



# High Needs Population Trends: An Update

Acton-Boxborough Consolidated\* District 2004 - 2015

October 29, 2015

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\* The term "AB" or similar refers to the consolidated district of public schools of Acton, Boxborough, and Acton-Boxborough. Prior to FY 2015 "AB" data is an aggregate of the three districts.

## **PURPOSE AND BACKGROUND**

This paper is to update the key findings of our September 2014 report on population trends within the special education and other High Needs subgroups for the Acton-Boxborough consolidated school district with FY 2015 population data (as of October 1, 2014). Data used in this paper is drawn from reports the Massachusetts Department of Elementary and Secondary Education (DESE) publishes on its website each year.

DESE defines the High Needs group as students classified as Students with Disabilities (SwD), Economically Disadvantaged, previously called Low Income (LI), and English Language Learners (ELL). The state tracks the performance of this High Needs group each year to determine whether or not each individual school and school district has met annual state and federal education requirements. In our view, tracking trends in the High Needs group is important because the number of High Needs students will impact the overall financial resources necessary to educate students with special education needs and other High Needs in Acton and Boxborough. Within the special education subgroup (SwD), this report looks at both change in the number of students with special needs and the change in distribution of primary disabilities since the type and severity of students' special needs directly impact the budget by driving the type and intensity of services needed to address individual educational needs.

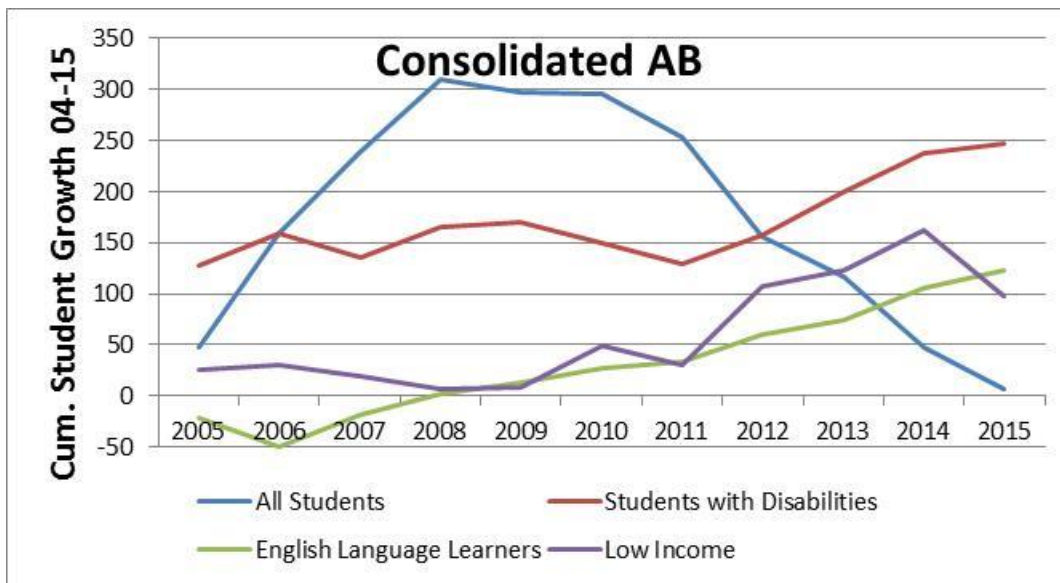
The Economically Disadvantaged definition used for the first time in the 2014-2015 school year results in fewer students being classified in this category versus the Low Income definition used in prior years. The reduction noted in this category therefore is not indicating a change in families' economic situations. The new and old definitions are discussed at the end of this report.

## **EXECUTIVE SUMMARY**

In our 2014 report we concluded that growth in the numbers of High Need students in A-B would drive district per pupil spending faster than inflation. In our view, the 2015 data reinforces this conclusion. In FY 2015, the number of special education students (SwD) and English Language Learners (ELL) increased. Due to a new, more restrictive definition, the Low Income/Economically Disadvantaged total declined by 64.

In FY 2015 the consolidated district total student population declined by 128 (-2.2%) while the number of High Needs students declined by 29 (-2.1%). The Low Income definitional change disguises the continuing growth of students requiring additional support to succeed. We suggest that the 2013 to 2014 trend is intact. FY 2014 experienced an overall population decrease of 65 students in contrast to an increase in the High Needs group of 80 students in comparison with FY 2013. In FY 2015 the SwD subgroup grew by 10 students (+1.0%) to 989 and the ELL subgroup grew by 16 (8.6%) to 202.

