

# Presentation on Enrollment Projections

to

SAD #51 Board of Directors

Town of Cumberland Board of Selectman

Town of North Yarmouth Board of Selectmen

January 25, 2017

# Five Purposes Tonight

1. Present PDI's enrollment projections to 2025-26.
2. Explain the process used to make the projections.
3. Highlight key variables that might make the projections wrong.
4. Make suggestions for regular re-evaluation.
5. Answer/discuss your questions.

# Some Definitions

- ~~1. “Best Fit” model = analyze history to project future. Appendix tables 1 to 8.~~ Ignore this one
2. “New Housing Impact” model = Best fit plus estimated effects of known housing proposed. Appendix tables 9 to 16.
3. Resident Students = students whose home is in SAD 51 towns.
4. Attending students = students attending SAD 51 schools regardless of home residence.

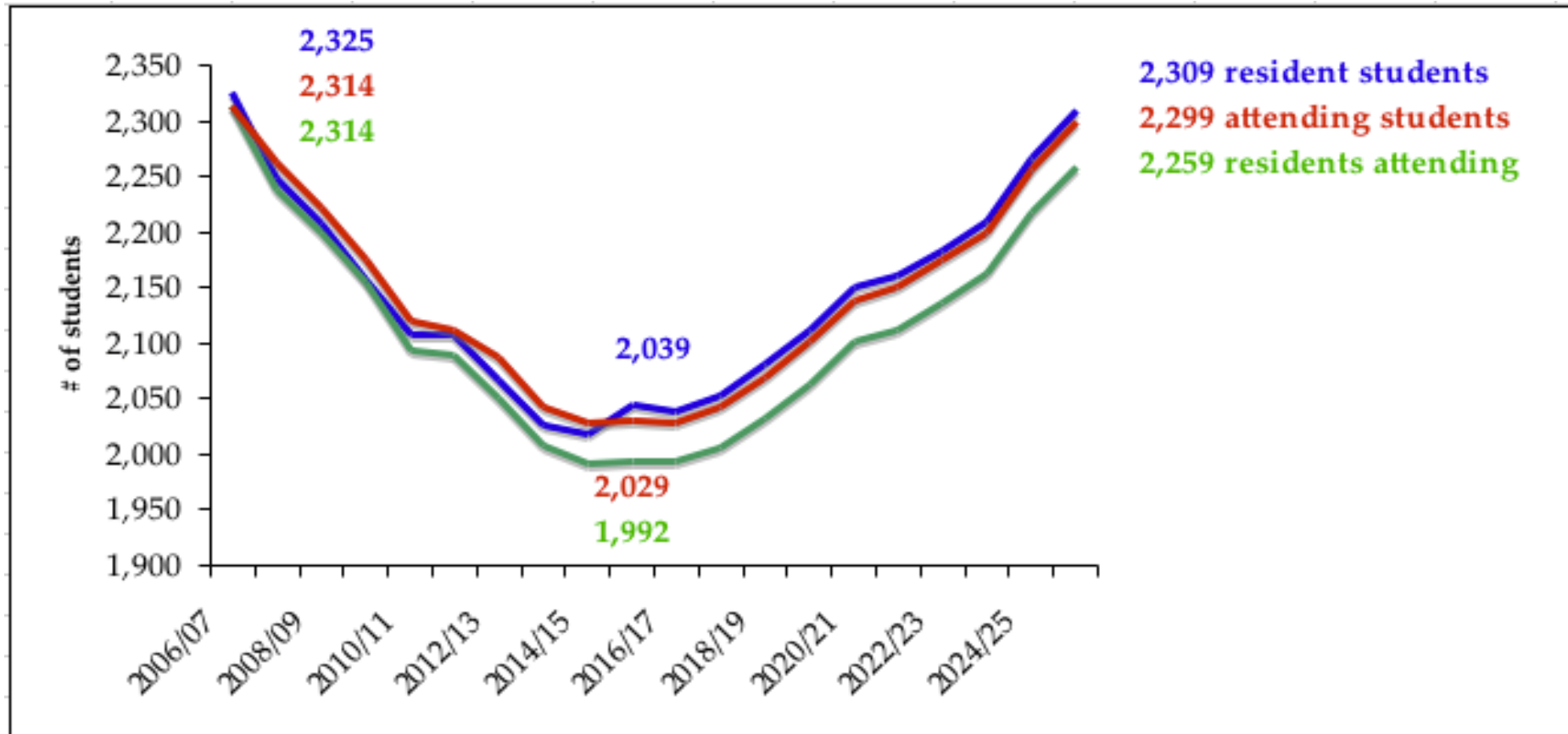
**Appendix Table 12 - Enrollment Trends & Projections - MSAD 51 Resident Enrollment - 2015-16 New Housing Impact Model**

