PROJECT MINUTES

Project:	Peebles Elementary School Feasibility Study	Project No.:	15041
Prepared by:	Joel Seeley	Meeting Date:	3/10/2016
Re:	School Building Committee Meeting	Meeting No:	13
Location:	Bourne Veteran's Memorial Community Center	Time:	6:30pm
Distribution:	School Building Committee Members, Attendees (MF)		

Attendees:

PRESENT	NAME	AFFILIATION	VOTING MEMBER
✓	James L. Potter	Chairman, School Building Committee	**Voting Member**
✓	Peter J. Meier	Board of Selectmen	**Voting Member**
	Christopher Hyldburg	Chairman, School Committee	**Voting Member**
✓	Mitch McClain	Member, School Committee	**Voting Member**
✓	Natasha Scarpato	Member at Large	**Voting Member**
✓	Richard A. Lavoie	Finance Committee	**Voting Member**
✓	William Meier	Building Trade Expert	**Voting Member**
✓	Mary Jo Coggeshall	Member at Large	**Voting Member**
✓	Frederick H. Howe	Board of Health	**Voting Member**
✓	Steven M. Lamarche	Superintendent of Schools, BPS	**Voting Member**
	Edward S. Donoghue	Director of Business Services, BPS	Non-Voting Member
	Thomas M. Guerino	Town Administrator	Non-Voting Member
	Jonathan Nelson	Director of Facilities, Town of Bourne	Non-Voting Member
✓	Elizabeth A. Carpenito	Principal, BES	Non-Voting Member
✓	Kathy Anderson	Elementary/Special Education Secretary	Non-Voting Member
✓	Janey Norton	Principal, PES	
✓	Kent Kovacs	FAI, Architect	
✓	Betsy Farrell Garcia	FAI, Architect	
	Michael Cimorelli	FAI, Architect	
✓	Joel Seeley	SMMA, OPM	

Item #	Action	Discussion
13.1	Record	Call to Order, 6:30 PM, meeting opened.
13.2	Record	A motion was made by S. Lamarche and seconded by F. Howe to approve the 2/18/16 School Building Committee meeting minutes. No discussion, motion passed unanimous by those attending, two abstentions.
13.3	Record	Warrant No. 6 was reviewed. A motion was made by F. Howe and seconded by M. McClain to approve Warrant No. 6. No discussion, motion passed unanimous.
13.4	J. Nelson	J. Nelson will review with other Town groups and develop a listing of potential options for Peebles for the next Committee meeting.
13.5	J. Nelson	J. Nelson will review the cut sheets for the HVAC equipment for the next Committee meeting.
13.6	K. Kovacs	K. Kovacs will review if Cape Light Compact will provide incentives for replacing the existing fluorescent interior light fixtures with LED fixtures.
13.7	J. Nelson J. Seeley	J. Seeley to review the specific scope of potential sitework that the Town may self-perform with J. Nelson.
13.8	B. Garcia	B. Garcia reviewed the Status Matrix, attached, of the comments and criteria identified during the 1/7/16 and 2/4/16 Committee meetings and Community Forum No. 4, to assist the Committee in deciding on the One Preferred Alternative and will update for Community Forum No. 5.
13.9	Record	K. Kovacs led a discussion on the comments heard at Community Forum No. 5, including the results of the Small Group Breakout Sessions listing the pros and cons of Options 1A, 2A, 4A and 4B, attached. The three key takeaways were: 1. Availability of student resources in a One or Two school solution? 2. Include the 5th Grade or not? 3. Impact of transportation time and costs? Committee Discussion: 1. J. Potter indicated another takeaway was that under Options 1A, 4A and 4B, the Bournedale students would still need to travel to participate in the Innovation Lab. 2. N. Scarpato indicated another takeaway was from some Bournedale parents relative to the 5th grade students from Bournedale going to Peebles for just one year under Options 4A and 4B.
13.10	Record	S. Lamarche distributed a packet of documents ranging from 1996 through 2007 providing some historical context of the 5th grade in the Middle School, attached. The documents do not represent an exhaustive or complete research, but are documents that were readily available. Also included was a compilation of literature specific to grade spans and transitions. Committee Discussion:

Item #	Action	Discussion
		1. F. Howe indicated he recalled during his tenure on the School Committee, a grade configuration vote was taken for a K-5, 6-8 and 9-12 system. *S. Lamarche indicated he could not find a record of the vote or a record that it was changed to the present configuration of K-4, 5-8 and 9-12.* 2. N. Scarpato asked if keeping the Bournedale 5th grade at Bournedale was ever studied? *S. Lamarche indicated he did not find any such study, but if a study was done it might have found that the space available for full day kindergarten at Bournedale may not have been available if the 5th grade remained at Bournedale.* 3. N. Scarpato asked who will make the decision to include the 5th grade back in the elementary school, represented by Options 4A and 4B? *S. Lamarche indicated he believed it is this Committee's responsibility to decide which is the preferred option. The School Committee has been discussing the 5th grade and will be voting at their 4/6/16 meeting to include or not include in the elementary school program.* 4. N. Scarpato indicated she had several conversations with 5th grade teachers in the middle school who indicated they would not like to move to the elementary school. 5. F. Howe noted in the packet of documents there is a 2001 report to the School Committee by the Facilities Improvement Sub-committee noting the School Committee voted to temporarily house the 5th grade in the middle school due to space constraints at the elementary level. 6. E. Carpenito indicated the Committee needs to keep in mind what the educational benefits are for the students under each of the Options.
13.11	J. Seeley	J. Seeley summarized the meeting with MSBA held on 2/25/16 attended by E. Donoghue, K. Kovacs and J. Seeley to review MSBA's grant for Option 2A, since the school is only 10 years old. MSBA indicated they would participate in the reimbursement for the new construction only, that is the building additions, and not participate in any of the costs for the renovations. They would also not apply any Cost Recovery, from the original Bournedale grant. MSBA is reviewing the scope of work required to construct the two new classrooms over the existing 1rst grade classrooms to determine any reimbursement. Committee Discussion: 1. W. Meier asked if MSBA would be reimbursing any of the sitework? *J. Seeley indicated MSBA did not specifically indicate any more sitework would be ineligible over and above the 8% sitework cap.* 2. P. Meier indicated he would like to review the reimbursement with MSBA. *S. Lamarche indicated C. Hyldburg indicated he would also like to attend a meeting with MSBA to review. J. Seeley to schedule a meeting with MSBA and the Committee to review the Option 2A reimbursement.*

Item #	Action	Discussion
13.12	J. Seeley	J. Seeley indicated MSBA provided some of their concerns at the 2/25/16 meeting relative to the Town self-performing some of the sitework, similar to the DPW project. Some of the concerns are : 1. MSBA is concerned with insurance requirements and liabilities. 2. How would the Town protect itself and MSBA should there be a construction issue caused by the Town's work? 3. How will the MSBA and the Town be protected with multiple and potentially overlapping work responsibilities? 4. Will the work be performed by current Town employees or will they need to be hired? 5. The MSBA will not reimburse for labor provided by Town employees. 6. Would the Town use current equipment or purchase new, costs for equipment and use may not be reimbursable. Committee Discussion: 1. W. Meier indicated an independent engineer signed off on all of the Town's work on the DPW project before the contractor took over. 2. R. Lavoie indicated there is a difference between the single point of responsibility and liability if the contractor performed all of the work versus the multiple party responsibility if the Town self-performs the sitework and the project goes into litigation. 3. J. Potter indicated the MSBA is not ruling out the Town self-performing the work, but they are skeptical, particularly if construction issues arise. 4. P. Meier indicated he would like to review with MSBA. *J. Seeley to request review with the MSBA at the upcoming meeting.*
13.13	Record	K. Kovacs reviewed the updated site plans and floor plans for each of the Options, attached.
13.14	Record	K. Kovacs reviewed the updated transportation findings based on the meeting held on 3/10/16 with S. Downing to discuss the bus travel distances and durations to Peebles and Bournedale, attached. The findings per Options are as follows: 1. Option 1A – No change to schedule, approximate $32,000 savings due to full-day kindergarten 2. Option 2A – Requires 20 minute change in elementary level start and end times, approximate $28,000 savings due to full-day kindergarten 3. Options 4A/4B – No change to schedule, requires 1 new bus to accommodate 5th grade, an increase of approximately $27,000 after full-day kindergarten savings applied Committee Discussion: 1. J. Potter asked if the longest elementary school bus ride was really 45 minutes?

