



**Newton Public Schools**  
Newton, Massachusetts

**Short-Term Space Options**

October 20, 2010



# Summary of Presentation

1. Introduction
2. Middle School Model and Statistics
3. Options Considered
  - a. Do Nothing – No Additional Space Added
  - b. Reconfigure Existing Space
  - c. Redistricting and Buffer Zones
  - d. Options for Construction
4. Elementary Space Considerations
5. Review of Enrollment Growth



# Middle School Model

Unique developmental issues faced by middle school students demand:

- A learning environment that is sensitive to this developmental period, flexible, and multi-faceted.
- A core academic program characterized by a student-centered curriculum that is academically challenging, experiential, exploratory, and interdisciplinary.
- An educational structure that creates small communities for learning where stable, close, mutually respectful relationships with adults and peers are considered fundamental for intellectual development and personal growth. **Teaming is the centerpiece of this structure.**



## **Middle Schools: The Numbers**

- 4 subjects lend themselves to 4 teacher teams.
- 2 teacher (half) teams work as well.
- 3 teacher teams are very problematic.
- Targeted team size: 88-92
- Team size must account for Math leveling in Grades 7 and 8, which skews class size.

# Team Size and Average Class Size

## 2009-10 (In Order of Team Size)

	Avg. Team Size	Avg. Class Size	% Classes > 25 students	% Classes < 20 Students
Brown	85	20.9	7%	28%
Bigelow	88	21.3	7%	21%
Day	91	21.9	15%	17%
Oak Hill	96	22.9	29%	11%

## 2010-11 (In Order of Team Size)

	Avg. Team Size	Avg. Class Size	% Classes > 25 Students	% Classes < 20 Students
Bigelow	87	21.3	9%	19%
Brown	89	21.7	7%	11%
Day	89	21.9	11%	17%
Oak Hill	93	21.9	26%	16%

# Team Size and Teacher FTE

- How many middle school team teachers are needed for all teams to be at 96 students or below?

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
# Team Teachers	114	122	128	130	128	130
Increase from Prior Year		8	6	2	-2	2
		+2 Day +2 Brown +4 Oak Hill	+6 Day	+2 Brown	-2 Brown	+2 Brown
<b>Average team size</b>	<b>90</b>	<b>88</b>	<b>85</b>	<b>88</b>	<b>88</b>	<b>88</b>

# Impact of Potential Reductions

- How many middle school team teachers would be reduced if teams are allowed to go to a maximum of **110** students?

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
# Team Teachers	114	108	112	120	116	116
Increase from Prior Year		-6 -2 Bigelow -4 Brown	4 +2 Brown +2 Oak Hill	8 +2 Bigelow +2 Brown +2 Day +2 Oak Hill	-4 -2 Bigelow -2 Oak Hill	0 +2 Bigelow -2 Oak Hill
<b>Average team size</b>	<b>90</b>	<b>99</b>	<b>97</b>	<b>95</b>	<b>97</b>	<b>98</b>

- How many middle school team teachers would be reduced if teams are allowed to go to a maximum of **104** students?

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
# Team Teachers	114	114	120	120	122	122
Increase from Prior Year		0	6 +2 Day +4 Oak Hill	0	2 +2 Brown	0
<b>Average team size</b>	<b>90</b>	<b>94</b>	<b>91</b>	<b>95</b>	<b>92</b>	<b>94</b>

## Day at 36, 38, 40 or 42 Team Classrooms Average (with Min/Max) Team Size

# Team Classrooms	Team Size	2011-12	2012-13	2013-14	2014-15	2015-16
36	Average	93	97	99	98	98
	Min/Max	87/98	92/100	97/100	94/100	95/101
38	Average	88	91	94	93	93
	Min/Max	84/93	85/98	86/99	86/99	87/98
40	Average	83	87	89	88	88
	Min/Max	80/87	84/92	85/97	85/94	84/95
42	Average	79	83	85	84	84
	Min/Max	74/84	79/85	83/86	81/86	81/87



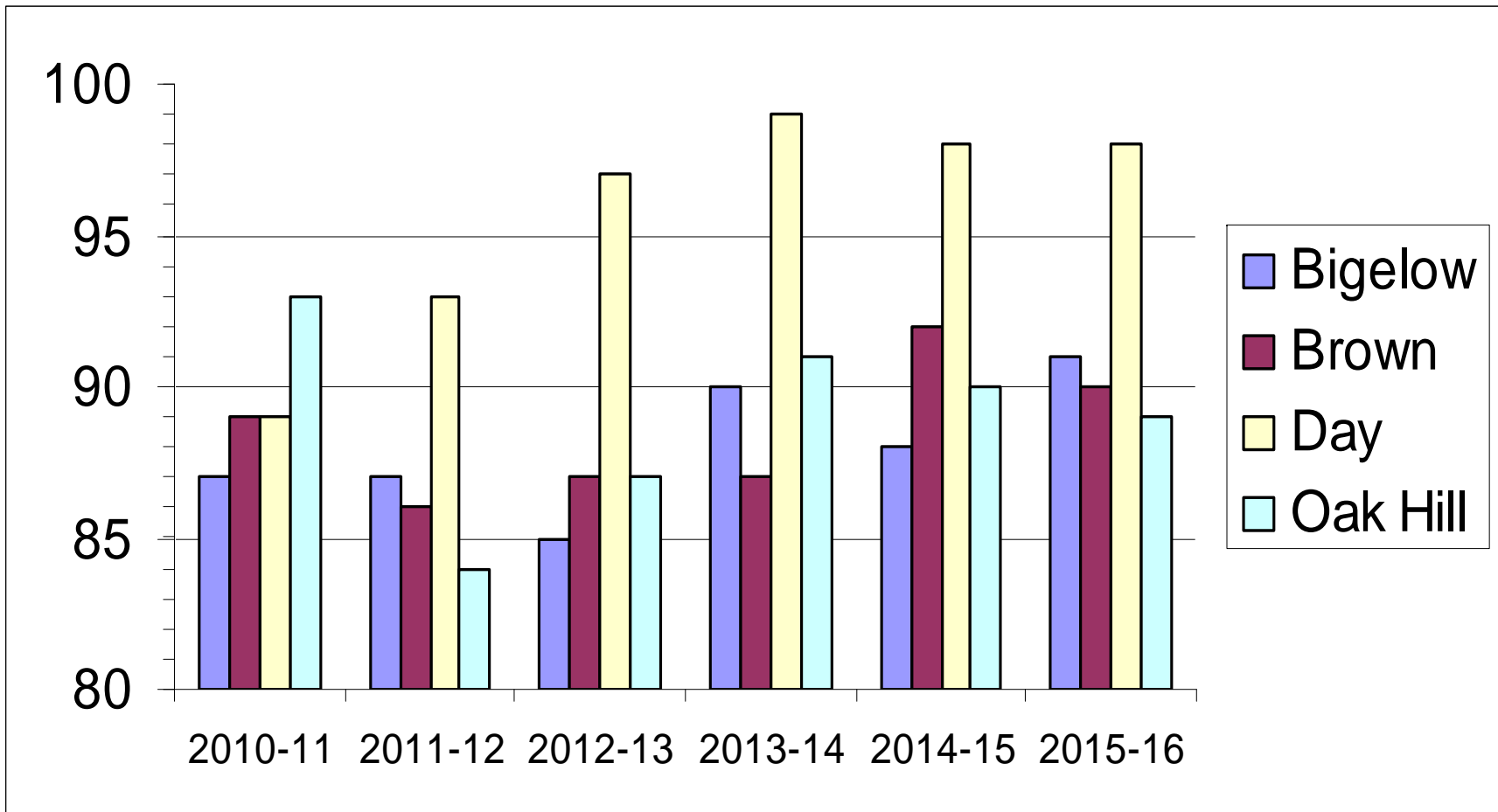


## Impact at Day Middle School with No Additional Space Added

- Teaching and learning is comprised.
- The learning environment, and to a degree, the middle school model is compromised.
- The constraints to the building and to the schedule will reduce flexibility, negatively impacting programming by forcing the schedule to drive programming, rather than the other way around.