| October 1st Enrollment |                                              |           |           |           |            |            |                                                  |           |           |           |            |            |                         |           |           |           |            |            |
|------------------------|----------------------------------------------|-----------|-----------|-----------|------------|------------|--------------------------------------------------|-----------|-----------|-----------|------------|------------|-------------------------|-----------|-----------|-----------|------------|------------|
| School Year            | Resident Students Attending District Schools |           |           |           |            |            | Resident Students Attending NON-District Schools |           |           |           |            |            | Total Resident Students |           |           |           |            |            |
|                        | Total K-3                                    | Total 4-5 | Total 6-8 | Total K-8 | Total 9-12 | Total K-12 | Total K-3                                        | Total 4-5 | Total 6-8 | Total K-8 | Total 9-12 | Total K-12 | Total K-3               | Total 4-5 | Total 6-8 | Total K-8 | Total 9-12 | Total K-12 |
| Historical             |                                              |           |           |           |            |            |                                                  |           |           |           |            |            |                         |           |           |           |            |            |
| 2005-06                | ---                                          | ---       | ---       | ---       | ---        | ---        | ---                                              | ---       | ---       | ---       | ---        | ---        | 641                     | 366       | 586       | 1,593     | 710        | 2,303      |
| 2006-07                | 675                                          | 349       | 551       | 1,575     | 739        | 2,314      | 3                                                | 0         | 2         | 5         | 6          | 11         | 678                     | 349       | 553       | 1,580     | 745        | 2,325      |
| 2007-08                | 643                                          | 353       | 540       | 1,536     | 703        | 2,239      | 1                                                | 0         | 1         | 2         | 7          | 9          | 644                     | 353       | 541       | 1,538     | 710        | 2,248      |
| 2008-09                | 634                                          | 347       | 538       | 1,519     | 680        | 2,199      | 1                                                | 1         | 0         | 2         | 6          | 8          | 635                     | 348       | 538       | 1,521     | 686        | 2,207      |
| 2009-10                | 629                                          | 297       | 533       | 1,459     | 695        | 2,154      | 0                                                | 0         | 1         | 1         | 1          | 2          | 629                     | 297       | 534       | 1,460     | 696        | 2,156      |
| 2010-11                | 581                                          | 330       | 517       | 1,428     | 666        | 2,094      | 3                                                | 1         | 1         | 5         | 8          | 13         | 584                     | 331       | 518       | 1,433     | 674        | 2,107      |
| 2011-12                | 572                                          | 341       | 494       | 1,407     | 682        | 2,089      | 5                                                | 2         | 4         | 11        | 5          | 16         | 577                     | 343       | 498       | 1,418     | 687        | 2,105      |
| 2012-13                | 565                                          | 300       | 507       | 1,372     | 679        | 2,051      | 5                                                | 2         | 2         | 9         | 7          | 16         | 570                     | 302       | 509       | 1,381     | 686        | 2,067      |
| 2013-14                | 547                                          | 323       | 490       | 1,360     | 647        | 2,007      | 0                                                | 4         | 3         | 7         | 12         | 19         | 547                     | 327       | 493       | 1,367     | 659        | 2,026      |
| 2014-15                | 529                                          | 316       | 518       | 1,363     | 629        | 1,992      | 3                                                | 0         | 1         | 4         | 23         | 27         | 532                     | 316       | 519       | 1,367     | 652        | 2,019      |
| 2015-16                | 555                                          | 305       | 491       | 1,351     | 643        | 1,994      | 5                                                | 4         | 1         | 10        | 40         | 50         | 560                     | 309       | 492       | 1,361     | 683        | 2,044      |
| Projected              |                                              |           |           |           |            |            |                                                  |           |           |           |            |            |                         |           |           |           |            |            |
| 2016-17                | 573                                          | 289       | 525       | 1,387     | 606        | 1,993      | 4                                                | 2         | 2         | 8         | 38         | 46         | 577                     | 291       | 527       | 1,395     | 644        | 2,039      |
| 2017-18                | 592                                          | 296       | 495       | 1,383     | 623        | 2,006      | 4                                                | 2         | 2         | 8         | 39         | 47         | 596                     | 298       | 497       | 1,391     | 662        | 2,053      |
| 2018-19                | 601                                          | 303       | 485       | 1,389     | 644        | 2,033      | 4                                                | 2         | 2         | 8         | 40         | 48         | 605                     | 305       | 487       | 1,397     | 684        | 2,081      |
| 2019-20                | 643                                          | 323       | 464       | 1,430     | 633        | 2,063      | 5                                                | 2         | 2         | 9         | 39         | 48         | 648                     | 325       | 466       | 1,439     | 672        | 2,111      |
| 2020-21                | 654                                          | 327       | 483       | 1,464     | 637        | 2,101      | 5                                                | 2         | 2         | 9         | 40         | 49         | 659                     | 329       | 485       | 1,473     | 677        | 2,150      |
| 2021-22                | 666                                          | 327       | 500       | 1,493     | 619        | 2,112      | 5                                                | 2         | 2         | 9         | 39         | 48         | 671                     | 329       | 502       | 1,502     | 658        | 2,160      |
| 2022-23                | 683                                          | 332       | 515       | 1,530     | 606        | 2,136      | 5                                                | 2         | 2         | 9         | 38         | 47         | 688                     | 334       | 517       | 1,539     | 644        | 2,183      |
| 2023-24                | 660                                          | 378       | 525       | 1,563     | 599        | 2,162      | 5                                                | 3         | 2         | 10        | 37         | 47         | 665                     | 381       | 527       | 1,573     | 636        | 2,209      |
| 2024-25                | 681                                          | 385       | 525       | 1,591     | 626        | 2,217      | 5                                                | 3         | 2         | 10        | 39         | 49         | 686                     | 388       | 527       | 1,601     | 665        | 2,266      |
| 2025-26                | 696                                          | 351       | 577       | 1,624     | 635        | 2,259      | 5                                                | 2         | 3         | 10        | 40         | 50         | 701                     | 353       | 580       | 1,634     | 675        | 2,309      |

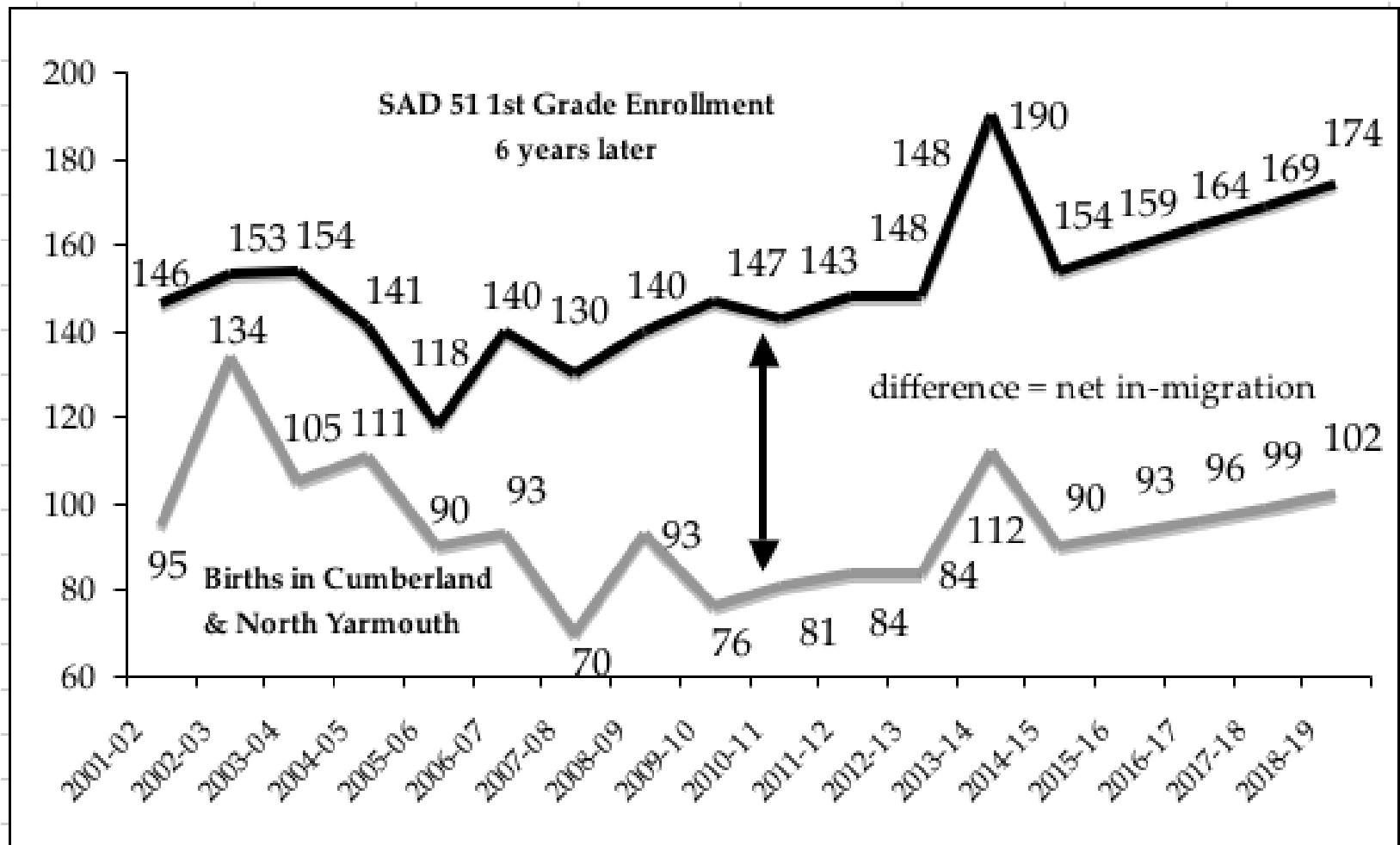
**Appendix Table 11 - Enrollment Trends & Projections - MSAD 51 Attending Enrollment - 2015-16 New Housing Impact Model**

