Maine	550,361	603,360	52,999	9.6%	5,300

Source: 2000 and 2010 U.S. Census

## 2. Local Housing Data

*Table VI-4* present trends in annual new housing units built in Cape Elizabeth between 2005 and 2014. Planning Decisions examines residential housing data to estimate housing units in the future and to determine if residential development in Cape Elizabeth is impacting school enrollment trends. Data on annual new housing units added since 2005 is used to analyze residential development trends, and was obtained from the U.S. Census Bureau and was confirmed by the Cape Elizabeth Planning Department through 2007, with the Code Enforcement Office confirming the 2008 to 2014 data was accurate within a few housing units.

Since 2005, development of new housing units has fluctuated between 11 and 28 units per year. On average, 18 new housing units have been added annually in Cape Elizabeth since 2005. Over the last five years (2010 to 2014), 18 new housing units were added annually while the previous five-year period (2005 to 2009) experienced average growth of 17 new units per year. Looking at the last three years, (2012 to 2014), 22 housing units were added annually on average, a level higher than the most recent five-year average.

According to the Town Planner, new home development in Cape Elizabeth in the near future will likely be somewhat limited because the majority of lots in approved subdivisions have been built out, or are in the process of being built out. She estimated future new home development would likely fall in the range of 10 to 20 new homes added annually which is slightly lower than the level of growth occurring over the last ten years. Therefore, unless significant changes in economic conditions occur to increase the number of new homes being built annually in Cape Elizabeth, it is reasonable to assume that future residential development will range between 10 and 20 new housing units added annually.

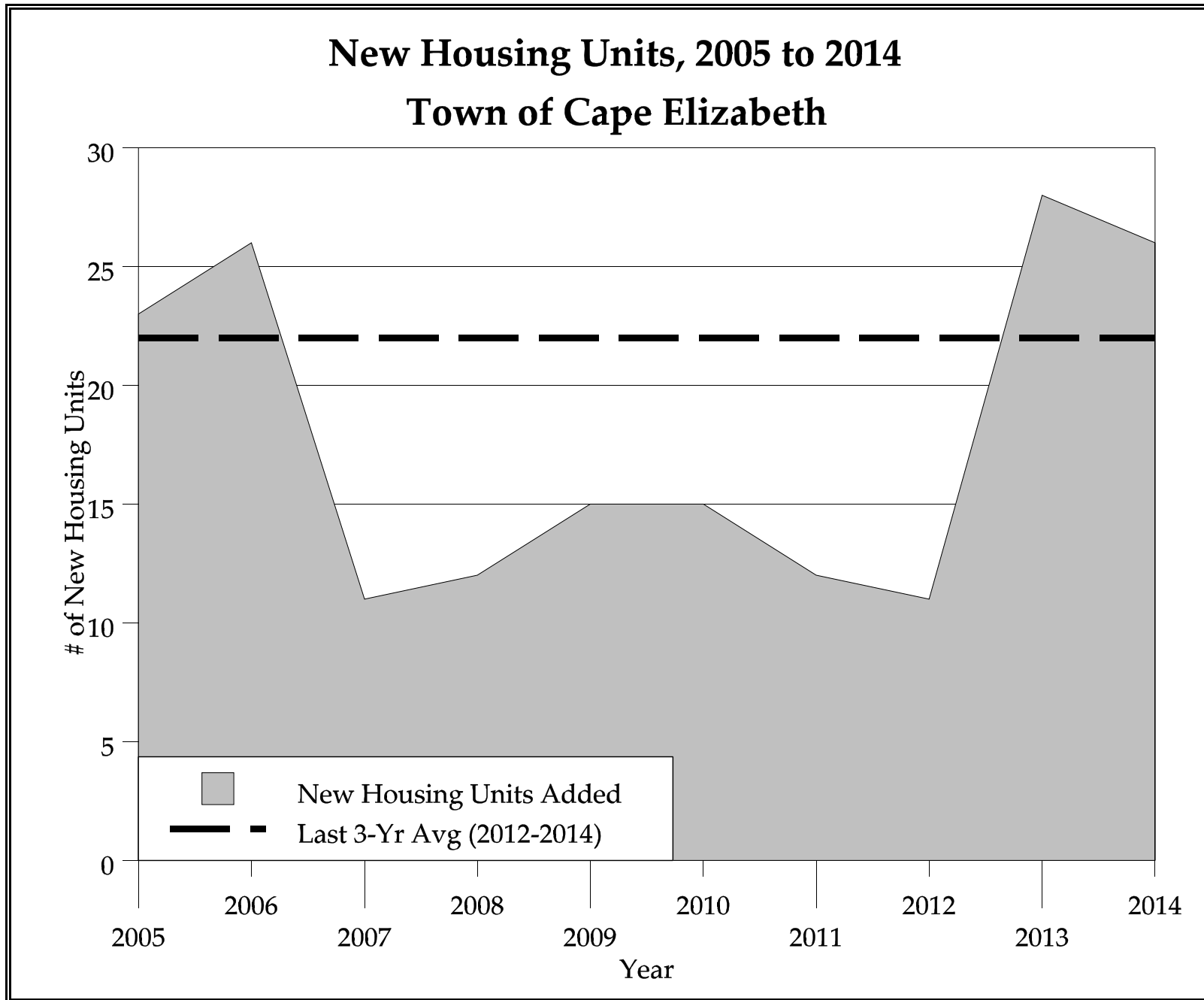
**Table VI-4 - New Housing Units, 2005 to 2014**