The following chart tracks the change in High Needs students by category since FY 2004. Since 2004, the Students with Disabilities subgroup has increased by 247 students (+33.7% since 2004), the English Language Learners subgroup has increased by 122 students (+152.5%), and the Low Income/Economically Disadvantaged subgroup has increased by 98 students (+77.8%). During the same period total enrollment has been flat (increase of six students).



The following table shows the changes in the Students with Disabilities, English Language Learners, Low Income/Economically Disadvantaged, and total enrollment over the last two years.

Despite the large decrease in the Low Income/Economically Disadvantaged subgroup (down 64 students), the number of High Needs students decreased more modestly (down 29 students). This anomaly almost certainly is due to the number of Low Income students who were also classified as either SwD or ELL. The High Needs total counts an eligible student once.

The decline in total student enrollment over the last year has the arithmetic effect of increasing the per pupil expenditure (by lowering the denominator) assuming no change in overall spending. A lower total student headcount also has a real effect on budgets as subsidies from the state (e.g., Chapter 70) and federal government are often based on student headcount. Students classified as High Needs receive costly supplementary services above and beyond those received through general education. Therefore, the increase in High Needs students is likely to lead to an increase in absolute spending and a higher per pupil expenditure to maintain the same level of education we currently provide district students.

The table below tracks the changes in the LI, ELL, SwD, and HN population in the last two years. The All Students data is the Adjusted Total count as provided by DESE.

## Two-Year Change in High Needs Population at Consolidated A-B

| School Year                     | All Students | Students Classified as High Needs: |                  |                   |                  |                     |
|---------------------------------|--------------|------------------------------------|------------------|-------------------|------------------|---------------------|
|                                 |              | Low Income*                        | English Learners | Special Education | Total High Needs | Multiple Classified |
| 2015                            | 5,750        | 224                                | 202              | 979               | 1,326            | 79                  |
| 2014                            | 5,878        | 288                                | 186              | 969               | 1,355            | 88                  |
| 2013                            | 5,943        | 248                                | 154              | 931               | 1,275            | 58                  |
| <b><u>Change 2014 -2015</u></b> |              |                                    |                  |                   |                  |                     |
| # Students                      | -128         | -64                                | 16               | 10                | -29              |                     |
| % Yr-to-Yr                      | -2.2%        | -22.2%                             | 8.6%             | 1.0%              | -2.1%            |                     |
| <b><u>Change 2013 -2014</u></b> |              |                                    |                  |                   |                  |                     |
| # Students                      | -65          | 40                                 | 32               | 38                | 80               |                     |
| % Yr-to-Yr                      | -1.1%        | 16.1%                              | 20.8%            | 4.1%              | 6.3%             |                     |

*\* As of FY 2015 there was a name and definition change of the Low Income sub-group. It is now titled "Economically Disadvantaged."*

### CHANGE IN COMPOSITION OF SPECIAL EDUCATION STUDENTS

As the number and proportion of special education students has increased, the mix of students' primary disabilities has changed in meaningful ways. Over the last eleven years the number of students classified with a primary disability of Autism has exploded, up by 86 students (a 307% cumulative increase) while the number of students identified with Specific Learning Disabilities has declined by 101 over the same period. Students with disabilities like Autism tend to be more expensive to educate than students with a Specific Learning Disability because their disability impacts multiple areas of learning, e.g., social, emotional, academic, sensory, gross and fine motor skills.

## SwD by Primary Disability

|                | Cost<br>Weight | Count<br>2015 | Change since: |             |             |
|----------------|----------------|---------------|---------------|-------------|-------------|
|                |                |               | <u>2014</u>   | <u>2011</u> | <u>2004</u> |
| Sensory Deaf   |                |               |               |             |             |
| Blind          | 3.1            | 0             | 0             | -1          | 0           |
| Multiple Disab | 3.1            | 18            | -7            | -13         | -12         |
| Sensory Vision | 2.9            | 3             | -1            | 0           | 0           |
| Autism         | 2.9            | 114           | 4             | 29          | 86          |
| Neurological   | 2.5            | 78            | 0             | 21          | 13          |
| Sensory Hard   |                |               |               |             |             |
| of Hearing     | 2.4            | 10            | 0             | 0           | 3           |
| Intellectual   | 2.3            | 30            | 4             | 9           | -6          |
| Physical       | 2.3            | 39            | 4             | -5          | 24          |
| Emotional      | 2.2            | 116           | 3             | 17          | 30          |
| Health         | 2.0            | 120           | 7             | 32          | 42          |
| Communication  | 1.7            | 230           | -4            | 43          | 65          |
| Specific       |                |               |               |             |             |
| Learning Disab | 1.6            | 133           | 6             | -15         | -101        |
| Development    |                |               |               |             |             |
| Delay          | 1.6            | 88            | -6            | 1           | 8           |
| <b>Total</b>   |                | <b>979</b>    | <b>10</b>     | <b>118</b>  | <b>152</b>  |