Item #	Action	Discussion
		K. Kovacs indicated yes, per the Transportation Coordinator. 2. J. Norton asked if there was any definite information related to the seasonal increase in time? *K. Kovacs indicated there was no definite information or consistency, some days were said to have a significant increase and others days were said to have no impact.* 3. R. Lavoie suggested that the Committee will have a make a fundamental choice on the transportation issues relative to each option, there may not be a real definite cause and effect due solely to each option.
13.15	K. Kovacs	J. Seeley reviewed the updated construction schedule, estimated costs, estimated cost to Town and estimated MSBA grant for each option, attached. The estimated cost to Town and estimated MSBA grant for each option are based on the 2/25/16 MSBA meeting. Committee Discussion: 1. J. Potter asked why is the MSBA grant less in Option 2A than in Option 1A, it is a larger and more expensive project? *J. Seeley indicated the difference is in the reimbursement calculation for the building construction, in that the amount of eligible square feet is greater in Option 1A than in Option 2A, which only includes the additions, not the renovation area. The renovation cost of Option 2A is approximately $4.5 million.* 2. J. Potter requested a copy of the cost estimate be provided to the Committee. *K. Kovacs to provide for the next Committee meeting.*
13.16	S. Lamarche	S. Lamarche indicated the SurveyMonkey Community Questionnaire will be released on 3/12/16 and be open for responses for one week. The School Administration will provide notice to the Community thru email, texts and newspaper notice. S. Lamarche will issue the responses to the Committee prior to the next Committee meeting.
13.17	J. Seeley	S. Lamarche reviewed the intent of the Data Clerk position for the School Administration. Committee Discussion: 1. J. Potter asked what the hourly billing rate would be for the position? *S. Lamarche indicated the position will include writing and research, particularly for the upcoming PSR submission and an appropriate rate could be in the range of $20 per hour.* 2. R. Lavoie asked if the positon would be reimbursable by MSBA? *J. Seeley will verify with MSBA.* 3. R. Lavoie asked if there is budget for this cost? *J. Seeley indicated yes, there is budget for the cost.* A motion was made by M. Coggeshall and seconded by R. Lavoie to approve a not-to-exceed budget of $10,000 for a Data Clerk on an as-needed basis, as determined by S. Lamarche. No discussion, voted passed with one abstention.
13.18	Record	Old or New Business:

Item #	Action	Discussion
		1. S. Lamarche stressed the Committee needs to be prepared to decide on the preferred option at the next Committee meeting, 3/24/16. The School Committee will also be present at the meeting.
13.19	Record	Public Comments: 1. A question was asked how did the 5th grade become part of this Feasibility Study, isn't it only related to the replacing of the Peebles School? *J. Potter indicated the 5th grade has been part of the Feasibility Study since the beginning and is part of the Feasibility Study Agreement with MSBA. Options 3A and 3B were for an 885 student PrK-5 school at the Bournedale school, which the Committee determined to be too large a school and has not pursued these options further. Options 4A and 4B are for a 410 student K-5 school at Peebles, which the Committee is still being reviewing.* *S. Lamarche indicated the study of the 5th grade was included in the Statement of Interest (SOI) submitted to MSBA in 2012.*
13.20	Record	Next **SBC Meeting: March 24, 2016 at 6:30 pm** at the Bourne Veteran's Memorial Community Center.
13.21	Record	A Motion was made by S. Lamarche and seconded by M. McClain to adjourn the meeting. No discussion, voted unanimously.

Attachments: Agenda, Community Forum No. 5 Small Group Session Summaries, 5th Grade History Packet of Documents, Powerpoint

The information herein reflects the understanding reached. Please contact the author if you have any questions or are not in agreement with these Project Minutes

PROJECT MEETING SIGN-IN SHEET

Project:	Peebles Elementary School Feasibility Study	Project No.:	15041
Prepared by:	Joel Seeley	Meeting Date:	3/10/2016
Re:	School Building Committee Meeting	Meeting No:	13
Location:	Bourne Veterans Memorial Community Center, 234 Main Street, Buzzards Bay, Massachusetts	Time:	7:00pm
Distribution:	Attendees, (MF)		

SIGNATURE	ATTENDEES	EMAIL	AFFILIATION
	James L. Potter	onsetip@juno.com	Chairman, School Building Committee
	Peter J. Meier	pmeier@townofbourne.com	Bourne Board of Selectmen
	Christopher Hyldburg	chrish@alpha-1.com	Chairman, Bourne School Committee
	Mitch McClain	mitchmcclain@comcast.net	Member, Bourne School Committee
	Natasha Scarpato	scarpato4@comcast.net	Member-At-Large
	Richard A. Lavoie	Richl.Lavoie@gmail.com	Member, Bourne Finance Committee
	William Meier	Dusty22752@aol.com	Building Trade Expert
	Mary Jo Coggeshall	mjcoggeshall@bourneps.org	At-Large
	Frederick H. Howe	rickhowe9@gmail.com	Board of Health
	Steven M. Lamarche	slamarche@bourneps.org	Superintendent of Schools, BPS
	Edward S. Donoghue	EDonoghue@bourneps.org	Director of Business Services, BPS
	Thomas M. Guerino	tguerino@townofbourne.com	Town Administrator
	Jonathan Nelson	jnelson@townofbourne.com	Director of Facilities, Town of Bourne
	Elizabeth A. Carpenito	ecarpenito@bourneps.org	Principal, BES
	Kathy Anderson	kanderson@bourneps.org	Elementary/Special Education Secretary
	Janey Norton	jnorton@bourneps.org	Principal, PES
	Kent Kovacs	kkovacs@flansburgh.com	Flansburgh Architects
	Betsy Farrell Garcia	bgarcia@flansburgh.com	Flansburgh Architects
	Joel Seeley	jseeley@smma.com	SMMA