| October 1st Enrollment |                                              |           |           |           |            |            |                                          |           |           |           |            |            |                              |           |           |           |            |            |
|------------------------|----------------------------------------------|-----------|-----------|-----------|------------|------------|------------------------------------------|-----------|-----------|-----------|------------|------------|------------------------------|-----------|-----------|-----------|------------|------------|
| School Year            | Resident Students Attending District Schools |           |           |           |            |            | NON-Residents Attending District Schools |           |           |           |            |            | Total All Attending Students |           |           |           |            |            |
|                        | Total K-3                                    | Total 4-5 | Total 6-8 | Total K-8 | Total 9-12 | Total K-12 | Total K-3                                | Total 4-5 | Total 6-8 | Total K-8 | Total 9-12 | Total K-12 | Total K-3                    | Total 4-5 | Total 6-8 | Total K-8 | Total 9-12 | Total K-12 |
| Historical             |                                              |           |           |           |            |            |                                          |           |           |           |            |            |                              |           |           |           |            |            |
| 2005-06                | ---                                          | ---       | ---       | ---       | ---        | ---        | ---                                      | ---       | ---       | ---       | ---        | ---        | 641                          | 366       | 586       | 1,593     | 710        | 2,303      |
| 2006-07                | 675                                          | 349       | 551       | 1,575     | 739        | 2,314      | 0                                        | 0         | 0         | 0         | 0          | 0          | 675                          | 349       | 551       | 1,575     | 739        | 2,314      |
| 2007-08                | 643                                          | 353       | 540       | 1,536     | 703        | 2,239      | 0                                        | 1         | 12        | 13        | 11         | 24         | 643                          | 354       | 552       | 1,549     | 714        | 2,263      |
| 2008-09                | 634                                          | 347       | 538       | 1,519     | 680        | 2,199      | 0                                        | 0         | 14        | 14        | 8          | 22         | 634                          | 347       | 552       | 1,533     | 688        | 2,221      |
| 2009-10                | 629                                          | 297       | 533       | 1,459     | 695        | 2,154      | 1                                        | 0         | 8         | 9         | 12         | 21         | 630                          | 297       | 541       | 1,468     | 707        | 2,175      |
| 2010-11                | 581                                          | 330       | 517       | 1,428     | 666        | 2,094      | 1                                        | 1         | 9         | 11        | 14         | 25         | 582                          | 331       | 526       | 1,439     | 680        | 2,119      |
| 2011-12                | 572                                          | 341       | 494       | 1,407     | 682        | 2,089      | 1                                        | 0         | 6         | 7         | 16         | 23         | 573                          | 341       | 500       | 1,414     | 698        | 2,112      |
| 2012-13                | 565                                          | 300       | 507       | 1,372     | 679        | 2,051      | 8                                        | 0         | 2         | 10        | 27         | 37         | 573                          | 300       | 509       | 1,382     | 706        | 2,088      |
| 2013-14                | 547                                          | 323       | 490       | 1,360     | 647        | 2,007      | 8                                        | 1         | 1         | 10        | 26         | 36         | 555                          | 324       | 491       | 1,370     | 673        | 2,043      |
| 2014-15                | 529                                          | 316       | 518       | 1,363     | 629        | 1,992      | 8                                        | 2         | 4         | 14        | 23         | 37         | 537                          | 318       | 522       | 1,377     | 652        | 2,029      |
| 2015-16                | 555                                          | 305       | 491       | 1,351     | 643        | 1,994      | 12                                       | 2         | 5         | 19        | 18         | 37         | 567                          | 307       | 496       | 1,370     | 661        | 2,031      |
| Projected              |                                              |           |           |           |            |            |                                          |           |           |           |            |            |                              |           |           |           |            |            |
| 2016-17                | 573                                          | 289       | 525       | 1,387     | 606        | 1,993      | 10                                       | 2         | 3         | 15        | 21         | 36         | 583                          | 291       | 528       | 1,402     | 627        | 2,029      |
| 2017-18                | 592                                          | 296       | 495       | 1,383     | 623        | 2,006      | 10                                       | 2         | 3         | 15        | 22         | 37         | 602                          | 298       | 498       | 1,398     | 645        | 2,043      |
| 2018-19                | 601                                          | 303       | 485       | 1,389     | 644        | 2,033      | 10                                       | 2         | 3         | 15        | 22         | 37         | 611                          | 305       | 488       | 1,404     | 666        | 2,070      |
| 2019-20                | 643                                          | 323       | 464       | 1,430     | 633        | 2,063      | 11                                       | 2         | 3         | 16        | 22         | 38         | 654                          | 325       | 467       | 1,446     | 655        | 2,101      |
| 2020-21                | 654                                          | 327       | 483       | 1,464     | 637        | 2,101      | 11                                       | 2         | 3         | 16        | 22         | 38         | 665                          | 329       | 486       | 1,480     | 659        | 2,139      |
| 2021-22                | 666                                          | 327       | 500       | 1,493     | 619        | 2,112      | 11                                       | 2         | 3         | 16        | 22         | 38         | 677                          | 329       | 503       | 1,509     | 641        | 2,150      |
| 2022-23                | 683                                          | 332       | 515       | 1,530     | 606        | 2,136      | 12                                       | 2         | 3         | 17        | 21         | 38         | 695                          | 334       | 518       | 1,547     | 627        | 2,174      |
| 2023-24                | 660                                          | 378       | 525       | 1,563     | 599        | 2,162      | 11                                       | 2         | 3         | 16        | 21         | 37         | 671                          | 380       | 528       | 1,579     | 620        | 2,199      |
| 2024-25                | 681                                          | 385       | 525       | 1,591     | 626        | 2,217      | 12                                       | 2         | 3         | 17        | 22         | 39         | 693                          | 387       | 528       | 1,608     | 648        | 2,256      |
| 2025-26                | 696                                          | 351       | 577       | 1,624     | 635        | 2,259      | 12                                       | 2         | 4         | 18        | 22         | 40         | 708                          | 353       | 581       | 1,642     | 657        | 2,299      |