# Average Team Size: Day at 36 Team Classrooms

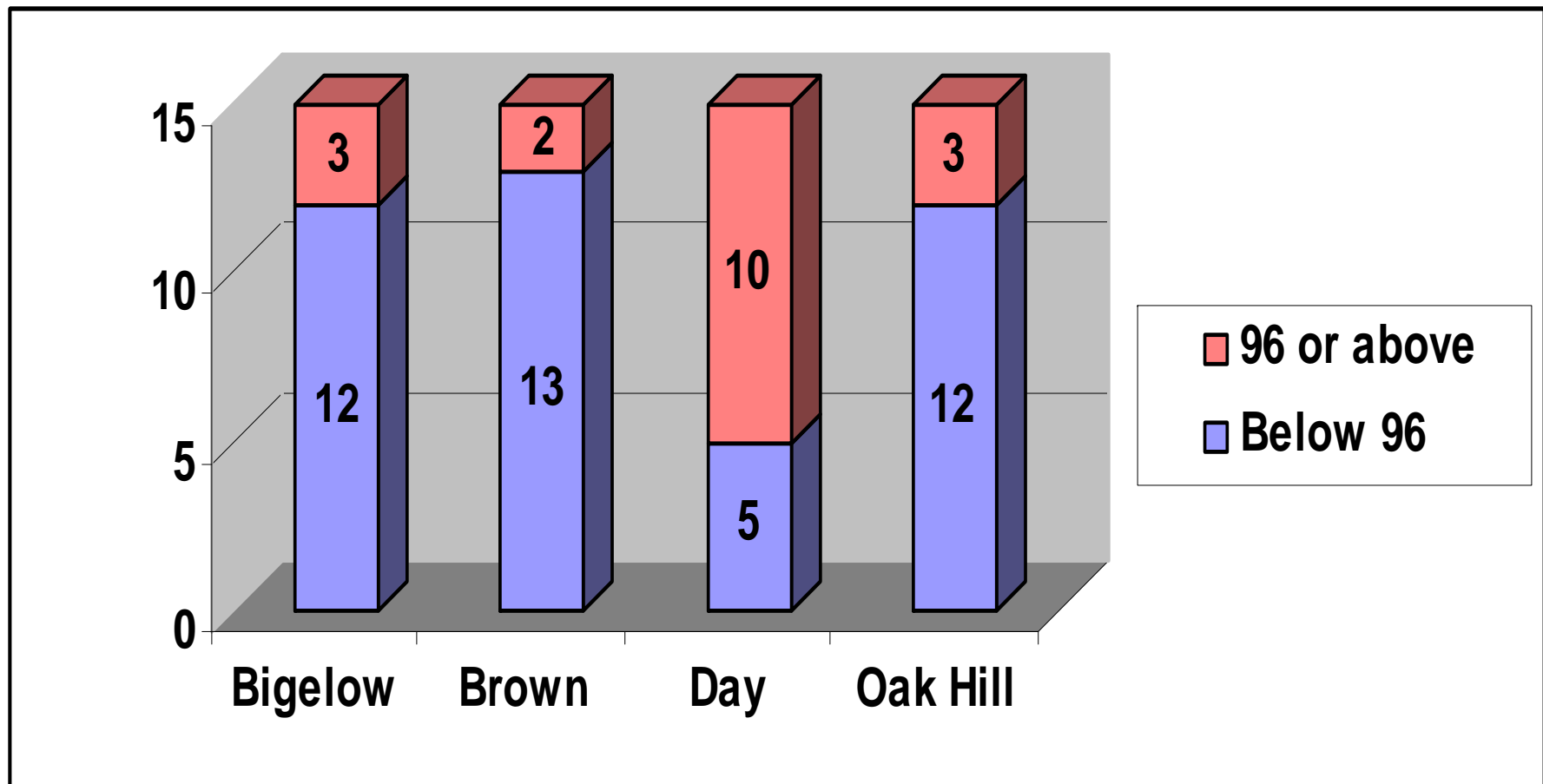
(Max Team Size At Any Grade in Other Schools = 96)



# Number of Teams at 96 Students or Above

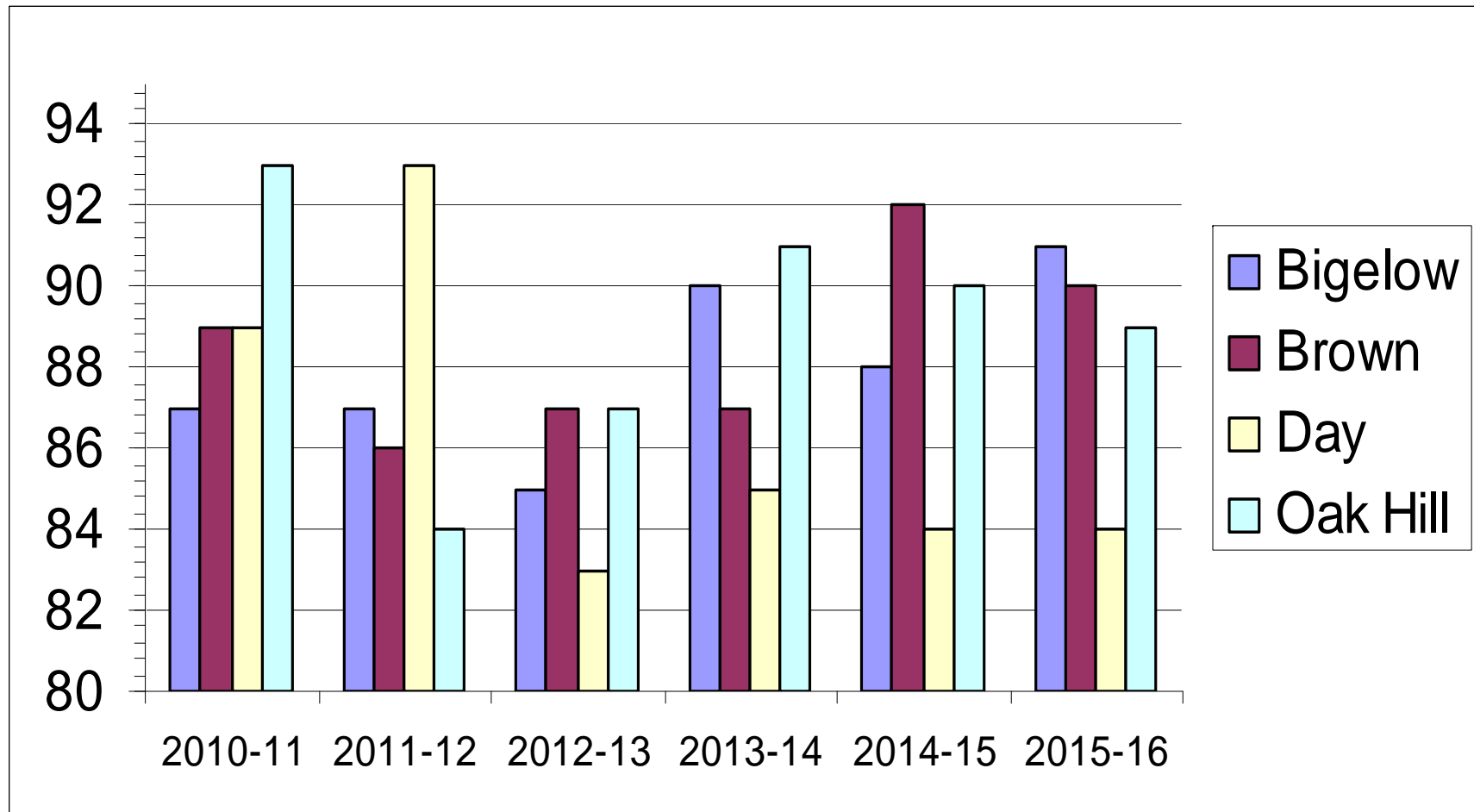
## Day at 36 Team Classrooms

Max Team Size of 96 students at other schools  
2011-12 through 2015-16



# Team Size: Day at 42 Team Classrooms

(Max Team Size At Any Grade in Any School = 96)





## Options to Reconfigure Existing Space at Day

### **Create 6 Classrooms and Expand Cafeteria**

	<u>Amount</u>
■ Interior renovation for the cafeteria	\$194,400
■ Infill Weight Room for 2 classrooms	\$448,875
■ Infill Library for 2 classrooms	\$461,700
■ Renovate existing front entrance and storage spaces for 2 classrooms	\$243,000
<b>Grand Total</b>	<b>\$1,347,975</b>