**Town of Cape Elizabeth**

<b>Year</b>	<b>Cape Elizabeth</b>
2005	23
2006	26
2007	11
2008	12
2009	15
2010	15
2011	12
2012	11
2013	28
2014	26
<b>Last 10 Yr Avg. 05-14</b>	<b>18</b>
<b>First 5 Yr Avg. 05-09</b>	<b>17</b>
<b>Last 5 Yr Avg. 10-14</b>	<b>18</b>
<b>Last 3 Yr Avg. 12-14</b>	<b>22</b>

**Note:** Data includes single-family homes, duplexes and multi-family homes. **Sources:** 2005-2014 from U.S. Census Bureau.

Figure VI-1



## D. Relationship of Residential Development to School Enrollment

Planning Decisions' in-house cohort survival does not directly incorporate the level of residential development and turnover in the existing housing stock when projecting school enrollment. Rather, the survival ratios used within cohort models reflect the historical impact of net migration (which is influenced by residential development and turnover) on school enrollment. If future residential development levels, turnover levels, or their relationship to net migration is significantly different from levels experienced in the past ten years, then cohort survival models may overstate or understate future enrollment. For school planning purposes, understanding the degree to which residential development activity will impact school enrollment is important.

### 1. Net Preschool Migration

To show the relationship between residential development and preschool net migration, Planning Decisions examined the ratios between net preschool migration reflected in the first grade enrollment and the number of new homes built in Cape Elizabeth between the year of the first grade enrollment year and the six years prior. (*See Table VI-5*).

On average, for each of the six-year periods examined, 94 new homes were built in Cape Elizabeth. The average net migration of preschool-aged children for each of the first grade enrollment years was an in-migration of 41 children, for a ratio of 0.441 children per unit, or a gain of about 4 children per 10 units built.

Over the last three years between 2012-13 and 2014-15, on average, for each of the six-year periods examined, on average 92 new homes were built in Cape Elizabeth, a slightly lower level compared with what occurred over the last five-year period. The average in-migration of preschool-aged children for each of the first grade enrollment years was the same as the last five-year average, or an average in-migration of 41 children occurred, for a ratio of 0.446 children per unit, or a gain of about 4 to 5 children per 10 homes built.

For the current school year, there was a net in-migration of 44 preschool-aged children. Applying the 44 preschool in-migrants to the 107 new homes added results in a ratio of 0.411 (a gain of about 4 children per 10 homes), a very similar level of migration compared to the average over the last three and five-year periods.

When looking at the level of residential development over the last three to five years, it appears new residential development in Cape Elizabeth has impacted the net migration of preschool-aged children. Therefore, to determine the impact on future preschool in-migration levels from projected residential development, Planning Decisions will use the three-year experience in Cape Elizabeth, or a ratio of 0.446 of preschool in-migration to residential development.