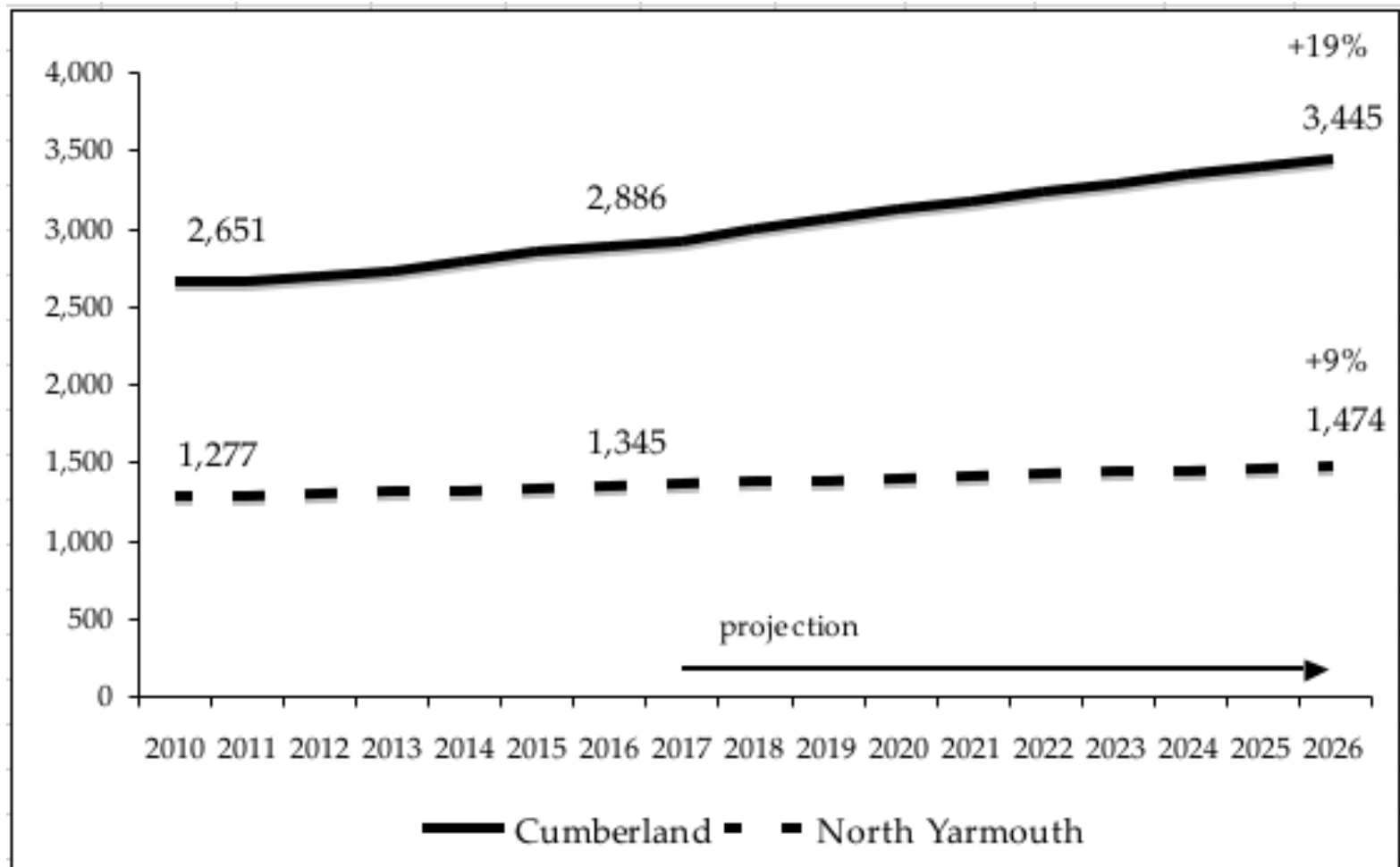
# Projection Big Picture



# Enrollment = f(births + migration)



# Housing Projection by Town



# Housing Projection p. 40

**Table VII-6 - Projected New Housing Units Added Annually  
MSAD 51**

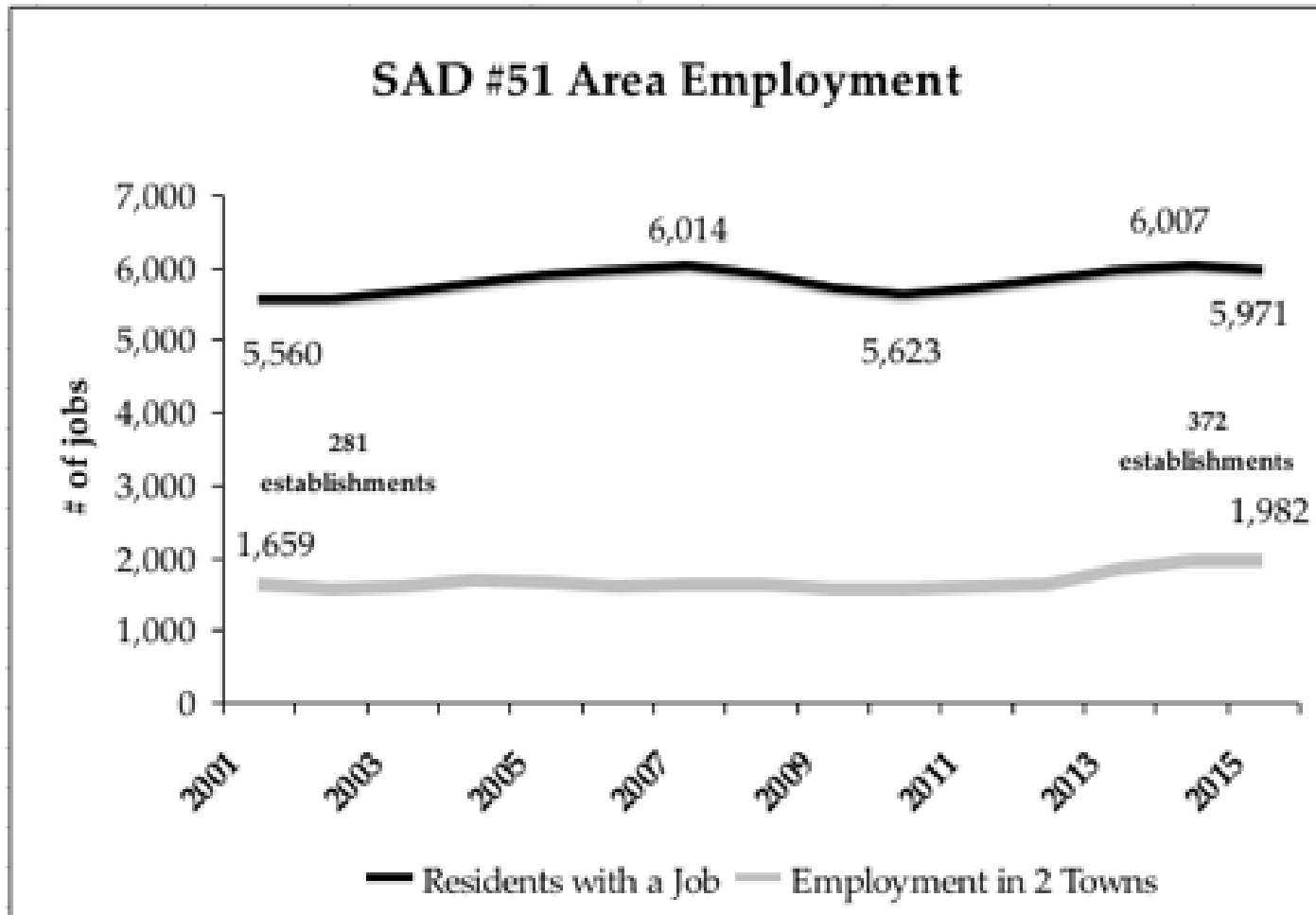
| Year              | Cumberland                                |                                           |                                                | North Yarmouth                 | MSAD 51             |
|-------------------|-------------------------------------------|-------------------------------------------|------------------------------------------------|--------------------------------|---------------------|
|                   | Permits Issues with<br>Cert. Of Occupancy | Permits Issues w/out<br>Cert of Occupancy | Total<br>Historical                            | New Housing Units              | TOTAL Housing Units |
| 2010              | 12                                        | 1                                         | 13                                             | 5                              | 18                  |
| 2011              | 18                                        | 2                                         | 20                                             | 10                             | 30                  |
| 2012              | 39                                        | 2                                         | 41                                             | 13                             | 54                  |
| 2013              | 62                                        | 0                                         | 62                                             | 13                             | 75                  |
| 2014              | 54                                        | 6                                         | 60                                             | 14                             | 74                  |
| 2015              | 31                                        | 8                                         | 39                                             | 13                             | 52                  |
| 2016**            | 9                                         | 25                                        | 34                                             | 12                             | 46                  |
|                   | Plus 39 New 2-Br<br>Rental Units          | Estimated New Housing<br>Units            | Estimated<br>Future New Housing<br>Development | Estimated New Housing<br>Units |                     |
| 2017 - 2019       | 13 / year                                 | 54 / year                                 | 67 / year                                      | 13 / year                      | 80                  |
| 2016, 2020 - 2025 | 0                                         | 54                                        | 54                                             | 13                             | 67                  |

Sources: 2010 -2016 data from each town office. The 2016 data is incomplete for the year. The 2017 and 2025 new housing unit data was estimated by Planning Decisions