### **Other Options for Internal Renovation**

■ Infill Library for 2 classrooms as a stand-alone project	\$615,600
■ Convert Boiler Room to 1 classroom (750 sq. ft.)	\$580,500

## DAY MIDDLE SCHOOL: USE OF SPACE

Use of Space (2010-11)	Regular Classrooms Avg. 825 sf	Small Classrooms Avg. 480 sf	Converted Closets	Other
Team Classrooms	34			
Additional Team Classroom	1			
Special Education	2	9	2	
World Language	7			
Health (with Latin)	1			
Art	2			
Chorus				1
Band				1
Drama				1
Technology Engineering				2
ELL			1	
Speech & Language			1	
Faculty Lounge		1		
Cafeteria				1
Library				1
Gymnasium				1
Locker Rooms				2
Computer Labs	2			
TV Studio				1
Newspaper/Yearbook	1			
<b>Total</b>	<b>50</b>	<b>10</b>	<b>4</b>	<b>11</b>



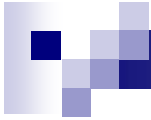
# Redistricting Options

## **Guidelines**

- All current students are grandfathered.
- Students follow new feeder patterns through all grades.

## **Options (detail on next 4 slides)**

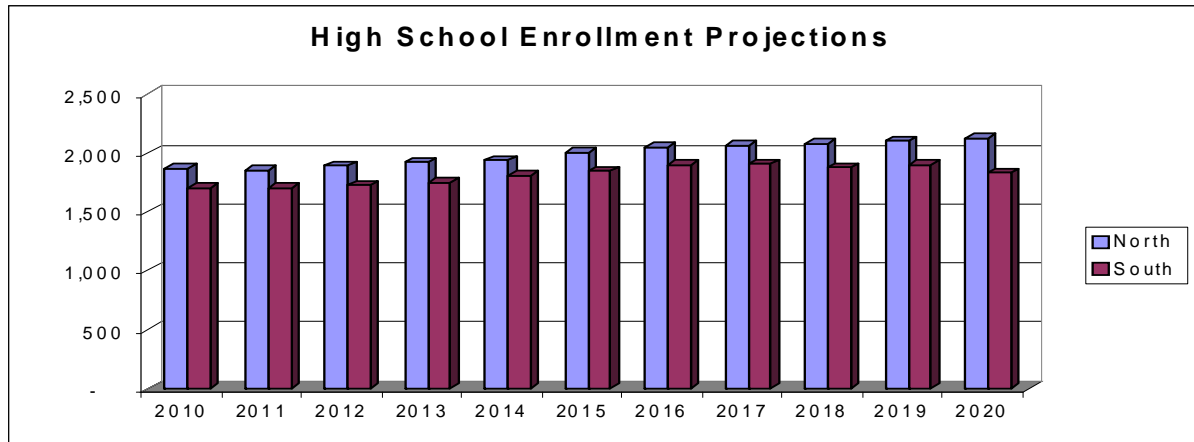
- No Redistricting: Significant space constraints at Bigelow and Day; North-South split grows to 292 students in FY21.
- 100% of Cabot to Bigelow: Larger space constraint at Bigelow; North-South split grows to 292 students in FY21.
- 100% of Cabot to Bigelow; 100% of Lincoln-Eliot to Day: Larger space constraint at Day; North-South split grows to 292 students in FY21.
- 100% of Cabot to Bigelow; 100% of Ward to Brown/South: Small space constraint at Bigelow; Brown North-South split to 38 students in FY21.



## No Redistricting

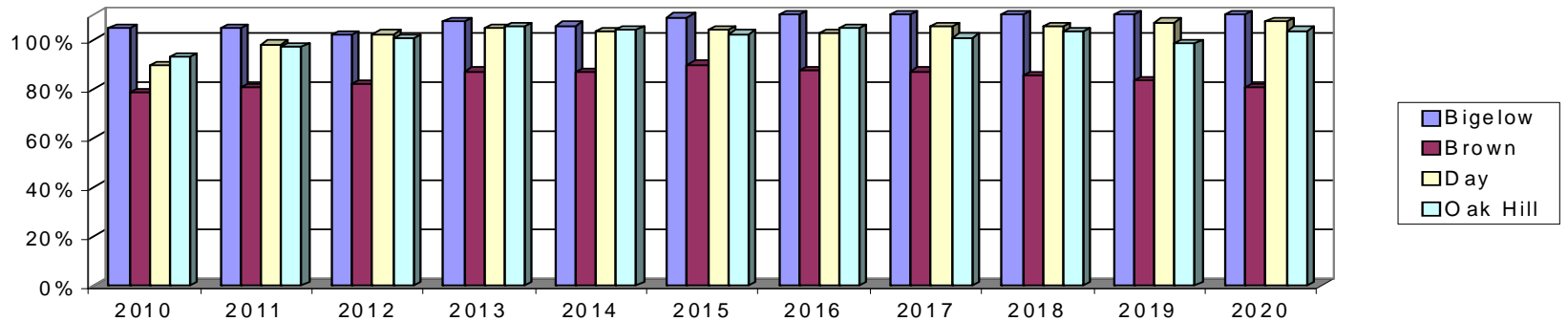
Elementary	Middle	High
Lincoln-Eliot	Bigelow	North
Underwood	Bigelow	North
Ward	Bigelow	North
Cabot	Big/Day	North
Burr	Day	North
Franklin	Day	North
Horace Mann	Day	North
Peirce	Day	North
Mason-Rice*	Brown	South
Angier	Brown	South
Countryside	Brown	South
Williams	Brown	South
Bowen	Oak Hill	South
Memorial-Spaulling	Oak Hill	South
Zervas	Oak Hill	South

\*Except for M-R, 1 Mile to North



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>North</b>	1,870	1,856	1,891	1,919	1,936	2,002	2,050	2,067	2,081	2,103	2,124
<b>South</b>	1,706	1,700	1,727	1,752	1,812	1,844	1,902	1,905	1,878	1,901	1,832
<b>Total</b>	<b>3,576</b>	<b>3,556</b>	<b>3,618</b>	<b>3,671</b>	<b>3,748</b>	<b>3,846</b>	<b>3,952</b>	<b>3,972</b>	<b>3,959</b>	<b>4,004</b>	<b>3,956</b>
<b>Diff</b>	N +164	N +156	N +164	N +167	N +124	N +158	N +148	N +162	N +203	N +202	N +292

## Middle School Capacity



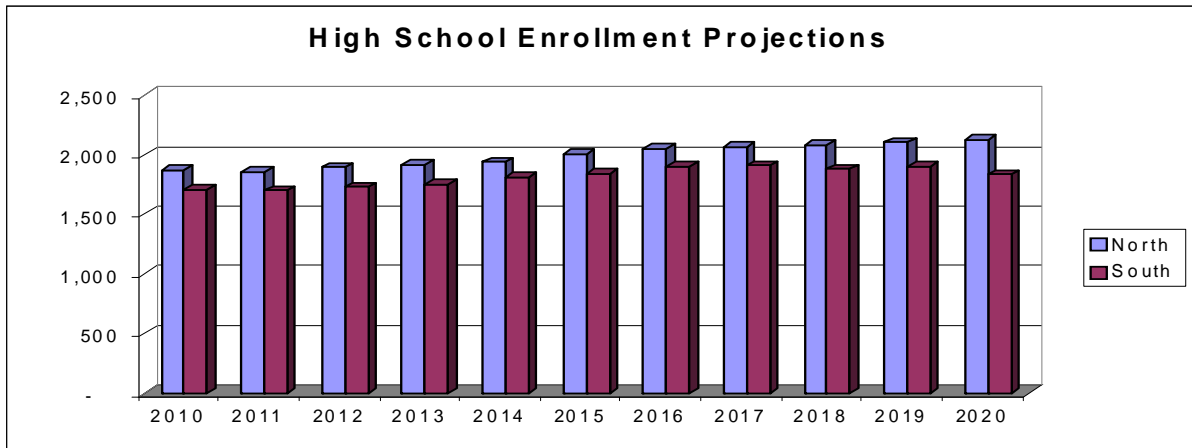
	Capacity	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Bigelow</b>	500	524	524	509	537	528	545	554	584	571	574	566
<b>Brown</b>	850	667	686	696	741	737	763	743	741	727	708	684
<b>Day</b>	850	759	833	869	889	879	882	872	897	895	911	912
<b>Oak Hill</b>	650	603	630	654	685	675	664	679	656	670	641	674
<b>Total</b>		<b>2,553</b>	<b>2,673</b>	<b>2,728</b>	<b>2,852</b>	<b>2,819</b>	<b>2,854</b>	<b>2,848</b>	<b>2,878</b>	<b>2,863</b>	<b>2,834</b>	<b>2,836</b>