**Table VI-5 - Births, First Grade Enrollment, Net Preschool Migration and New Homes Added  
Cape Elizabeth**

<b>Birth Year (Oct. 15-Oct. 14)</b>	<b># of Births</b>	<b>1<sup>st</sup> Grade Class Year</b>	<b>1<sup>st</sup> Grade Enrollment</b>	<b>Net Migration</b>	<b>Year</b>	<b>New Homes Added Annually</b>	<b>Ratio Migr/Homes</b>
2003-04	69	2010-11	115	46	2005-10	102	0.451
2004-05	64	2011-12	102	38	2006-11	91	0.418
2005-06	73	2012-13	122	49	2007-12	76	0.645
2006-07	67	2013-14	97	30	2008-13	93	0.323
2007-08	60	2014-15	104	44	2009-14	107	0.411
<b>5 Yr Avg. (04-08)</b>	67	<b>5 Yr Avg. (10-14)</b>	108	41	<b>Avg. (05-14)</b>	94	0.441
<b>3 Yr Avg. (06-08)</b>	67	<b>3 Yr Avg. (12-14)</b>	108	41	<b>Avg. (07-14)</b>	92	0.446

**Sources:** Births - Bureau of Health Statistics and Data Management, Maine Department of Health and Human Services, Bureau of Vital Records Administration. 1<sup>st</sup> Grade Enrollments - October 1st, Resident Enrollment Reports. Residential New Homes Added - 2005-2014 from U.S. Census Bureau, Town of Cape Elizabeth.



To account for the impact of recent residential development on preschool in-migration, Planning Decisions applied the average ratio of preschool in-migration to new homes over the last three years to the highest estimated level of future residential development, or 20 new homes added annually. By doing this, the impact of projected future residential development can be estimated and used as a test against the preschool in-migration levels reflected in the 2014-15 “best fit” cohort survival projections, or in-migration of about 34.4 students annually. The level of preschool in-migration projected by the 2014-15 “best fit” model is consistent with the addition of about 13 homes added annually, or the lower estimated range of new home development. (See Table VI-6).

- Development of 20 new housing units annually would have the potential for generating the in-migration of 34.4 students annually in each first grade in Cape Elizabeth, or 19.1 students more than reflected in the 2014-15 “best fit” model.

Therefore, an additional model was created, or the 2014-15 “20 new homes added annually” model, which accounts for an increase in preschool in-migration if the highest estimated level of residential development occurs in the future. Since the 2015-16 first grade class was based on the most recent Kindergarten enrollment, the impact on preschool in-migration from new homes added started with the 2016-17 school year.

The Cape Elizabeth School Department should keep in mind that if residential development occurs at higher levels than estimated for a couple of years, or if it declines to be closer to the lower estimated level of 10 new homes added annually, then this model may under or overestimate the impact of new home development on school enrollment.

<b>Table VI-6 - Comparison of the Potential Impact of Future New Home Development on Preschool In-Migration to Planning Decisions’ Enrollment Projections for Cape Elizabeth</b>		
	<b>2014-15 Best Fit Model</b>	<b>20 New Homes Added Annually</b>
Projected Annual New Homes Added	13	20
Projected Housing Added Over a Six-Year Period	78	120
Average Ratio of Preschool In-migration to New Homes Between 2012-2014	0.446	0.446
Potential Annual Preschool In-migration Resulting from Projected Development Levels	34.8	53.5
Average Annual Preschool In-migration Levels reflected in PDI’s 2014-15 “best fit” cohort survival model	34.4	34.4
Difference PDI - Potential Impact	<b>0.4</b>	<b>19.1</b>
<b>Source:</b> Calculated by Planning Decisions Inc.		

## 2. Net Elementary (Grades 1-6) Migration

Regarding the relationship between residential development levels and migration of students at the elementary grades (first to sixth), Planning Decisions examined the ratio of annual net migration of students at each of the grade levels and annual new homes built in Cape Elizabeth during the year. (See *Table VI-7*).

In the ten years between 2005 and 2014, Cape Elizabeth experienced an average net in-migration of elementary students while migration fluctuated year-to-year between an out-migration of 5 students and an in-migration of 33 students. The average ratio of in-migration of elementary students (1-6) to new homes was 0.717, or, on average, over the last ten years every 10 homes built in Cape Elizabeth resulted in the in-migration of about 7 elementary-aged students.

Cape Elizabeth experienced an average in-migration of elementary students over the last five years (2010 to 2014), with elementary migration continuing to fluctuate year-to-year, with an average in-migration ratio of 1.076. On average, over the last five years for every 10 homes built in Cape Elizabeth an in-migration of about 10 to 11 elementary-aged students occurred.