The “Total Expenditures for Students with Disabilities, 1999-2000: Spending Variation by Disability” study developed a cost index for each disability category used by the federal government. We have used judgment to attach the cost index to each primary disability used by Massachusetts. The table above shows growth in the high-cost category of Autism and a decline in the high-cost category of Multiple Disabilities. The largest decrease occurred in the relatively low-cost category of Specific Learning Disability.

### CHANGE IN AGE DISTRIBUTION OF SPECIAL EDUCATION STUDENTS

Over the eleven years 2004-2015 there have been material shifts in the age distribution of the SwD population. As noted last year, the growth among high school students (14-17) is much faster than for the SwD group overall. In the eleven-year span the number of high school students in the subgroup increased by 70 students (+32%) as compared with the total SwD increase of 152 students (+18%). We also note that the number of 5-year-olds in the subgroup has decreased by 20 students (-44%). In a growth trend environment, a decline of this size may have an underlying cause beyond normal random volatility.

### A-B SPECIAL EDUCATION STUDENTS BY AGE

| Age          | Number of SwD by Age by Fiscal Year |            |            |            |            |            | Change 2004 - 2015 |              |
|--------------|-------------------------------------|------------|------------|------------|------------|------------|--------------------|--------------|
|              | 2004                                | 2011       | 2012       | 2013       | 2014       | 2015       | #                  | %            |
| 3            | 14                                  | 17         | 13         | 13         | 17         | 16         | 2                  | 14.3%        |
| 4            | 14                                  | 17         | 23         | 18         | 17         | 24         | 10                 | 71.4%        |
| 5            | 45                                  | 36         | 28         | 32         | 31         | 25         | -20                | -44.4%       |
| 6            | 34                                  | 51         | 50         | 49         | 51         | 43         | 9                  | 26.5%        |
| 7            | 47                                  | 49         | 61         | 61         | 63         | 64         | 17                 | 36.2%        |
| 8            | 62                                  | 51         | 56         | 71         | 70         | 66         | 4                  | 6.5%         |
| 9            | 82                                  | 58         | 59         | 63         | 81         | 88         | 6                  | 7.3%         |
| 10           | 70                                  | 64         | 61         | 60         | 61         | 93         | 23                 | 32.9%        |
| 11           | 54                                  | 71         | 76         | 71         | 80         | 68         | 14                 | 25.9%        |
| 12           | 77                                  | 73         | 69         | 76         | 76         | 80         | 3                  | 3.9%         |
| 13           | 70                                  | 70         | 80         | 81         | 77         | 77         | 7                  | 10.0%        |
| 14           | 58                                  | 76         | 65         | 80         | 81         | 71         | 13                 | 22.4%        |
| 15           | 49                                  | 63         | 73         | 71         | 76         | 84         | 35                 | 71.4%        |
| 16           | 60                                  | 73         | 64         | 73         | 72         | 71         | 11                 | 18.3%        |
| 17           | 53                                  | 47         | 73         | 58         | 70         | 64         | 11                 | 20.8%        |
| 18           | 28                                  | 29         | 22         | 34         | 30         | 22         | -6                 | -21.4%       |
| 19           | 4                                   | 7          | 8          | 10         | 9          | 11         | 7                  | 175.0%       |
| 20           | 3                                   | 6          | 5          | 6          | 5          | 7          | 4                  | 133.3%       |
| 21           | 3                                   | 3          | 3          | 4          | 2          | 5          | 2                  | 66.7%        |
| <b>Total</b> | <b>827</b>                          | <b>861</b> | <b>889</b> | <b>931</b> | <b>969</b> | <b>979</b> | <b>152</b>         | <b>18.4%</b> |

Another approach for looking at age group changes is to compare changes within an age cohort. The table below shows the one-year increase in the SwD students by age cohort. So, for example, you can see that the four-year-average increase in SwD students from age 8 to 9 is 10.8 students. In FY 2015 the number of 9-year-olds in the subgroup grew by 18 versus the 8-year-olds the prior year. Each year's change reflects move-ins/move outs, new members, and "graduates" or those who no longer require services. It is not possible with public data to determine what is driving a change in numbers. The green highlights the two age groups with the largest positive difference of change in FY 2015 to the four-year average. Growth among the 8-9 and 9-10-year-olds (roughly fourth and fifth graders) of 18 and 12 students respectively exceeded the four-year average by 7.2 and 8.5 students respectively. The yellow highlights reflect the largest negative difference versus the average. The 5-6-year-old increase of 12 was 4.5 below average and the 10-11-year-old increase of 7 was 5.3 below average.