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AGENDA

Project:	Peebles Elementary School Feasibility Study	Project No.:	15041
Re:	School Building Committee Meeting	Meeting Date:	3/10/2016
Meeting Location:	Bourne Veterans Memorial Community Center		
Prepared by:	Joel Seeley	Meeting Time:	7:00 PM
Distribution:	Committee Members (MF)	Meeting No.:	13

1. Call to Order
2. Approval of Minutes
3. Approval of Invoices and Commitments
4. Review Community Forum Comments
5. 5th Grade in Middle School History
6. MSBA Cost Recovery
7. Update on Construction Alternatives
8. Review Cost Models
9. Data Clerk for School Administration
10. Old or New Business
11. Public Comments
12. Next Meeting – March 24, 2016
13. Adjourn

SYMMES MAINI & McKEE ASSOCIATES
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www.smma.com

CHAPEL HILL, NORTH CAROLINA

PROVIDENCE, RHODE ISLAND

SCHOOL BUILDING COMMITTEE
PEEBLES ELEMENTARY SCHOOL

All meetings held at the
Bourne Veterans Memorial Community Center at 6:30 PM
unless otherwise noted

MEETINGS SCHEDULE AND AGENDAS
November 25, 2015 ***Updated February 24, 2016***

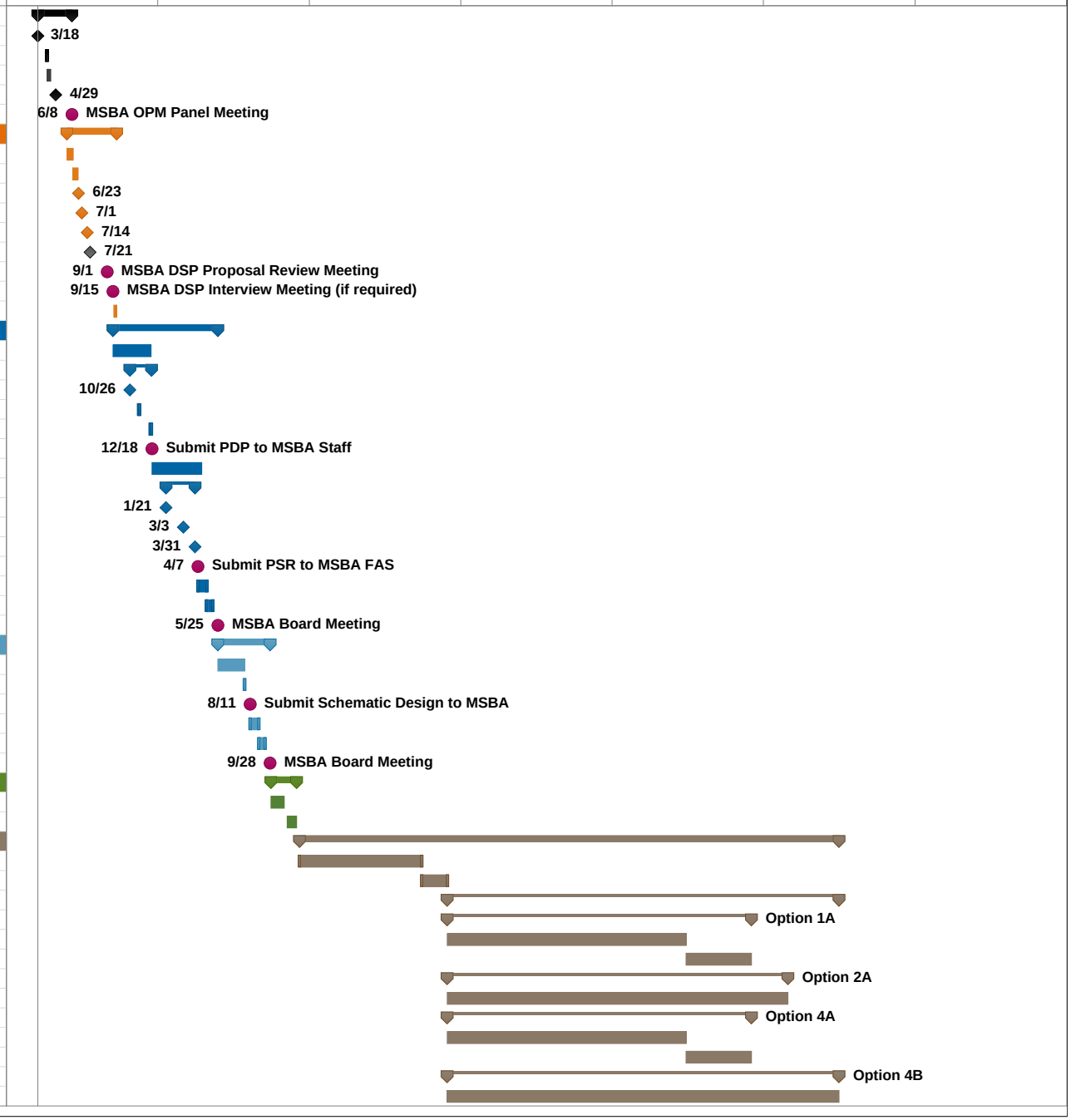
DATE	AGENDA
Feasibility Study Phase (PSR)	
January 7, 2016	SCHOOL BUILDING COMMITTEE MEETING
	Review Preferred Alternative Goals
	Prepare for Community Forum
January 21, 2016	COMMUNITY FORUM NO. 4 - 6:00 to 8:00 PM - BOURNEDALE ELEMENTARY SCHOOL CAFETERIA
February 4, 2016	SCHOOL BUILDING COMMITTEE MEETING
	Review Community Forum Comments
	Structural Narrative Review
	MEP Systems Narrative Review
	Update on Construction Alternatives
	Review MSBA Comments on PDP Submission
February 18, 2016	SCHOOL BUILDING COMMITTEE MEETING
	Update on Construction Alternatives
	Prepare for Community Forum
March 3, 2016	COMMUNITY FORUM NO. 5 - 6:00 to 8:00 PM - PEEBLES ELEMENTARY SCHOOL CAFETERIA
March 10, 2016	SCHOOL BUILDING COMMITTEE MEETING - 7:00PM
	Review Community Forum Comments
	Update on Sustainable Design Goals
	Update on Construction Alternatives
	Review Cost Models
March 24, 2016	SCHOOL BUILDING COMMITTEE MEETING
	Review Cost Models
	Preliminary Discussion on deciding the One Preferred Construction Alternative
	Prepare for Community Forum
March 31, 2016	COMMUNITY FORUM NO. 6 - 6:00 to 8:00 PM - BOURNEDALE ELEMENTARY SCHOOL CAFETERIA
April 7, 2016	SCHOOL BUILDING COMMITTEE MEETING
	Vote to Decide One Preferred Construction Alternative
	Vote to Submit Preferred Schematic Report to MSBA
April 8, 2016	*SUBMIT PREFERRED SCHEMATIC REPORT PACKAGE TO MSBA*
	ADDITIONAL MEETINGS TO BE SCHEDULED