Over the last three years (2012 to 2014), Cape Elizabeth experienced an average in-migration of elementary students, with an in-migration ratio of 0.969. Or, on average, over the last three years for every 10 homes built in Cape Elizabeth an in-migration of about 9 to 10 elementary-aged students occurred, a similar level of migration compared with most recent five-year average.

Based on this study, it does appear residential development has had an impact on elementary migration trends in Cape Elizabeth. Therefore, Planning Decisions will determine the impact on future elementary in-migration levels from projected levels of residential development based on the recent experience in Cape Elizabeth, or the three-year ratio (ratio of 0.969) of elementary in-migration to residential development.

**Table VI-7 - Net Elementary (1-6) Migration and New Homes  
Cape Elizabeth**

<b>Enrollment Years</b>	<b>Net Migration (Grades 1-5 - 2-6)</b>	<b>Year</b>	<b># of New Homes</b>	<b>Ratio Migr/Homes</b>
2004-05 to 2005-06	17	2005	23	0.739
2005-06 to 2006-07	(1)	2006	20	(0.050)
2006-07 to 2007-08	4	2007	11	0.364
2007-08 to 2008-09	10	2008	12	0.833
2008-09 to 2009-10	(5)	2009	15	(0.333)
2009-10 to 2010-11	26	2010	15	1.733
2010-11 to 2011-12	10	2011	12	0.833
2011-12 to 2012-13	15	2012	11	1.364
2012-13 to 2013-14	33	2013	28	1.179
2013-14 to 2014-15	15	2014	26	0.577
<b>10 Yr Avg. (05-11)</b>	12	<b>10 Yr Avg. (05-14)</b>	17	0.717
<b>5 Yr Avg. (10-14)</b>	20	<b>5 Yr Avg. (10-14)</b>	18	1.076
<b>3 Yr Avg. (12-14)</b>	21	<b>3 Yr Avg. (12-14)</b>	22	0.969

**Sources:** Net Migration - Calculated by Planning Decisions, Inc. based on October 1<sup>st</sup> Resident Enrollment Reports. Residential New Homes - 2005-2014 from U.S. Census Bureau

By applying the average ratio of in-migration and new homes over the last three years to the projected residential development, or the addition of 20 new housing units annually, the impact of future residential development can be estimated and the 2014-15 “best fit” model can be tested. As indicated in *Table VI-8*, residential development levels of 20 new homes annually would have the potential for generating the in-migration of 19.4 students annually in grades 1 through 6 in Cape Elizabeth, or 1.9 students *MORE* (or 0.3 students per grade in grades 1-6) than the level reflected in the 2014-15 “best fit” model.

In addition, the level of elementary in-migration projected by the 2014-15 “best fit” model accounts for around 18 homes added annually. While uncertainty remains about the exact level of future new home development, Planning Decisions believes new home development will at least continue at level somewhere between 10 and 20 new homes added annually, therefore and it is important for the Town of Cape Elizabeth to consider the potential impact on school enrollment in 20 new homes added annually, on average.

**Based on this analysis, assuming new home development continues at the highest levels estimated, or 20 new homes added annually and the relationship between development and elementary in-grade in-migration is similar to levels experienced over the last three years, then Planning Decisions’ 2014-15 “best fit” cohort survival projections underestimate the impacts of residential development on enrollment. Therefore, a second model, called the 2014-15 “20 new homes added annually” model was created which adds 0.3 students in each grade between grades 1 and 6 starting in 2016-17.**

<b>Table VI-8 - Comparison of the Potential Impact of Future New Homes on Elementary In-Migration (Grades First through Sixth) to Planning Decisions’ Enrollment Projections for Cape Elizabeth</b>		
	<b>2014-15 Best Fit Model</b>	<b>Estimate of Future New Home Development</b>
Projected Annual New Homes Added	18	20
Average Ratio of In-migration to New Homes Added Between 2012-2014	0.969	0.969
Potential Annual In-grade In-migration Resulting from Projected Residential Development	17.4	19.4
Average Annual In-migration Levels for Grades 1-6 reflected in the 2014-15 “best fit” model	17.5	17.5
Difference PDI - Potential Impact	(0.1)	1.9
	<i>Difference per grade in grades 1 to 6</i>	<i>0.3</i>

Source: Calculated by Planning Decisions Inc.