### YEAR BY YEAR CHANGE IN AGE COHORT

| <u>Age Group</u> | <u>2011-12</u> | <u>2012-13</u> | <u>2013-14</u> | <u>2014-15</u> | <u>Average</u> |
|------------------|----------------|----------------|----------------|----------------|----------------|
| 3 to 4           | 6              | 5              | 4              | 7              | 5.5            |
| 4 to 5           | 11             | 9              | 13             | 8              | 10.3           |
| 5 to 6           | 14             | 21             | 19             | 12             | 16.5           |
| 6 to 7           | 10             | 11             | 14             | 13             | 12.0           |
| 7 to 8           | 7              | 10             | 9              | 3              | 7.3            |
| 8 to 9           | 8              | 7              | 10             | 18             | 10.8           |
| 9 to 10          | 3              | 1              | -2             | 12             | 3.5            |
| 10 to 11         | 12             | 10             | 20             | 7              | 12.3           |
| 11 to 12         | -2             | 0              | 5              | 0              | 0.8            |
| 12 to 13         | 7              | 12             | 1              | 1              | 5.3            |
| 13 to 14         | -5             | 0              | 0              | -6             | -2.8           |
| 14 to 15         | -3             | 6              | -4             | 3              | 0.5            |
| 15 to 16         | 1              | 0              | 1              | -5             | -0.8           |
| 16 to 17         | 0              | -6             | -3             | -8             | -4.3           |
| 17 to 18         | -25            | -39            | -28            | -48            | -35.0          |
| 18 to 19         | -21            | -12            | -25            | -19            | -19.3          |
| 19 to 20         | -2             | -2             | -5             | -2             | -2.8           |
| 20 to 21         | -3             | -1             | -4             | 0              | -2.0           |

We note that the FY 2015 outliers just discussed represent sharp changes (up and down) from the changes seen in the prior three fiscal years. We therefore believe these trends may be due to more than normal random volatility and merit exploration given the importance of early intervention on long-term student outcome as well as its cost efficiency for school districts.

As recommended last year, we continue to see value in using a “ground up” approach to annual budgeting of special education expenditures. This would entail determining the resources (and costs) necessary for the current group of students to achieve their goals, including an MCAS Student Growth Percentile in ELA and Math of 51-60 per federal and state standards. Our current budget process is more top down—e.g., last year’s budget plus 2%—which does not take into account the increasing numbers of students with High Needs or the change in the type and intensity of special needs represented within the student population.

#### **COMPARISON OF A-B TO PEER DISTRICTS’ AND STATE HIGH NEEDS POPULATIONS**

A-B’s 2015 percentage composition among the High Needs subgroups is about in the middle of the peer districts (Concord, C-C, Lexington, and Westford) we use for comparison.<sup>1</sup> This was true in 2014 as well. However, over the last two years A-B had the largest increase in the ELL and SwD percentage among the peer districts and over the last year A-B was the only peer district that experienced a higher percentage in both the ELL and SwD subgroups as a percentage of the overall student population. As mentioned earlier, the total number of High Needs students decreased in 2015 due to a more restrictive definition of the Low Income category. However, the percentage of High Needs students inched up to 13.1% from 13.0% due to the faster decline in A-B’s total enrollment.

A-B and all of the peer districts have a substantially lower percentage of students in the Economically Disadvantaged/Low Income and English Language Learner subgroups while A-B and the peer districts are much closer to the state average percentage of Students with Disabilities. Of the peer districts, Westford’s percentages are the lowest or close to it among the peer districts. In prior analyses Westford has had the lowest spending per student among the peer districts.

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<sup>1</sup> We are aware of the new peer districts the School Committee has adopted and will bear them in mind moving forward. Concord, Concord-Carlisle, and Westford appear in our previous analysis, this update, and on the new peer district list.