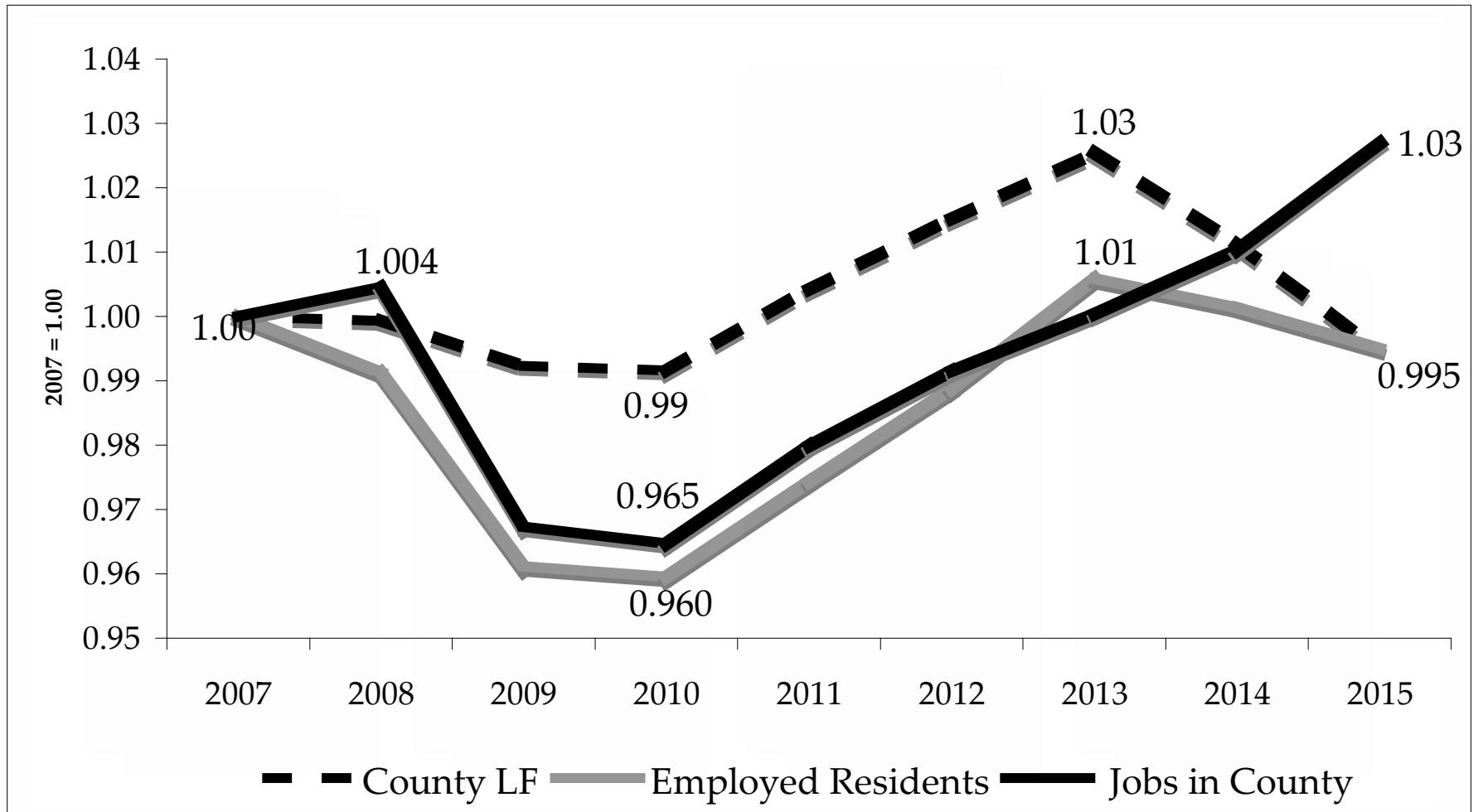
# Enrollment by Housing Type, p. 38

| Table VII-5<br>Enrollment per Unit by Type of Development                       |                     |              |              |              |
|---------------------------------------------------------------------------------|---------------------|--------------|--------------|--------------|
| Type of Development                                                             | Enrollment per Unit |              |              |              |
|                                                                                 | K-5                 | 6-8          | 9-12         | Total        |
| Single Family - Tier 1 (Price \$102.4K - \$254.8K)                              | 0.151               | 0.081        | 0.082        | 0.314        |
| Single Family - Tier 2 (Price \$255.1K - \$364.9K)                              | 0.203               | 0.127        | 0.171        | 0.501        |
| Single Family - Tier 3 (Price \$365.7K - \$984.3K)                              | 0.231               | 0.128        | 0.169        | 0.528        |
| <b>Average Single-Family Home Impact Ratio</b>                                  | <b>0.195</b>        | <b>0.112</b> | <b>0.141</b> | <b>0.448</b> |
| Triplex                                                                         | 0.083               | 0.000        | 0.000        | 0.083        |
| Duplex/Apartments                                                               | 0.167               | 0.083        | 0.104        | 0.354        |
| Mobile                                                                          | 0.111               | 0.000        | 0.000        | 0.111        |
| <b>Multi-Family (Triplex, Duplex), Mobile Homes and Apartments Impact Ratio</b> | <b>0.120</b>        | <b>0.028</b> | <b>0.035</b> | <b>0.183</b> |
| Source: Calculated by Planning Decisions.                                       |                     |              |              |              |