### 100% of Cabot to Bigelow

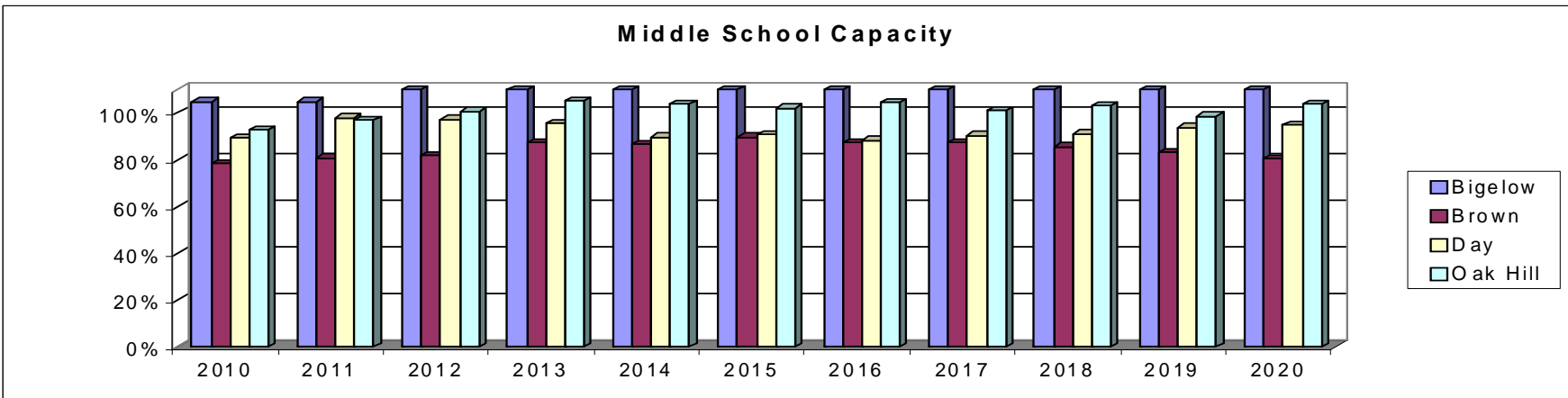
Elementary	Middle	High
Lincoln-Eliot	Bigelow	North
Underwood	Bigelow	North
Ward	Bigelow	North
<b>Cabot</b>	<b>Bigelow</b>	North
Burr	Day	North
Franklin	Day	North
Horace Mann	Day	North
Peirce	Day	North
Mason-Rice*	Brown	South
Angier	Brown	South
Countryside	Brown	South
William s	Brown	South
Bowen	Oak Hill	South
Memorial-Spaulling	Oak Hill	South
Zervas	Oak Hill	South

\*Except for M-R, 1 Mile to North



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>North</b>	1,870	1,856	1,891	1,919	1,936	2,002	2,050	2,067	2,081	2,103	2,124
<b>South</b>	1,706	1,700	1,727	1,752	1,812	1,844	1,902	1,905	1,878	1,901	1,832
<b>Total</b>	<b>3,576</b>	<b>3,556</b>	<b>3,618</b>	<b>3,671</b>	<b>3,748</b>	<b>3,846</b>	<b>3,952</b>	<b>3,972</b>	<b>3,959</b>	<b>4,004</b>	<b>3,956</b>
<b>Diff</b>	N +164	N +156	N +164	N +167	N +124	N +158	N +148	N +162	N +203	N +202	N +292

### Middle School Capacity

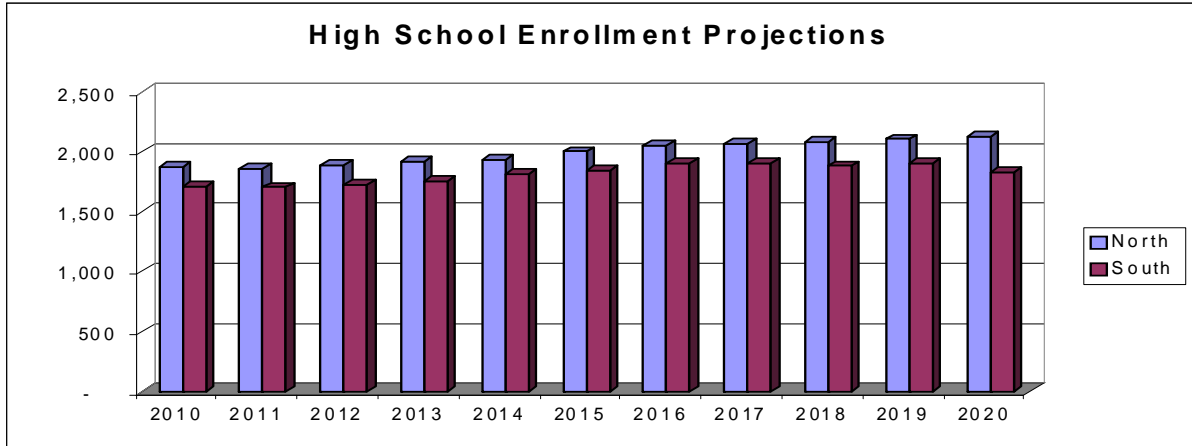


	Capacity	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Bigelow</b>	500	524	524	550	614	641	656	673	710	692	686	669
<b>Brown</b>	850	667	686	696	741	737	763	743	741	727	708	684
<b>Day</b>	850	759	833	827	811	763	769	750	768	773	798	806
<b>Oak Hill</b>	650	603	630	654	685	675	664	679	656	670	641	674
<b>Total</b>		<b>2,553</b>	<b>2,673</b>	<b>2,727</b>	<b>2,851</b>	<b>2,816</b>	<b>2,852</b>	<b>2,845</b>	<b>2,875</b>	<b>2,862</b>	<b>2,833</b>	<b>2,833</b>

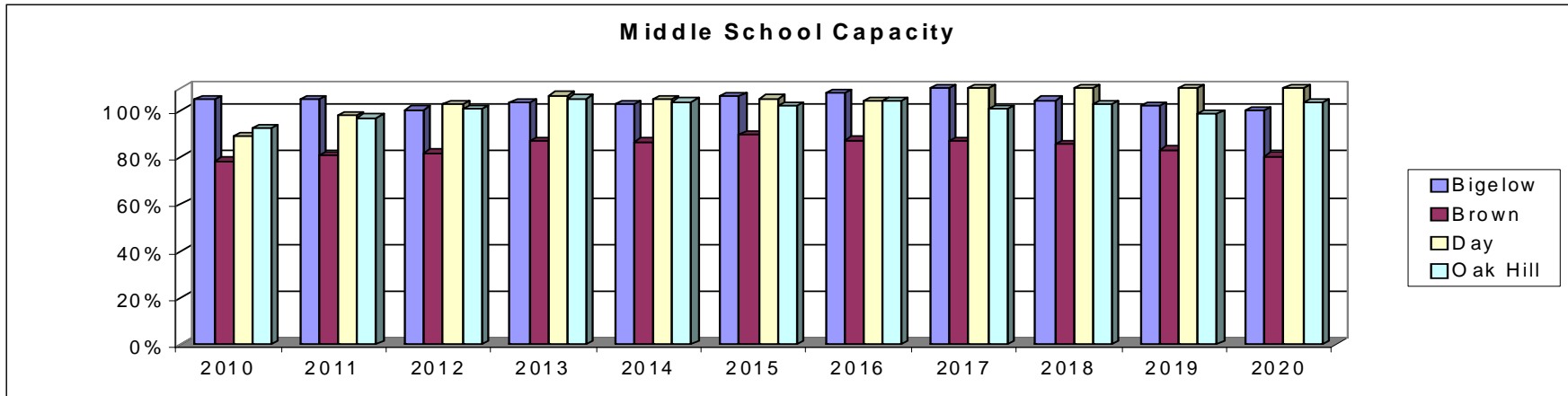
**100% of Cabot to Bigelow; 100% of Lincoln-Eliot to Day**