## E. Summary and Recommendations Regarding Economic Conditions, Population Trends, and Residential Development

Based on recent trends, Cape Elizabeth most likely will continue to experience a level of growth similar to what has occurred over the last three to five years, with around 10 to 20 homes being added annually. Given the improvement in the unemployment rate and growth in the Civilian Labor Force over the last five years if economic conditions continue to improve, new residential development could potentially increase to the higher levels, but based on recent trends and the availability of new lots for building, this is unlikely to occur in the very near future. However, if new home development does increase significantly above and beyond what is estimated, then these projections may need to be revisited.

When looking at residential development occurring over the last ten years compared with preschool and elementary migration occurring over the last ten years, Planning Decisions found that the 2014-15 “best fit” model potentially underestimated preschool and elementary migration if future new home development was to occur at the highest estimated level. Therefore, Planning Decisions created an additional model called the “20 new homes added annually” model to account for an increase in preschool and elementary migration which was not adequately accounted for in the “best fit” model.

The 2014-15 “best fit” model is a standard statistical model which projects enrollment based on historical trends. Planning Decisions considers the 2014-15 “best fit” model to be the most likely scenario to occur in Cape Elizabeth if future enrollment follows the historical pattern of enrollment, and roughly 13 to 18 new homes are added annually in Cape Elizabeth. However, the model did not adequately account for the higher estimated levels of development, or 20 homes added annually, therefore the “20 new homes added annually” model is the most likely scenario if new homes are built at an average of 20 new housing units per year in Cape Elizabeth. It is likely future enrollment will fall somewhere between the two scenarios, however, the Cape Elizabeth School Department will need to monitor future enrollment to determine which direction trends are heading.

It is important to note that if future recessions or economic booms occur, or if significant residential development and/or population changes occur in the community, these enrollment projections would need to be revisited. The 2014-15 “best fit” model and the 2014-15 “20 new homes added annually” model are presented in **Section VII** within ranges of plus and minus 10% for grades K-8, and plus and minus 5% for grades 9-12 for school planning purposes and should account for any fluctuations in enrollment from year-to-year changes in migration and residential development.

## VII. SUMMARY OF ENROLLMENT PROJECTIONS FOR SCHOOL PLANNING PURPOSES

To provide reasonable cushions for use in the planning of school facilities, Planning Decisions has summarized school enrollment projections for the 2014-15 “best fit” model and the 2014-15 “20 homes added annually” model by grade group and presented the projections within ranges of plus and minus 10% for grades K-8 and plus and minus 5% for grades 9-12. The report **Appendix** contains grade by grade historical and projected enrollment.

### A. 2014-15 Best Fit Model

School Enrollment Projection Ranges - 2015-16 to 2024-25 (K-12)												
Cape Elizabeth - 2014-15 Best Fit Model												
School Year	Grades (K-4)			Grades (5-8)			Grades (9-12)			Total All Grades (K-12)		
	-10%	Proj.	+10%	-10%	Proj.	+10%	-5%	Proj.	+5%	-Sum	Proj.	+Sum
2014-15*	548			552			540			1,640		
2015-16	480	533	586	472	524	576	515	542	569	1,466	1,599	1,732
2016-17	446	496	546	487	541	595	487	513	539	1,421	1,550	1,679
2017-18	427	474	521	468	520	572	492	518	544	1,387	1,512	1,637
2018-19	411	457	503	452	502	552	513	540	567	1,376	1,499	1,622
2019-20	392	436	480	464	516	568	487	513	539	1,344	1,465	1,586
2020-21	398	442	486	423	470	517	504	530	557	1,324	1,442	1,560
2021-22	398	442	486	412	458	504	485	510	536	1,295	1,410	1,526
2022-23	411	457	503	380	422	464	466	491	516	1,258	1,370	1,482
2023-24	408	453	498	353	392	431	480	505	530	1,240	1,350	1,460
2024-25	398	442	486	369	410	451	437	460	483	1,204	1,312	1,420

Sources: \*2014-15 - current enrollment based on October 1st Resident enrollment, all other years - Projected by Planning Decisions, Inc., January 2015.