# SAD 51 towns depend on regional economy

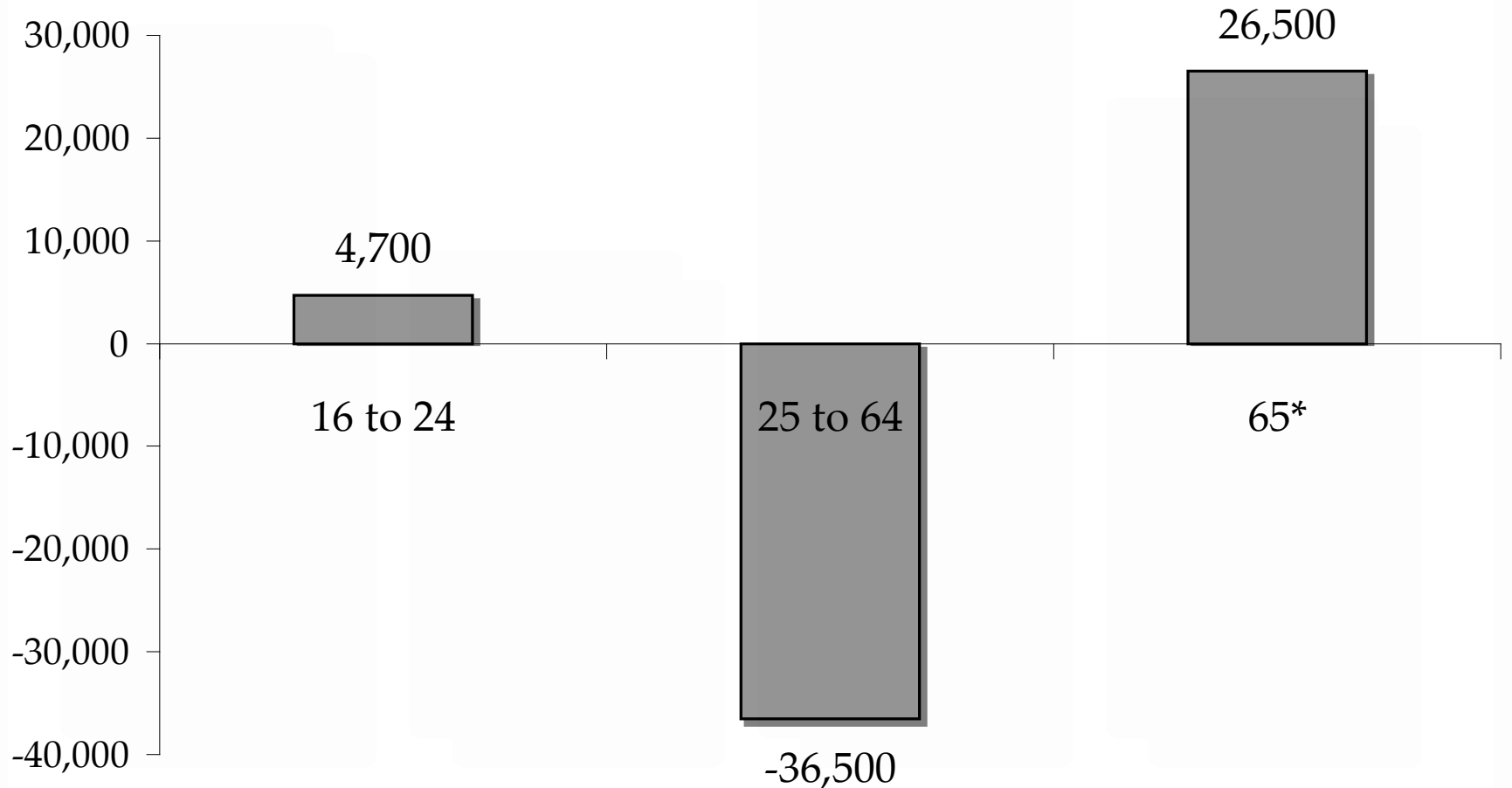


# Who will fill the jobs?



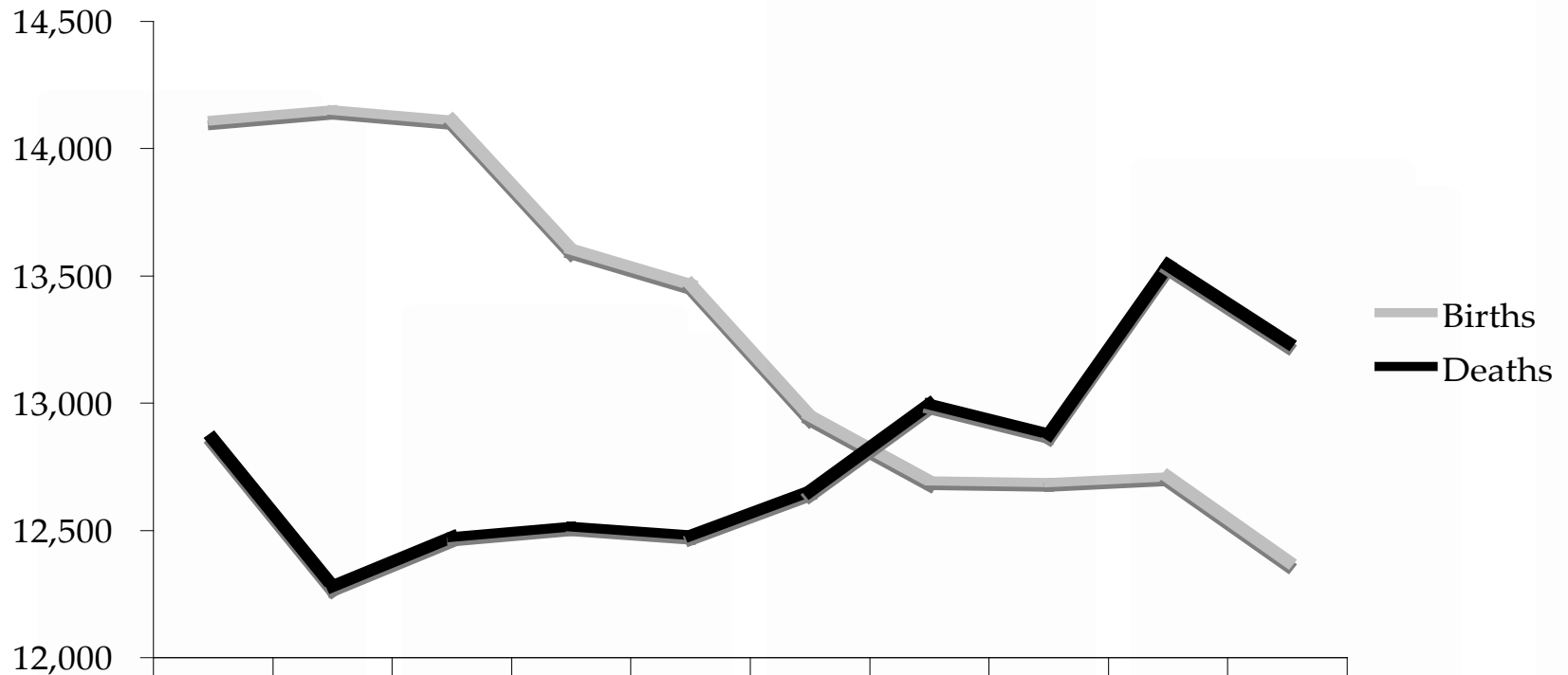
# Who will fill the jobs?