Elementary	Middle	High
<b>Lincoln-Eliot</b>	<b>Day</b>	North
Underwood	Bigelow	North
Ward	Bigelow	North
<b>Cabot</b>	<b>Bigelow</b>	North
Burr	Day	North
Franklin	Day	North
Horace Mann	Day	North
Peirce	Day	North
Mason-Rice*	Brown	South
Angier	Brown	South
Countryside	Brown	South
Williams	Brown	South
Bowen	Oak Hill	South
Memorial-Spaulding	Oak Hill	South
Zervas	Oak Hill	South

\*Except for M-R, 1 Mile to North



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>North</b>	1,870	1,856	1,891	1,919	1,936	2,002	2,050	2,067	2,081	2,103	2,124
<b>South</b>	1,706	1,700	1,727	1,752	1,812	1,844	1,902	1,905	1,878	1,901	1,832
<b>Total</b>	<b>3,576</b>	<b>3,556</b>	<b>3,618</b>	<b>3,671</b>	<b>3,748</b>	<b>3,846</b>	<b>3,952</b>	<b>3,972</b>	<b>3,959</b>	<b>4,004</b>	<b>3,956</b>
<b>Diff</b>	N +164	N +156	N +164	N +167	N +124	N +158	N +148	N +162	N +203	N +202	N +292

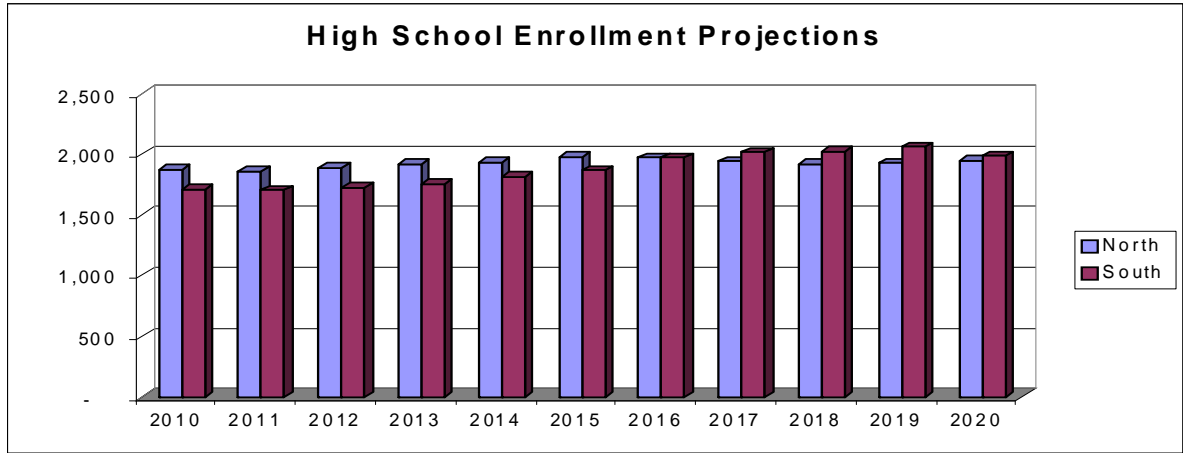


	Capacity	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Bigelow</b>	500	524	524	502	519	515	531	538	549	523	512	500
<b>Brown</b>	850	667	686	696	741	737	763	743	741	727	708	684
<b>Day</b>	850	759	833	876	907	892	895	888	933	944	974	979
<b>Oak Hill</b>	650	603	630	654	685	675	664	679	656	670	641	674
<b>Total</b>		<b>2,553</b>	<b>2,673</b>	<b>2,728</b>	<b>2,852</b>	<b>2,819</b>	<b>2,853</b>	<b>2,848</b>	<b>2,879</b>	<b>2,864</b>	<b>2,835</b>	<b>2,837</b>

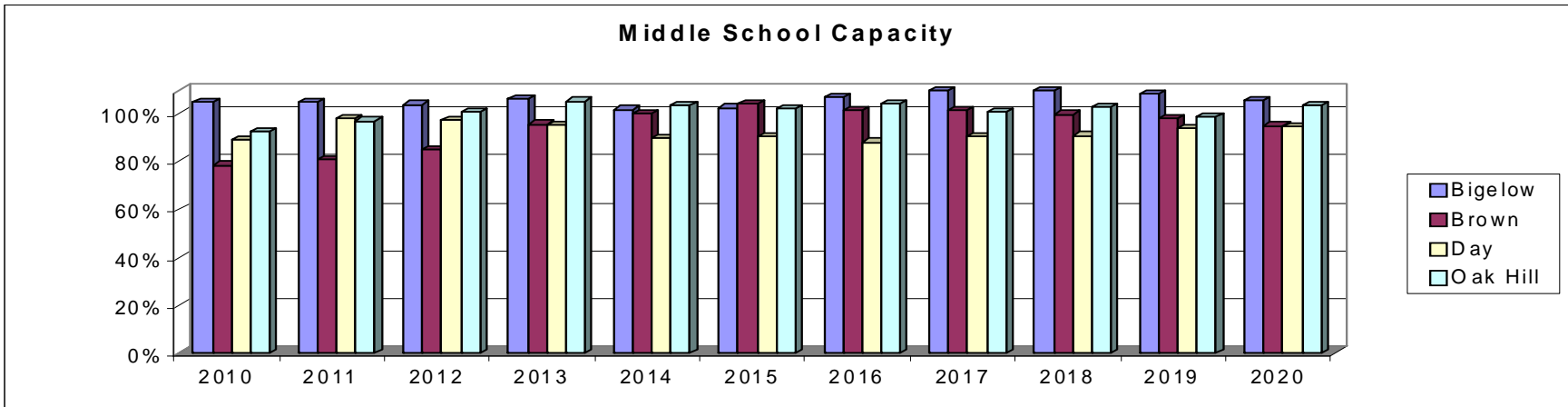
**100% of Cabot to Bigelow ; 100% Ward to Brown**

Elementary	Middle	High
Lincoln-Eliot	Bigelow	North
Underwood	Bigelow	North
<b>Ward</b>	<b>Brown</b>	<b>South</b>
<b>Cabot</b>	<b>Bigelow</b>	North
Burr	Day	North
Franklin	Day	North
Horace Mann	Day	North
Peirce	Day	North
Mason-Rice*	Brown	South
Angier	Brown	South
Countryside	Brown	South
Williams	Brown	South
Bowen	Oak Hill	South
Memorial-Spaulling	Oak Hill	South
Zervas	Oak Hill	South

\*Except for M-R , 1 Mile to North



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>North</b>	1,870	1,856	1,891	1,919	1,936	1,975	1,973	1,943	1,918	1,924	1,945
<b>South</b>	1,706	1,700	1,727	1,752	1,812	1,869	1,969	2,013	2,018	2,056	1,983
<b>Total</b>	<b>3,576</b>	<b>3,556</b>	<b>3,618</b>	<b>3,671</b>	<b>3,748</b>	<b>3,844</b>	<b>3,942</b>	<b>3,956</b>	<b>3,936</b>	<b>3,980</b>	<b>3,928</b>
<b>Diff</b>	N +164	N +156	N +164	N +167	N +124	N +106	N +4	S +70	S +100	S +132	S +38



	Capacity	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Bigelow</b>	500	524	524	520	531	509	513	535	572	551	542	528
<b>Brown</b>	850	667	686	722	813	852	887	862	862	849	834	808
<b>Day</b>	850	759	833	827	811	763	769	750	768	773	798	806
<b>Oak Hill</b>	650	603	630	654	685	675	664	679	656	670	641	674
<b>Total</b>		<b>2,553</b>	<b>2,673</b>	<b>2,723</b>	<b>2,840</b>	<b>2,799</b>	<b>2,833</b>	<b>2,826</b>	<b>2,858</b>	<b>2,843</b>	<b>2,815</b>	<b>2,816</b>