**B. 2014-15 20 New Homes Added Annually Model**

School Enrollment Projection Ranges - 2015-16 to 2024-25 (K-12) Cape Elizabeth - 2014-15 20 New Homes Added Annually Model												
School Year	Grades (K-4)			Grades (5-8)			Grades (9-12)			Total All Grades (K-12)		
	-10%	Proj.	+10%	-10%	Proj.	+10%	-5%	Proj.	+5%	-Sum	Proj.	+Sum
2014-15*	548			552			540			1,640		
2015-16	496	551	606	472	524	576	515	542	569	1,482	1,617	1,752
2016-17	480	533	586	487	541	595	487	513	539	1,454	1,587	1,720
2017-18	478	531	584	468	520	572	492	518	544	1,438	1,569	1,700
2018-19	482	535	589	452	502	552	513	540	567	1,446	1,577	1,708
2019-20	482	536	590	464	516	568	487	513	539	1,434	1,565	1,696
2020-21	487	541	595	444	493	542	504	530	557	1,434	1,564	1,694
2021-22	488	542	596	453	503	553	485	510	536	1,425	1,555	1,685
2022-23	501	557	613	442	491	540	467	492	517	1,411	1,540	1,669
2023-24	498	553	608	438	487	536	481	506	531	1,417	1,546	1,675
2024-25	488	542	596	453	503	553	460	484	508	1,400	1,529	1,658

Sources: \*2014-15 - current enrollment based on October 1st Resident enrollment, all other years - Projected by Planning Decisions, Inc., January 2015.

**APPENDIX - GRADE BY GRADE HISTORICAL AND PROJECTED ENROLLMENT AND GRADE GROUP  
SUMMARIES**





## Enrollment Trends & Projections - Cape Elizabeth Resident Students - 2014-15 - Best Fit Model

### October 1st Enrollment

School Year	K	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	Total K-4	Total 5-8	Total K-8	Total 9-12	Total K-12
<b>Historical</b>																		
2004-05	111	142	128	138	140	134	155	141	156	156	140	151	134	659	586	1,245	581	1,826
2005-06	115	134	143	139	138	142	137	156	144	151	158	137	150	669	579	1,248	596	1,844
2006-07	108	113	136	148	136	136	139	130	159	134	152	155	146	641	564	1,205	587	1,792
2007-08	89	137	114	137	149	136	137	140	136	151	138	147	155	626	549	1,175	591	1,766
2008-09	107	104	137	113	142	151	140	133	140	135	147	138	151	603	564	1,167	571	1,738
2009-10	101	122	112	136	110	134	150	141	134	137	135	150	135	581	559	1,140	557	1,697
2010-11	89	115	124	117	143	118	138	149	140	131	135	137	149	588	545	1,133	552	1,685
2011-12	105	102	119	126	118	145	119	142	149	136	137	138	138	570	555	1,125	549	1,674
2012-13	88	122	104	123	130	121	147	123	141	154	142	128	136	567	532	1,099	560	1,659
2013-14	96	97	126	112	132	135	128	149	123	129	159	136	126	563	535	1,098	550	1,648
2014-15	101	104	100	131	112	137	137	128	150	116	132	152	140	548	552	1,100	540	1,640
<b>Projected</b>																		
2015-16	73	113	107	105	135	116	141	139	128	145	120	125	152	533	524	1,057	542	1,599
2016-17	78	82	116	112	108	140	119	143	139	124	150	114	125	496	541	1,037	512	1,549
2017-18	66	86	84	122	116	112	144	121	143	134	128	142	114	474	520	994	518	1,512
2018-19	80	74	89	88	126	120	115	146	121	138	139	121	142	457	502	959	540	1,500
2019-20	86	90	76	93	91	130	123	117	146	117	143	132	121	436	517	953	513	1,465
2020-21	78	96	92	80	96	94	134	125	117	141	121	136	132	442	470	912	529	1,441
2021-22	78	86	99	97	82	100	97	136	125	113	146	115	136	442	458	899	509	1,409
2022-23	78	86	89	104	100	85	103	98	136	121	117	138	115	457	422	878	491	1,369
2023-24	78	86	89	93	107	103	87	104	98	131	125	111	138	453	393	847	506	1,352
2024-25	78	86	89	93	96	111	106	89	104	95	135	119	111	443	410	853	460	1,313

**Notes:** Enrollment data contains all resident students attending public or publicly funded private schools. Due to rounding of the enrollment projection figures, the sum of enrollment figures shown in the tables might be different by one or two students when compared to the sum of the whole numbers without the fractions.

2014-15 Best Fit Model Enrollment Projections for the Town of Cape Elizabeth, Completed January 2015

Data produced by Planning Decisions Inc.