**Projected Change in Maine Labor Force  
by Age Group, 2014-24**



# Who will fill the new (& existing) homes?

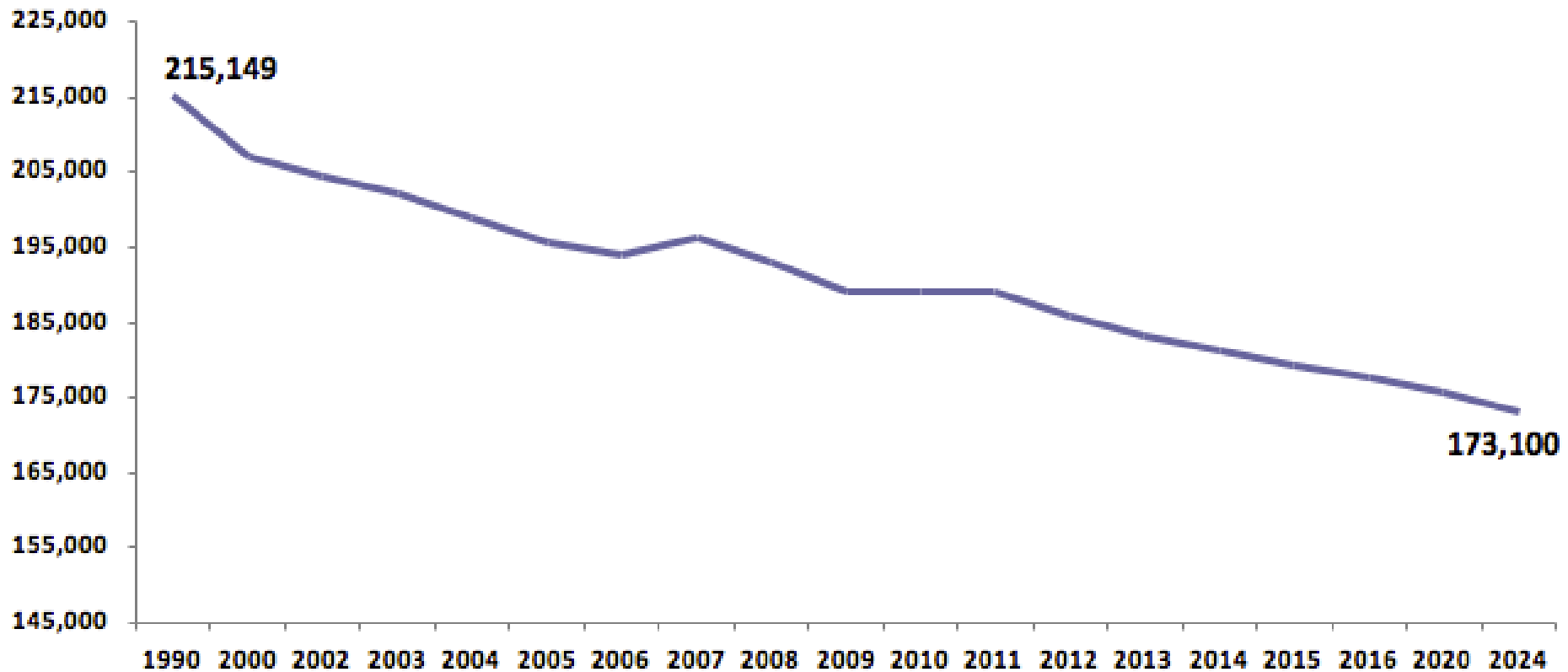
Births and Deaths, Maine, 2005-14



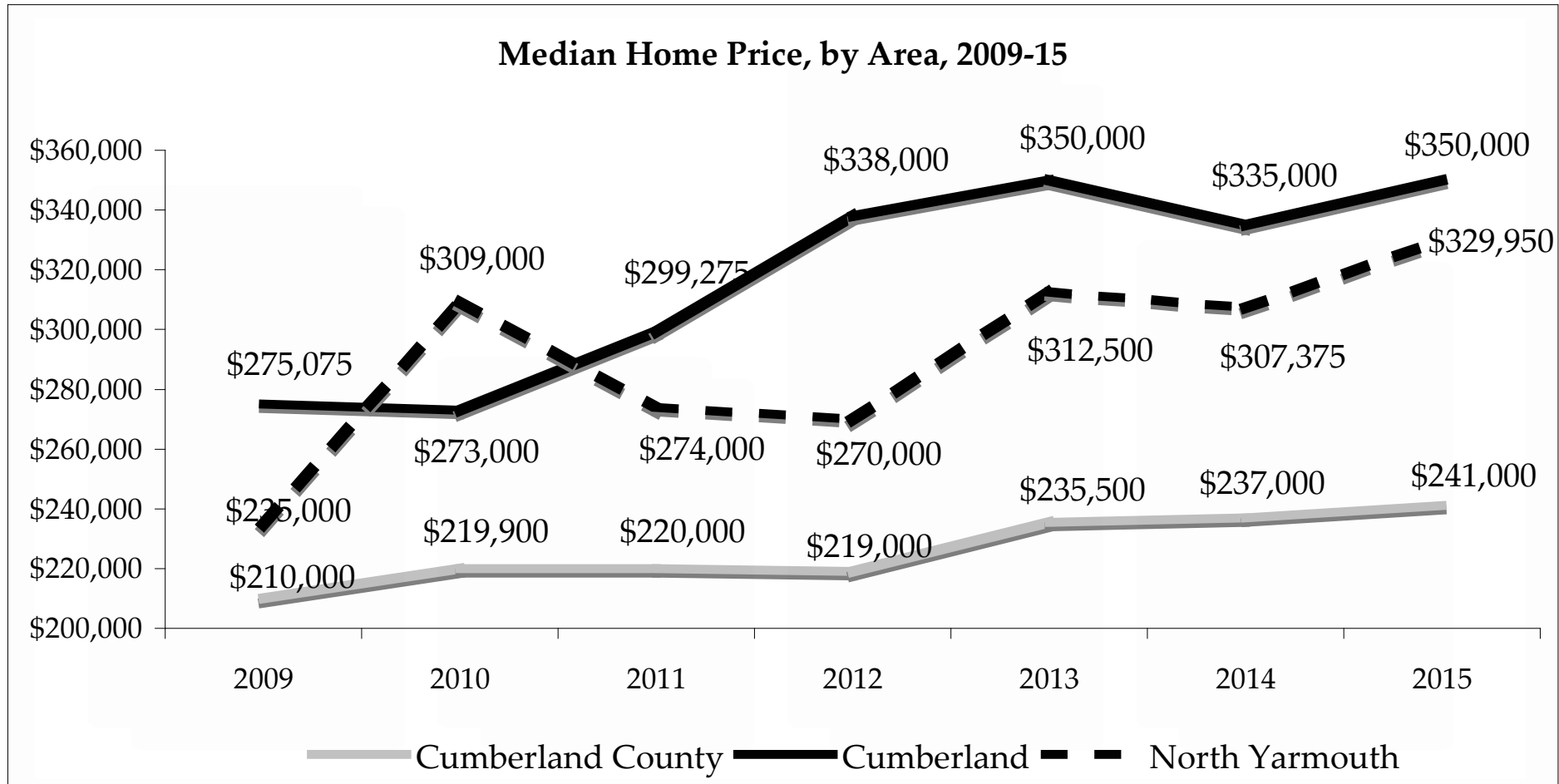
|        |        |        |        |        |        |        |        |        |        |        |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Births | 14,111 | 14,152 | 14,111 | 13,605 | 13,466 | 12,951 | 12,694 | 12,687 | 12,711 | 12,379 |
| Deaths | 12,858 | 12,282 | 12,475 | 12,514 | 12,480 | 12,655 | 12,995 | 12,878 | 13,542 | 13,238 |