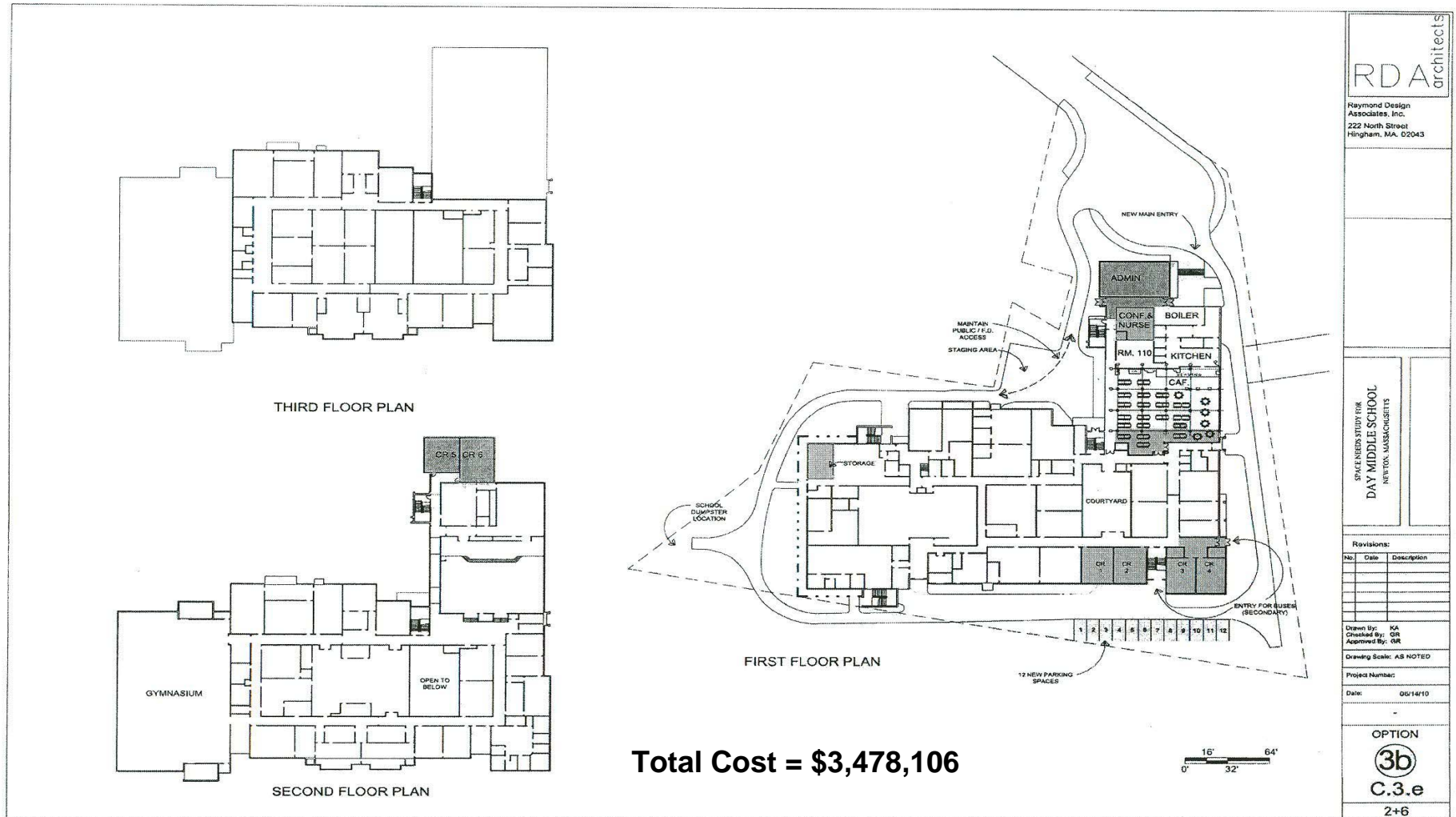
# Buffer Zone Options

- Analyzed all options for eliminating certain buffer zones; consolidated to four options shown below.
- These options do not solve the space issues, but could be used in conjunction with redistricting.

## **Buffer Zone Options Considered**

- Eliminate Burr-Williams Buffer Zone: Potential to move approximately 3 students per grade from Burr to Williams. Students will feed into Brown and South instead of Day and North.
- Eliminate Horace Mann-Lincoln-Eliot Buffer Zone: Potential to move approximately 6 students per grade from Horace Mann to Lincoln-Eliot. Students will feed into Bigelow instead of Day.
- Eliminate Mason-Rice-Ward Buffer Zone: Potential to move approximately 2 students per grade from Ward to Mason-Rice. Students will feed into Brown and South instead of Bigelow and North. Mason-Rice may need additional space for this option to be considered.
- Eliminate Peirce-Williams Buffer Zone: Potential to move approximately 11 students per grade from Peirce to Williams. Students will feed into Brown and South instead of Day and North.

# Options for Construction - Option 3b



RDA architects

Raymond Design Associates, Inc.  
222 North Street  
Hingham, MA 02043

SPACE NEEDS STUDY FOR  
DAY MIDDLE SCHOOL  
NEWTON, MASSACHUSETTS

Revisions:

No.	Date	Description

Drawn By: KA  
Checked By: CR  
Approved By: CR

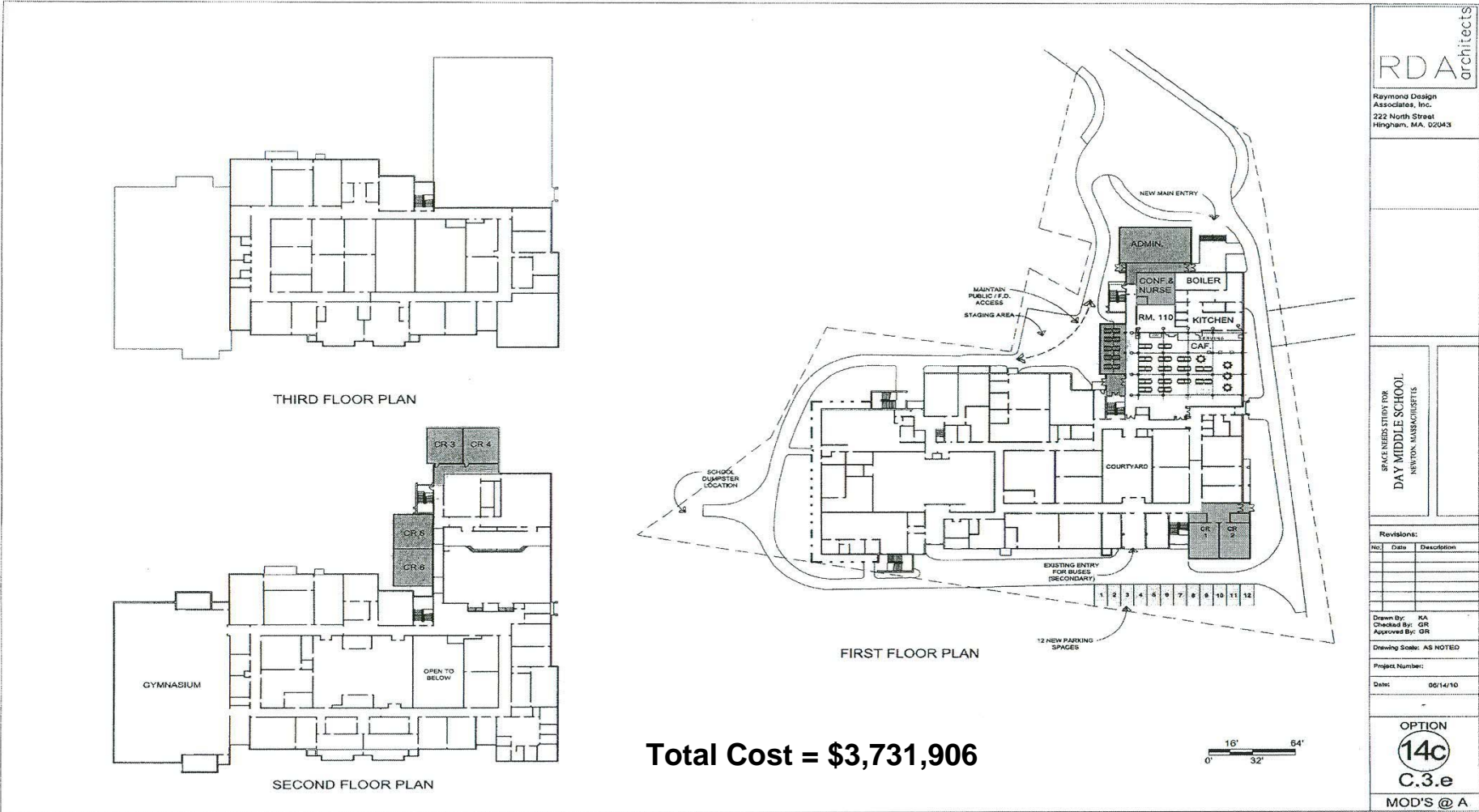
Drawing Scale: AS NOTED

Project Number:

Date: 06/14/10

OPTION  
**3b**  
C.3.e  
2+6

# Options for Construction - Option 14c



RDA architects

Raymond Design Associates, Inc.  
222 North Street  
Hingham, MA 02043

SPACE NEEDS STUDY FOR  
DAY MIDDLE SCHOOL  
NEWTON, MASSACHUSETTS

Revisions:

No.	Date	Description

Drawn By: KA  
Checked By: GR  
Approved By: GR

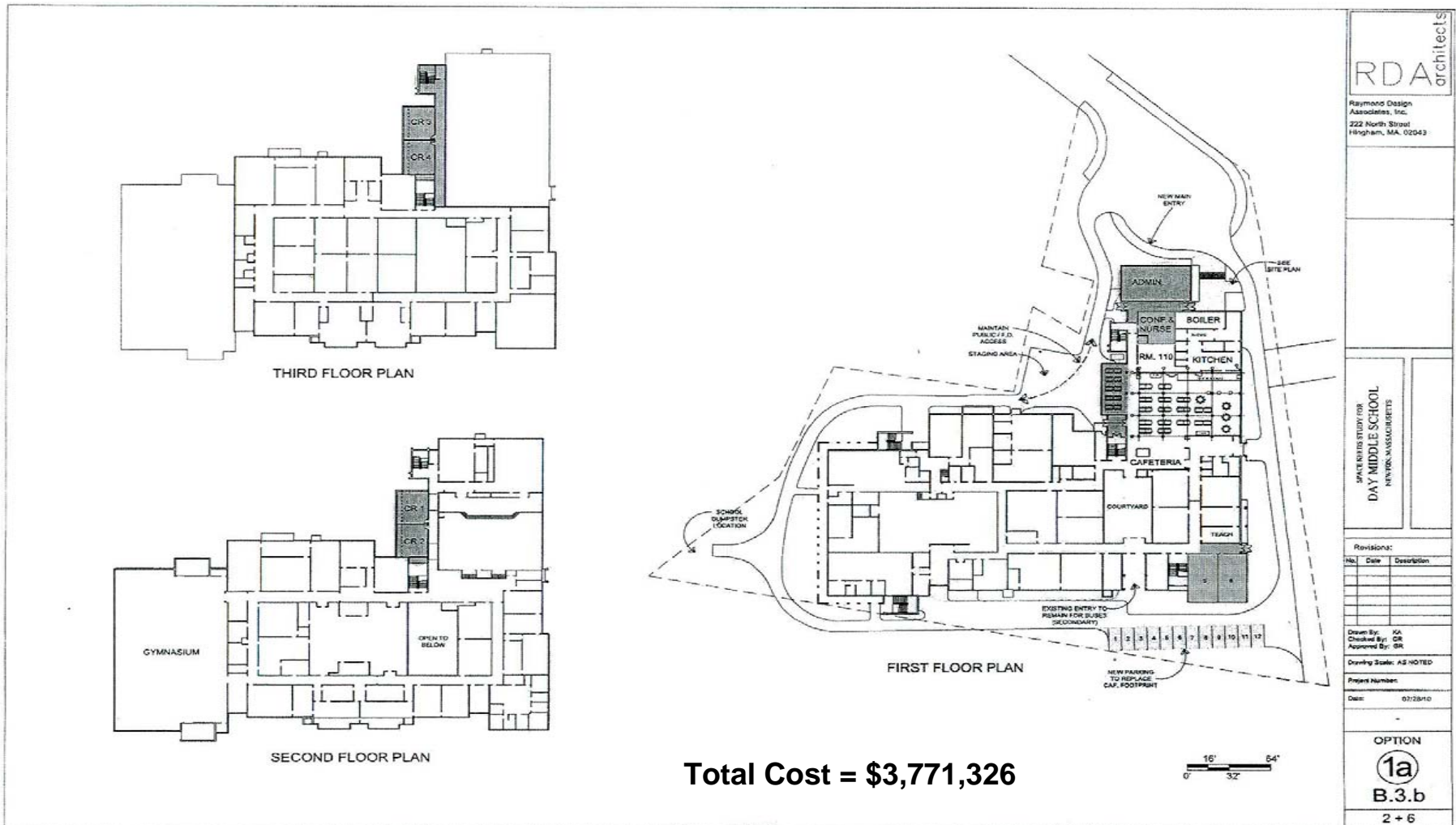
Drawing Scale: AS NOTED

Project Number:

Date: 06/14/10

OPTION  
**14c**  
C.3.e  
MOD'S @ A

# Options for Construction - Option 1a



**RDA architects**  
 Raymond Design Associates, Inc.  
 222 North Street  
 Fitcham, MA. 02043

SKETCH STUDY FOR  
**DAY MIDDLE SCHOOL**  
 NEWTON, MASSACHUSETTS

Revisions:

No.	Date	Description

Drawn By: JC  
 Checked By: CR  
 Approved By: BR

Drawing Scale: AS NOTED

Project Number: \_\_\_\_\_  
 Date: 07/28/10

**OPTION 1a**  
**B.3.b**  
 2 + 6



# Timeline for Approval and Construction

- School Committee Approval: September-October 2010
- Board of Alderman Approval/Funding: November-December 2010
- Funding & Designer Selection: October-December 2010
- Design Permanent Construction: January-May 2011 (5 months)
- Bid and Award Permanent Construction: June-July 2011 (2 months)
- Permanent Construction: October 2011 – December 2012 (15 months)
- Open New Construction: as early as November 1, 2012





# Elementary School Space Concerns

- Limited Facilities remain a prominent issue when considering elementary space concerns.
- Elementary school space has been reviewed with principals, central office, and operations and facilities staff. Elementary school space has been reviewed in conjunction with updated enrollment projections.
- Key considerations in decision making are instructional and other strategies, such as:
  - combination classes
  - additional half teachers
  - redistricting



# Burr School

- Burr School currently houses 391 students in 19 full sized spaces, 17 classrooms, 1 Art room, and 1 Music room (shared with Aftercare).
- The current 5th grade class is configured in 2 sections.
- The incoming kindergarten is anticipated to include 3 sections, raising the number of dedicated classrooms to 18.



# Burr School Options

- Reconfigure Art room to classroom space. Move Art to new space created in cafeteria/all purpose room.
- Add modular for needed classroom/Art room.
- No other options seem feasible at this time.



# Zervas School

- Zervas School currently houses 349 students in 17 full sized spaces, 16 classrooms and 1 Art room.
- The current 2nd grade class has been assigned a 0.5 FTE teacher to address the two sections of 27 students.
- The 0.5 classroom uses space previously used by the Learning Center, Speech and Inclusion which are now housed in an undersized common area, along with the math coach, literacy specialist, OT, PT and visual specialist.
- The psychologist, social worker and ELL space are housed behind the gym in a reconverted rest room.



# Zervas School Options

- Reconvert Student Services area to classroom space. This would provide no workspace for displaced staff.
- Add modular classroom(s) for needed classroom/instructional space.
- No other options seem feasible at this time.



# Mason-Rice School

- Mason-Rice School currently houses 442 students in 21 full sized spaces, 19 classrooms, 1 Art room, and 1 Aftercare space.
- In 2010, an Inclusion classroom was moved to the Teachers' Room. A Teachers' Room was configured in the Aftercare space.
- The psychologist, inclusion facilitator, social worker and O.T. share one undersized space.
- Current 3rd grade is housed in an undersized classroom.
- Current first grade enrollment is 72 students in 3 classrooms and second grade enrollment is 73 students in 3 classrooms.