**Entering Class to Births Ratio Worksheet**  
**Town of Cape Elizabeth - 2014-15 20 New Homes Added Annually Model**

Oct 15-Oct 14 Births	Number Births	KG Year	KG Class Size	1st Grade Year	1st Class Size	Ratio 1st/Birth	Ratio 1st/K	Proj. 1st Grade	Net Preschool Migration																																
1998-99	78	10/04	111	10/05	134	1.718	1.207		56																																
1999-00	74	10/05	115	10/06	113	1.527	0.983		39																																
2000-01	86	10/06	108	10/07	137	1.593	1.269		51																																
2001-02	65	10/07	89	10/08	104	1.600	1.169		39																																
2002-03	81	10/08	107	10/09	122	1.506	1.140		41																																
2003-04	69	10/09	101	10/10	115	1.667	1.139		46																																
2004-05	64	10/10	89	10/11	102	1.594	1.146		38																																
2005-06	73	10/11	105	10/12	122	1.671	1.162		49																																
2006-07	67	10/12	88	10/13	97	1.448	1.102		30																																
2007-08	60	10/13	96	10/14	104	1.733	1.083		44																																
2008-09	59	10/14	101	10/15		1.910	1.116	113	54																																
2009-10	51	10/15		10/16		1.982		101	50																																
2010-11	54	10/16		10/17		1.961		106	52																																
2011-12	46	10/17		10/18		2.023		93	47																																
2012-13*	56	10/18		10/19		1.948		109	53																																
2013-14*	60	10/19		10/20		1.925		115	55																																
2014-15 est	54	10/20		10/21		1.961		106	52																																
2015-16 est	54	10/21		10/22		1.961		106	52																																
2016-17 est	54	10/22		10/23		1.961		106	52																																
2017-18 est	54	10/23		10/24		1.961		106	52																																
10yr Total (99-08)	717	10yr Total (04-13)	1,009	10yr Total (05-14)	1,150	1.604	1.140	Last 10yr	43.3																																
10yr Avg (99-08)	72	10yr Avg (04-13)	101	10yr Avg (05-14)	115	1.606	1.140	Last 5yr	41.4																																
5yr Avg (10-14)	53							Last 3yr	41.0																																
5yr Max (10-14)	60							Proj.	51.9																																
5yr Min (10-14)	46																																								
3 yr Avg (12-14)	54																																								
<b>First Grade to Births Correlation Coefficients</b>		<b>First Grade to Kindergarten Correlation Coefficients</b>		<table border="1"> <thead> <tr> <th>Ratios</th> <th>1st/Birth</th> <th>1st/K</th> </tr> </thead> <tbody> <tr><td>Avg last 10</td><td>1.606</td><td>1.140</td></tr> <tr><td>Avg last 9</td><td>1.593</td><td>1.132</td></tr> <tr><td>Avg last 8</td><td>1.601</td><td>1.151</td></tr> <tr><td>Avg last 7</td><td>1.603</td><td>1.134</td></tr> <tr><td>Avg last 6</td><td>1.603</td><td>1.129</td></tr> <tr><td>Avg last 5</td><td>1.623</td><td>1.126</td></tr> <tr><td>Avg last 4</td><td>1.612</td><td>1.123</td></tr> <tr><td>Avg last 3</td><td>1.617</td><td>1.116</td></tr> <tr><td>av 1st 5</td><td>1.589</td><td>1.153</td></tr> <tr><td>5yr Weighted</td><td>1.622</td><td>1.116</td></tr> </tbody> </table>			Ratios	1st/Birth	1st/K	Avg last 10	1.606	1.140	Avg last 9	1.593	1.132	Avg last 8	1.601	1.151	Avg last 7	1.603	1.134	Avg last 6	1.603	1.129	Avg last 5	1.623	1.126	Avg last 4	1.612	1.123	Avg last 3	1.617	1.116	av 1st 5	1.589	1.153	5yr Weighted	1.622	1.116		
Ratios	1st/Birth	1st/K																																							
Avg last 10	1.606	1.140																																							
Avg last 9	1.593	1.132																																							
Avg last 8	1.601	1.151																																							
Avg last 7	1.603	1.134																																							
Avg last 6	1.603	1.129																																							
Avg last 5	1.623	1.126																																							
Avg last 4	1.612	1.123																																							
Avg last 3	1.617	1.116																																							
av 1st 5	1.589	1.153																																							
5yr Weighted	1.622	1.116																																							
10 YEAR	0.881	10 YEAR	0.792																																						
9 YEAR	0.892	9 YEAR	0.757																																						
8 YEAR	<b>0.899</b>	8 YEAR	0.930																																						
7 YEAR	0.798	7 YEAR	0.959																																						
6 YEAR	0.788	6 YEAR	0.973																																						
5 YEAR	0.714	5 YEAR	0.962																																						
4 YEAR	0.686	4 YEAR	0.956																																						
3 YEAR	0.665	3 YEAR	<b>0.977</b>																																						