Updated: June 25, 2015
Revised: February 24, 2016

TOWN OF BOURNE, MASSACHUSETTS
PEEBLES ELEMENTARY SCHOOL
PROJECT SCHEDULE

PROJECT MANAGEMENT SMMA

ID	Task Name	Duration	Start	Finish
1	**RETAIN OPM**	**58 days**	**3/18/2015**	**6/8/2015**
2	Submit OPM Proposals	0 days	3/18/2015	3/18/2015
3	OPM Interview	2 days	4/8/2015	4/9/2015
4	Negotiate OPM Contract	7 days	4/9/2015	4/17/2015
5	Submit Documents to MSBA OPM Panel	0 days	4/29/2015	4/29/2015
6	**MSBA OPM Panel Meeting**	**0 days**	**6/8/2015**	**6/8/2015**
7	**RETAIN DESIGNER**	**86 days**	**5/27/2015**	**9/23/2015**
8	Draft Designer RFS and Submit to MSBA	11 days	5/27/2015	6/10/2015
9	MSBA Approve Draft RFS	9 days	6/10/2015	6/22/2015
10	Submit to Central Register	0 days	6/23/2015	6/23/2015
11	Notice in Central Register	0 days	7/1/2015	7/1/2015
12	Briefing Session	0 days	7/14/2015	7/14/2015
13	Submit Designer Proposals	0 days	7/21/2015	7/21/2015
14	**MSBA DSP Proposal Review Meeting**	**0 days**	**9/1/2015**	**9/1/2015**
15	**MSBA DSP Interview Meeting (if required)**	**0 days**	**9/15/2015**	**9/15/2015**
16	Negotiate Designer Contract	5 days	9/17/2015	9/23/2015
17	**FEASIBILITY STUDY (FS)**	**178 days**	**9/15/2015**	**5/25/2016**
18	Develop Preliminary Design Program (PDP)	65 days	9/15/2015	12/15/2015
19	**Community Presentations**	37 days	10/26/2015	12/16/2015
20	Community Forum 1: Visioning	0 days	10/26/2015	10/26/2015
21	Community Forum 2: Existing Conditions	3 days	11/16/2015	11/18/2015
22	Community Forum 3: Options	3 days	12/14/2015	12/16/2015
23	**Submit PDP to MSBA Staff**	**0 days**	**12/18/2015**	**12/18/2015**
24	Develop Preferred Schematic Report (PSR)	84 days	12/18/2015	4/15/2016
25	**Community Presentations**	**50 days**	**1/21/2016**	**3/31/2016**
26	Community Forum 1	0 days	1/21/2016	1/21/2016
27	Community Forum 2	0 days	3/3/2016	3/3/2016
28	Community Forum 3	0 days	3/31/2016	3/31/2016
29	**Submit PSR to MSBA FAS**	**0 days**	**4/7/2016**	**4/7/2016**
30	MSBA Comments	16 days	4/7/2016	4/28/2016
31	Respond to MSBA Comments	11 days	4/28/2016	5/12/2016
32	**MSBA Board Meeting**	**0 days**	**5/25/2016**	**5/25/2016**
33	**SCHEMATIC DESIGN (SD)**	**90 days**	**5/25/2016**	**9/28/2016**
34	Develop Schematic Design	47 days	5/25/2016	7/28/2016
35	Submit Final Budget to MSBA	1 day	7/28/2016	7/28/2016
36	**Submit Schematic Design to MSBA**	**0 days**	**8/11/2016**	**8/11/2016**
37	MSBA Comments	15 days	8/11/2016	8/31/2016
38	Respond to MSBA Comments	11 days	9/1/2016	9/15/2016
39	**MSBA Board Meeting**	**0 days**	**9/28/2016**	**9/28/2016**
40	**LOCAL VOTES**	**44 days**	**9/30/2016**	**11/30/2016**
41	Local Voting	22 days	9/30/2016	10/31/2016
42	Debt Exclusion Votes	17 days	11/8/2016	11/30/2016
43	**DESIGN AND CONSTRUCTION (TBD)**	**929 days**	**12/8/2016**	**6/30/2020**
44	Design Documentation	211 days	12/8/2016	9/28/2017