# Mason-Rice Options

- Maintain 19 classrooms, (depending on incoming K registrations) with primary classrooms larger than most in the district.
- Add modular classroom for instructional space, providing Student Services staff additional instructional space.



# Horace Mann School

- Horace Mann School currently houses 374 students in 18 full sized spaces, 17 classrooms and 1 Art room.
- The current 3rd grade class has been assigned a 0.5 teacher to address the two sections of 25 students.
- The 0.5 classroom occupies space previously used by the ELL program and speech therapist.
- In summer 2010, additional small instruction spaces were built in the upstairs front and rear lobby of the school.





# Horace Mann Options

- Maintain 17 classrooms, (depending on incoming K registrations) and eliminating 0.5 classroom.
- Add modular classroom for increasing K enrollment (anticipated to require 4 sections).



# Countryside School

- Countryside School currently houses 498 students in 25 full-sized spaces, 22 classrooms, 1 Literacy room, 1 ELL room, 1 Special Education room.
- In summer 2010, the Art room was moved to a space behind the gym which is shared with the After School program to create additional classroom space.
- Countryside requires 4 sections of each grade K-3. If the trend continues, additional classroom spaces will need to be addressed in upcoming years.



# **Countryside School Options**

- For September 2011, combine ELL and Literacy rooms to allow for additional classroom space.
- For September 2012, add modular classroom to address growing enrollment.

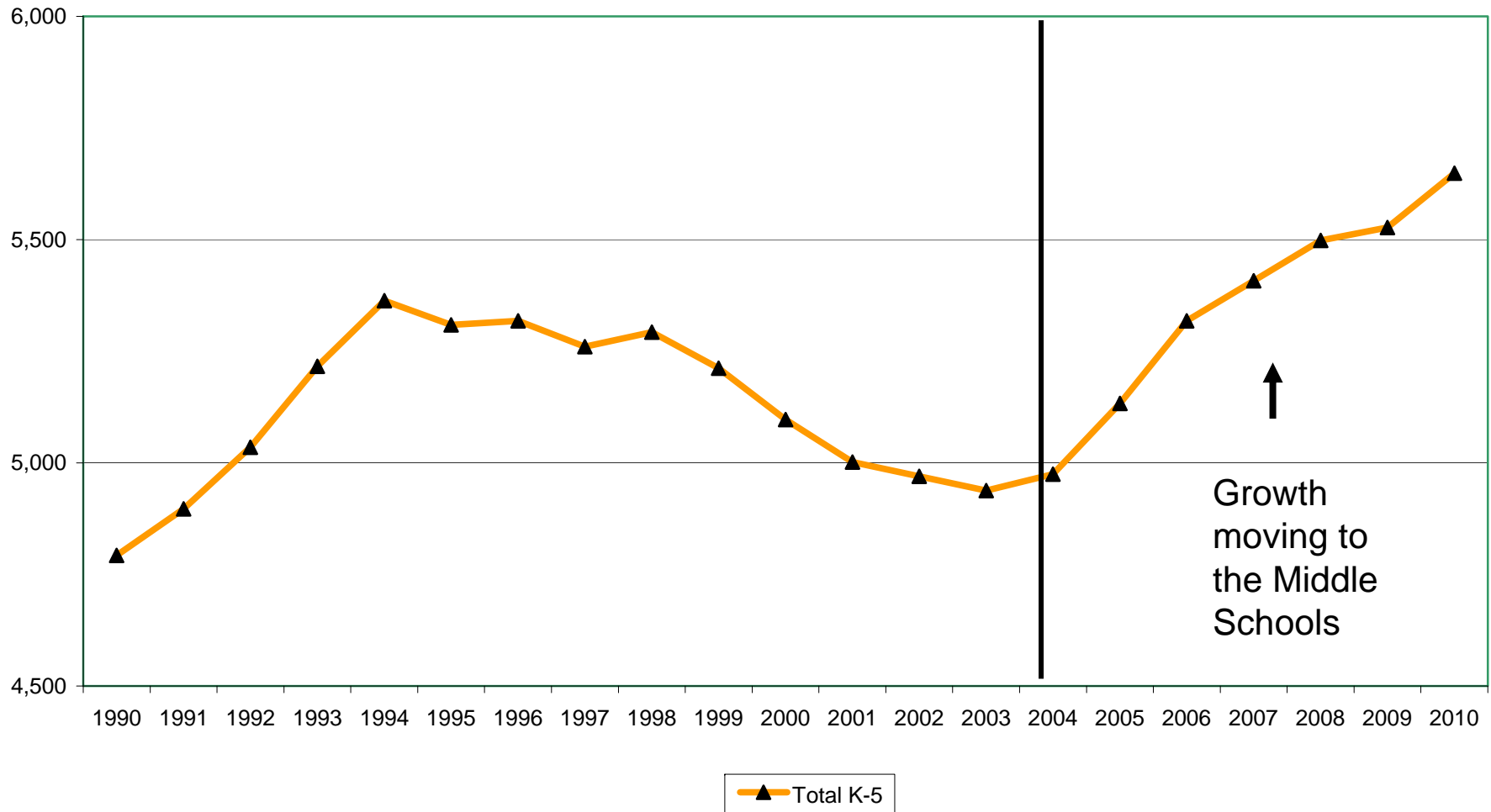


# Recommendations

## September 2011

- Reconfigure classroom space at Countryside for an additional section of kindergarten.
- Add 2 modular classrooms at Zervas
- Add 1 modular classroom at Burr, Mason-Rice and Horace Mann as finances allow.

# K-5 ENROLLMENT TRENDS 1990-1991 TO 2010-11



*Note: 1993 Change in Grade organization from K-6 to K-5 and 7-8 to 6-8.*

## Outgoing 8<sup>th</sup> Grade v. Incoming 6<sup>th</sup> Grade

School	2010-11 Actual*			2011-12 Projected		
	Outgoing 8th	Incoming 6th	Diff	Outgoing 8th	Incoming 6th	Diff
Bigelow	165	162	-3	180	181	1
Brown	228	217	-11	226	244	18
<b>Day</b>	<b>276</b>	<b>277</b>	<b>1</b>	<b>218</b>	<b>293</b>	<b>75</b>
Oak Hill	179	208	29	196	223	27
<b>Total</b>	<b>848</b>	<b>864</b>	<b>16</b>	<b>820</b>	<b>941</b>	<b>121</b>

\*FY11 Enrollments are preliminary.

# Elementary Enrollment

## 2004-05 to 2010-11

Grade	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11*
<b>Total</b>	<b>4,975</b>	<b>5,133</b>	<b>5,318</b>	<b>5,408</b>	<b>5,498</b>	<b>5,527</b>	<b>5,649</b>
Change from Prior Year	37	158	185	90	90	29	122
<b>Cumulative Increase from 2004-05</b>		<b>158</b>	<b>343</b>	<b>433</b>	<b>523</b>	<b>552</b>	<b>674</b>

\*FY11 Enrollments are preliminary.

# Middle School Enrollment

## 2007-08 to 2013-14

School	Actual				Projected		
	2007-08	2008-09	2009-10	2010-11*	2011-12	2012-13	2013-14
Bigelow	487	505	527	523	532	518	564
Brown	644	681	684	669	690	703	752
<b>Day</b>	<b>764</b>	<b>747</b>	<b>773</b>	<b>761</b>	<b>861</b>	<b>886</b>	<b>896</b>
Oak Hill	558	547	572	608	634	658	682
<b>Total</b>	<b>2,453</b>	<b>2,480</b>	<b>2,556</b>	<b>2,561</b>	<b>2,717</b>	<b>2,765</b>	<b>2,894</b>
Change from Prior Year	-21	27	76	5	156	48	129
<b>Cumulative from 2007-08</b>		<b>27</b>	<b>103</b>	<b>108</b>	<b>264</b>	<b>312</b>	<b>441</b>

\*FY11 Enrollments are preliminary.



# SYSTEMWIDE ENROLLMENT TRENDS 1990-91 TO 2015-16