**Students Classified as High Needs  
as a % of All Students**

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|                  | <b>Low<br/>Income</b> | <b>English<br/>Learners</b> | <b>Special<br/>Education</b> | <b>Total High<br/>Needs</b> |
|------------------|-----------------------|-----------------------------|------------------------------|-----------------------------|
| <b>2015</b>      |                       |                             |                              |                             |
| Acton Boxborough | 4.0%                  | 3.6%                        | 17.0%                        | 23.1%                       |
| Concord          | 4.4%                  | 2.6%                        | 18.3%                        | 23.4%                       |
| Concord-Carlisle | 3.2%                  | 0.7%                        | 18.2%                        | 21.2%                       |
| Lexington        | 4.6%                  | 6.1%                        | 13.6%                        | 24.2%                       |
| Westford         | 3.3%                  | 0.7%                        | 12.3%                        | 16.0%                       |
| State            | 26.3%                 | 8.5%                        | 17.1%                        | 42.2%                       |

**2014**

|                  |       |      |       |       |
|------------------|-------|------|-------|-------|
| Acton Boxborough | 5.0%  | 3.2% | 16.6% | 23.0% |
| Concord          | 3.9%  | 2.8% | 17.7% | 22.5% |
| Concord-Carlisle | 4.2%  | 1.1% | 19.2% | 22.8% |
| Lexington        | 7.1%  | 5.5% | 14.2% | 26.2% |
| Westford         | 4.2%  | 1.1% | 11.7% | 16.3% |
| State            | 38.3% | 7.9% | 17.0% | 48.8% |

**One Year Change 2014 - 2015**

|                  |        |       |       |       |
|------------------|--------|-------|-------|-------|
| Acton Boxborough | -1.0%  | 0.4%  | 0.4%  | 0.1%  |
| Concord          | 0.5%   | -0.2% | 0.6%  | 0.9%  |
| Concord-Carlisle | -1.0%  | -0.4% | -1.0% | -1.6% |
| Lexington        | -2.5%  | 0.6%  | -0.6% | -2.0% |
| Westford         | -0.9%  | -0.4% | 0.6%  | -0.3% |
| State            | -12.0% | 0.6%  | 0.1%  | -6.6% |

|                  | <b>Low<br/>Income</b> | <b>English<br/>Learners</b> | <b>Special<br/>Education</b> | <b>Total High<br/>Needs</b> |
|------------------|-----------------------|-----------------------------|------------------------------|-----------------------------|
| <b>2013</b>      |                       |                             |                              |                             |
| Acton Boxborough | 4.2%                  | 2.6%                        | 15.7%                        | 21.4%                       |
| Concord          | 4.9%                  | 2.6%                        | 17.9%                        | 23.1%                       |
| Concord-Carlisle | 4.5%                  | 0.2%                        | 17.1%                        | 20.8%                       |
| Lexington        | 6.8%                  | 5.3%                        | 13.8%                        | 25.3%                       |
| Westford         | 4.1%                  | 0.9%                        | 11.3%                        | 15.6%                       |
| State            | 37.0%                 | 7.7%                        | 17.0%                        | 47.9%                       |

**Two Year Change 2013 - 2015**

|                  |        |       |       |       |
|------------------|--------|-------|-------|-------|
| Acton Boxborough | -0.2%  | 1.0%  | 1.3%  | 1.7%  |
| Concord          | -0.5%  | 0.0%  | 0.4%  | 0.3%  |
| Concord-Carlisle | -1.3%  | 0.5%  | 1.1%  | 0.4%  |
| Lexington        | -2.2%  | 0.8%  | -0.2% | -1.1% |
| Westford         | -0.8%  | -0.2% | 1.0%  | 0.4%  |
| State            | -10.7% | 0.8%  | 0.1%  | -5.7% |

**DEFINITIONS: ECONOMICALLY DISADVANTAGED AND LOW INCOME**

Beginning in FY 2015 the former Low Income subgroup was redefined and renamed Economically Disadvantaged. Following are the definitions of each group from the DESE website:

Economically Disadvantaged: based on a student's participation in one or more of the following state-administered programs: the Supplemental Nutrition Assistance Program (SNAP); the Transitional Assistance for Families with Dependent Children (TAFDC); the Department of Children and Families' (DCF) foster care program; and MassHealth (Medicaid).

Low-income: Indicates the percent of enrollment who meet ANY ONE of the following definitions of Low-income:

- The student is eligible for free or reduced price lunch; or
- The student receives Transitional Aid to Families benefits; or
- The student is eligible for food stamps.