45	Bidding and Award	44 days	9/29/2017	11/29/2017
46	**Construction**	**675 days**	**11/29/2017**	**6/30/2020**
47	**Option 1A**	**524 days**	**11/29/2017**	**12/2/2019**
48	Building	413 days	11/29/2017	6/28/2019
49	Demo / Site Work	112 days	6/28/2019	12/2/2019
50	**Option 2A**	**588 days**	**11/29/2017**	**2/28/2020**
51	Phased Renovation and Additions	588 days	11/29/2017	2/28/2020
52	**Option 4A**	**524 days**	**11/29/2017**	**12/2/2019**
53	Building	413 days	11/29/2017	6/28/2019
54	Demo / Site Work	112 days	6/28/2019	12/2/2019
55	**Option 4B**	**675 days**	**11/29/2017**	**6/30/2020**
56	Phased Renovation and Additions	675 days	11/29/2017	6/30/2020



Town of Bourne
Peebles Elementary School
SBC Email Log

PROJECT MANAGEMENT SMMA

Emails Received to Date in SBC Email Box (SBC@townofbourne.com) since November 2015

Date	To:	From:	Subject
11/9/2015	SBC	Dave Peterson	Municipal Fire and Life Safety Info
11/16/2015	SBC, MSBA	Steven Lamarche	Updated Enrollment Letter and Certification
11/20/2015	SBC, MSBA	Steven Lamarche	Educational Program Update
11/23/2015	SBC	Michelle Laflamme	Community Workshop
11/24/2015	SBC	Natasha Scarpato	Getting the work out
11/30/2015	SBC, Thomas Guerino	Kathryn DeCristofaro, MSBA	Feasibility Study Agreement Amendment for Execution
12/14/2015	SBC, Thomas Guerino	Kathryn DeCristofaro, MSBA	Executed Feasibility Study Agreement Amendment
12/14/2015	SBC	Jay H Givan, Givan Horne Associates	Manufacturer/Vendor Solicitation: ADA Overview
12/21/2015	SBC	Kathryn DeCristofaro, MSBA	Preliminary Design Program Cursory Review
1/19/2016	Kathryn DeCristofaro, MSBA; SBC	Steven Lamarche	Educational Program
1/19/2016	Joel Seeley; SBC	Kathryn DeCristofaro, MSBA	Educational Program
1/20/2016	SBC, Thomas Guerino	Kathryn DeCristofaro, MSBA	Preliminary Design Program Review Comments
2/3/2016	SBC	Katie Bronkhorst, KI.com	Manufacturer/Vendor Solicitation: Educational Furniture Manufacturer Introduction for K-12 Furniture
3/7/2016	SBC	Patricia DeBoer	BPS – Grade Configuration

Traniello, Sarah

To: SBC; Seeley, Joel
Cc: Project, Mail
Subject: RE: BPS--Grade Configuration PNUM: 15041

_____
From: Patricia DeBoer [patriciadeboer30@gmail.com]
Sent: Monday, March 07, 2016 6:34 AM
To: SBC
Subject: BPS--Grade Configuration

Dear Committee,

Just sharing my opinion as a resident of Bourne and also as an educator:

Bournedale Elementary could house PreK – 2 students Bourne Middle School could become a grades 3-6 building Create Bourne Middle-High School in the current high school—housing students in grade 7-12.
Tear down the Peebles School and increase recreational facilities for students

When you have your 7th and 8th graders housed in your high school building there is a stronger likelihood that they will see Bourne as their pathway to graduation—less loss of students between grade 8 and 9.