**Notes:** Enrollment data contains all resident students attending public or publicly funded private schools. Three-year average of births (2011-12 to 2013-14) used to estimate births from 2014-15 to 2017-18. \*2013 and 2014 birth data is preliminary from the Maine Department of Health and Human Services, Office of Data, Research, and Vital Statistics. This model is first based on the 2014-15 "best fit" model then takes into account the impact on preschool and elementary in-migration from the addition of 20 new homes added annually. To account for preschool in-migration, 19.1 students were added to each first grade class between 2016-17 and 2024-25, and to account for elementary in-migration another 1.9 students (0.3 students per grade) were added to grades 1-6 between 2016-17 and 2024-25.

2014-15 20 New Homes Added Annually Model Enrollment Projections for the Town of Cape Elizabeth, Completed January 2015  
 Data produced by Planning Decisions Inc.

## Enrollment Trends & Projections - Cape Elizabeth Resident Students - 2014-15 - 20 New Homes Added Annually Model

### October 1st Enrollment

School Year	K	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	Total K-4	Total 5-8	Total K-8	Total 9-12	Total K-12
<b>Historical</b>																		
2004-05	111	142	128	138	140	134	155	141	156	156	140	151	134	659	586	1,245	581	1,826
2005-06	115	134	143	139	138	142	137	156	144	151	158	137	150	669	579	1,248	596	1,844
2006-07	108	113	136	148	136	136	139	130	159	134	152	155	146	641	564	1,205	587	1,792
2007-08	89	137	114	137	149	136	137	140	136	151	138	147	155	626	549	1,175	591	1,766
2008-09	107	104	137	113	142	151	140	133	140	135	147	138	151	603	564	1,167	571	1,738
2009-10	101	122	112	136	110	134	150	141	134	137	135	150	135	581	559	1,140	557	1,697
2010-11	89	115	124	117	143	118	138	149	140	131	135	137	149	588	545	1,133	552	1,685
2011-12	105	102	119	126	118	145	119	142	149	136	137	138	138	570	555	1,125	549	1,674
2012-13	88	122	104	123	130	121	147	123	141	154	142	128	136	567	532	1,099	560	1,659
2013-14	96	97	126	112	132	135	128	149	123	129	159	136	126	563	535	1,098	550	1,648
2014-15	101	104	100	131	112	137	137	128	150	116	132	152	140	548	552	1,100	540	1,640
<b>Projected</b>																		
2015-16	91	113	107	105	135	116	141	139	128	145	120	125	152	550	524	1,074	542	1,616
2016-17	95	101	116	112	109	140	119	143	139	124	150	114	125	533	541	1,074	512	1,586
2017-18	83	106	104	122	116	112	144	121	143	134	128	142	114	531	520	1,051	518	1,569
2018-19	98	93	109	109	126	120	115	146	121	138	139	121	142	535	503	1,037	540	1,578
2019-20	104	109	96	114	113	130	123	117	146	117	143	132	121	535	517	1,052	513	1,565
2020-21	95	115	112	101	118	117	134	125	117	141	121	136	132	541	493	1,034	529	1,564
2021-22	95	106	119	118	104	122	120	136	125	113	146	115	136	541	503	1,045	509	1,554
2022-23	95	106	109	125	122	107	126	122	136	121	117	139	115	556	491	1,047	491	1,538
2023-24	95	106	109	114	129	126	111	128	122	131	125	111	139	553	486	1,039	506	1,545
2024-25	95	106	109	114	118	133	130	112	128	118	136	119	111	542	503	1,045	483	1,528

**Notes:** Enrollment data contains all resident students attending public or publicly funded private schools. Due to rounding of the enrollment projection figures, the sum of enrollment figures shown in the tables might be different by one or two students when compared to the sum of the whole numbers without the fractions.

2014-15 20 New Homes Added Annually Model Enrollment Projections for the Town of Cape Elizabeth, Completed January 2015

Data produced by Planning Decisions Inc.