# Who will fill the new (& existing) homes?

**Projected K-12 School Enrollment Maine 1990-2024**



# Who will fill the new (& existing) homes?

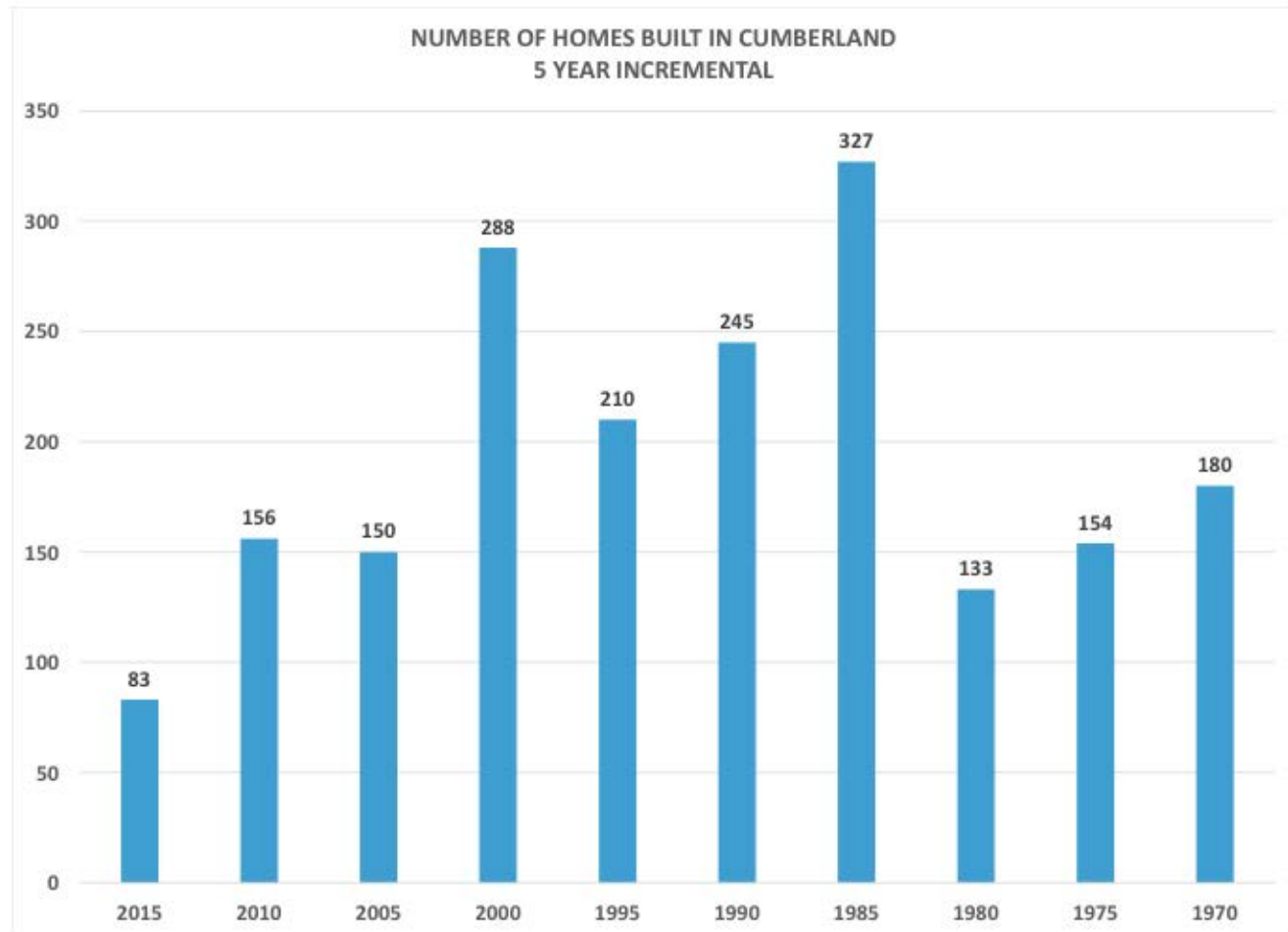


# Housing--enrollment trends

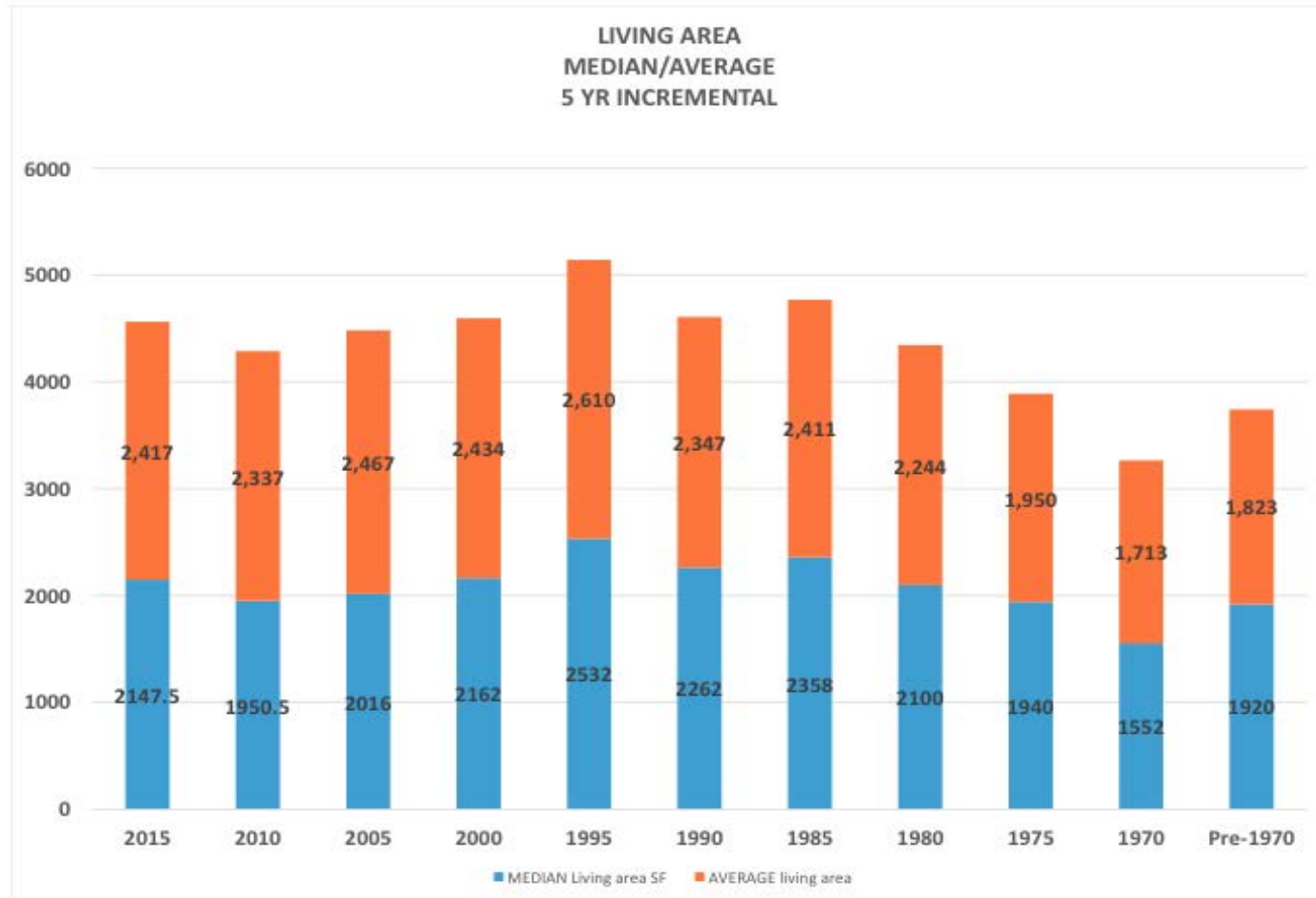
## Cumberland

| <b>Housing Measure</b>   | <b>All<br/>Residential<br/>Units</b> | <b>All Units<br/>with<br/>SAD 51<br/>Students</b> | <b>2 or more<br/>Students</b> | <b>1 Student</b> |
|--------------------------|--------------------------------------|---------------------------------------------------|-------------------------------|------------------|
| Number of Units          | 3,057                                | 756                                               | 412                           | 344              |
| Percent of Total         | 100%                                 | 25%                                               | 14%                           | 11%              |
| Median Assessed Value    | \$317,000                            | \$346,550                                         | \$367,900                     | \$315,000        |
| Median Acres per Unit    | 1.14                                 | 1.41                                              | 1.44                          | 1.38             |
| Median Gross SF per Unit | 4,115                                | 4,119                                             | 4,710                         | 4,132            |

# Cumberland Housing Trends, time



# Cumberland Housing Trends, size



# North Yarmouth Housing Trends

| Year Built | Number of Units | Avg. Assessed Value | Liveable sq. ft. | SAD 51 students | Students/ Unit |
|------------|-----------------|---------------------|------------------|-----------------|----------------|
| 2010       | 14              | \$446,793           | 2,794            | 7               | 0.50           |
| 2011       | 9               | \$353,944           | 2,365            | 6               | 0.67           |
| 2012       | 10              | \$366,180           | 2,314            | 3               | 0.30           |
| 2013       | 6               | \$304,517           | 1,769            | 2               | 0.33           |
| 2014       | 15              | \$298,687           | 2,350            | 4               | 0.27           |
| 2015       | 12              | \$312,508           | 2,276            | 3               | 0.25           |
| 2016       | 15              | \$254,453           | 2,461            | 2               | 0.13           |

# What can you do?

## 1. Monitor data annually:

- Births in member towns;
- Housing starts by type & size;
- Turnover of existing homes;
- Link enrollment data (Oct 1 & April 1) with assessing data (April 1);
- Regional and local employment.

# What can you do?

2. Compare annual changes to projections and adjust results based on most recent data:
  - Staffing based on grade to grade changes;
  - Long term facility and program changes;
  - Housing policies based on occupant categories.

# What can you do?

## 3. Annual joint meeting/retreat:

- Review new data compared to projections;
- Discuss town & district goals;
- Prepare joint “Inform the voters strategy.”