Patty DeBoer
92 Cotuit Road
Bourne, MA
508-759-4951

Bourne Public Schools

36 Sandwich Road
Bourne, MA 02532
508.759.0660
508.759.1107 (fax)
www.bourneps.org

Steven M. Lamarche
Superintendent
slamarche@bourneps.org

Melissa Coelho
Executive Assistant
mcoelho@bourneps.org

March 10, 2016

Bourne School Building Committee:

You will find two sets of attached documents "A" and "B" which are submitted in partial fulfillment of a comprehensive review and research in preparation for the Bourne School Building Committee's recommended preferred schematic design to the community of Bourne and the Massachusetts School Building Authority no later than April 7, 2016.

Section "A" represents prior Bourne School Building Committee designs for the Bourne Middle School and Bournedale Elementary School projects. The documents range in date from 1996 through January 3, 2007. As you can discern, the reconfiguration of grade spans for both projects included grade 5. What is not easily understood is the decision-making process that included [BMS] and precluded [BES} grade 5 as the projects evolved.

Section "B" includes a leading study and compilation of literature specific to grade spans and transitions, specifically, *The Effect of Grade Span Configurations and School-to-School Transition on Student Achievement* by Stephanie D. Wren and the Stillwater Public Schools *Review of Literature on Grade Configuration and School Transitions* by Molly F. Gordon, PhD, Kristen Peterson, MA, Julie Gdula and David Klingbeil from the Center of Applied Research and Educational Improvement at the University of Minnesota. These documents present a compelling case regarding the relationship between student achievement and transitions irrespective of grade spans.

Once again, these sets of documents are submitted in partial fulfillment of a comprehensive, forensic type research, review and analysis of all available materials, files and archives. It is my belief that the Bourne School Building Committee can utilize these as a guide in preparation for the formal recommendation to the Bourne community and the Massachusetts School Building Authority.

Respectfully,

Steven M. Lamarche

C: SMMA
Flansburgh Architects

Flansburgh Architects

Meeting Notes

DATE: March 03, 2016

PROJECT: Peebles Elementary School Feasibility Study – Bourne Public Schools

MEETING: Community Forum No. 5 - Group Workshop

Option 1A

Pros

Group 1:

- Grade k-4
- Brand new school
- Innovation Studio
- Shorter bus ride
- School on each side of the canal

Group 2:

- Least expensive
- Least disruptive to town
- Completely ok with no 5th grade
- Smaller learning environment
- Part of campus with other schools
- Less transportation money and travel issues

Group 3:

- Keeps community school
- Access to other schools/canal/library
- Small school
- Shorter construction time
- No major disruptions
- More community space on 'cape side'

Cons

Group 1:

- Small number of students for high student cost
- Innovation Studio in one school and not the other
- Inequity of education between K-4 schools

Option 2A

Pros

Group 1:

- Equality of learning
- Consolidation of schools costs/admin, etc.
- More flexibility in classroom assignment
- Special needs, gym space requirements met
- Highest reimbursement rate on eligible costs

Group 2:

- Unifies the district
- One PTA
- Enhances teacher collaboration

Group 3:

- All staff in one building promotes collaboration (we already have joint community meetings)

Cons

Group 1:

- Long bus ride potentially

Group 2:

- Too large of a learning environment
- Parking would be a nightmare
- Long bus ride
- Altered school schedule
- Too large of lunch/recess groups

Group 3:

- Cost of demolition of Peebles is on Town of Bourne
- Travel time
- Later start time
- Stress on kids/families
- Bus tickets
- Fuel costs
- Large school
- Disruptive to BES students
- No community building on cape side

Option 4A

Pros

Group 1:

- Larger School –provides more community access
- Brand new school
- Safer school, buses student drop off
- Campus setting

Group 2:

- 5th graders will be in an elementary school, will be leaders of the school
- Upgrades campus, 21st century, more energy efficient
- Less disruption for kids
- Keeps sense of community on cape side
- Larger community space/multi-use
- Flexibility of design

Group 3:

- Size of school building
- Developmentally – 5th graders being oldest in building may be beneficial

Cons

Group 1:

- 5th grade transition/ high % of school population is 5th grade
- Increase in bus costs and longer rides

Group 2:

- 1 to 2 more busses

Group 3:

- Too much transition for 5th graders
- Too many 5th graders in comparison to rest of student body
- Who wants to transition to another school for 1 year?
- Inconsistent: ½ the school stays and other ½ moves over
- More busing for 5th grade vs current busing for kindergarten

Option 4B

Pros

Group 1:

- Still on campus

Cons

Group 1:

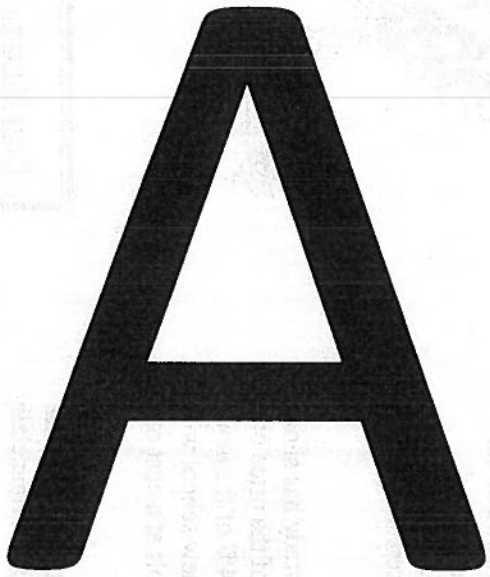
- Disruption of learning
- Adding new to old, asbestos, water, demolition
- High cost

Group 2:

- Cost too high and more room for contingency overages
- Too disruptive
- Longest construction time
- Transition issues for 5th grade
- We have no sentimental value attachment to existing Peebles building

Group 3:

- Not cost-effective (costs same amount as new building)
- Major disruption, 3 stages
- Restrictions on space



Project History

Bourne's present middle school buildings were built in the early 1960's by the US Military, under educational standards far below those of today.

Many professional studies have pointed to the need for a three-tiered education in Bourne: elementary (K-5), middle (6-8) and high school (9-12). For many years the school committee has voted to support this configuration. This is necessary for both educational and social reasons.

Unfortunately, this cannot be accomplished within our present buildings. The Lyle (originally an elementary school) and the Stone Schools currently house our 5, 6, & 7th grades. Because of space constraints, our 8th graders have been moved to the High School. The Lyle and Stone were built to house a total of 527 students. Bourne currently has 601 middle school-aged students – projected to be 698 by the year 2000. Because of this overcrowding, art, music, and many other programs are now held in locker rooms, hallways, dining areas, closets and on portable "carts."

We are at a crossroad with the Lyle and Stone buildings. A recent architectural study has shown that, to bring them up to minimum State standards would cost more than **80%** of the price of one new, fully-equipped single school. The State has guaranteed payment for 64% of the *new* building's construction, but refuses *any* funds for Lyle or Stone. This means a new school will cost the Town approximately $5.9 million – versus upgrading the two old schools at a cost of approximately $12.8 million.

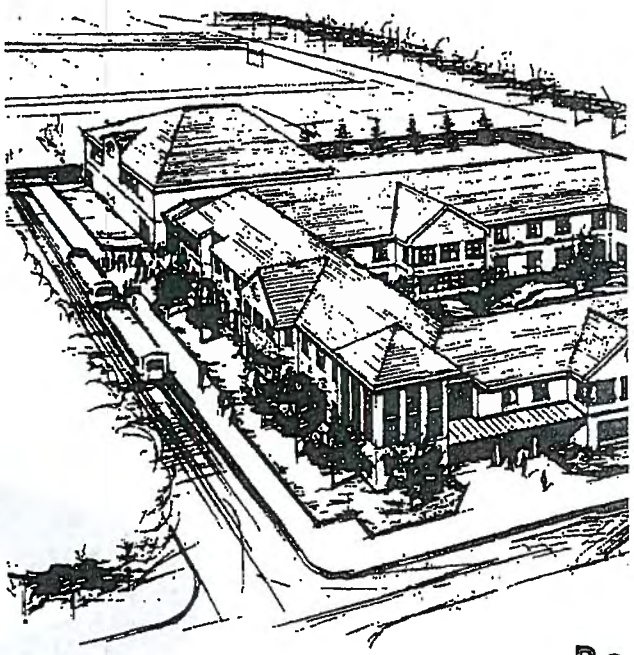
Historically Bourne addressed its long–term needs with short–term solutions. It is clearly time to begin meeting our school building needs in a way that is educationally sound and financially sensible.

Cost Analysis (*annual tax impact*)

based on current rate of 5.75% interest

Value of your property	1998	1999	2000	2002	2007	2017
$100,000.00	$2.55	$22.28	$52.89	$58.83	$43.88	$9.84
$150,000.00	$3.82	$33.40	$79.29	$88.20	$65.78	$14.75

This pamphlet paid for by Citizens for a Better Bourne



Bo
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Dear Citizens of Bourne:

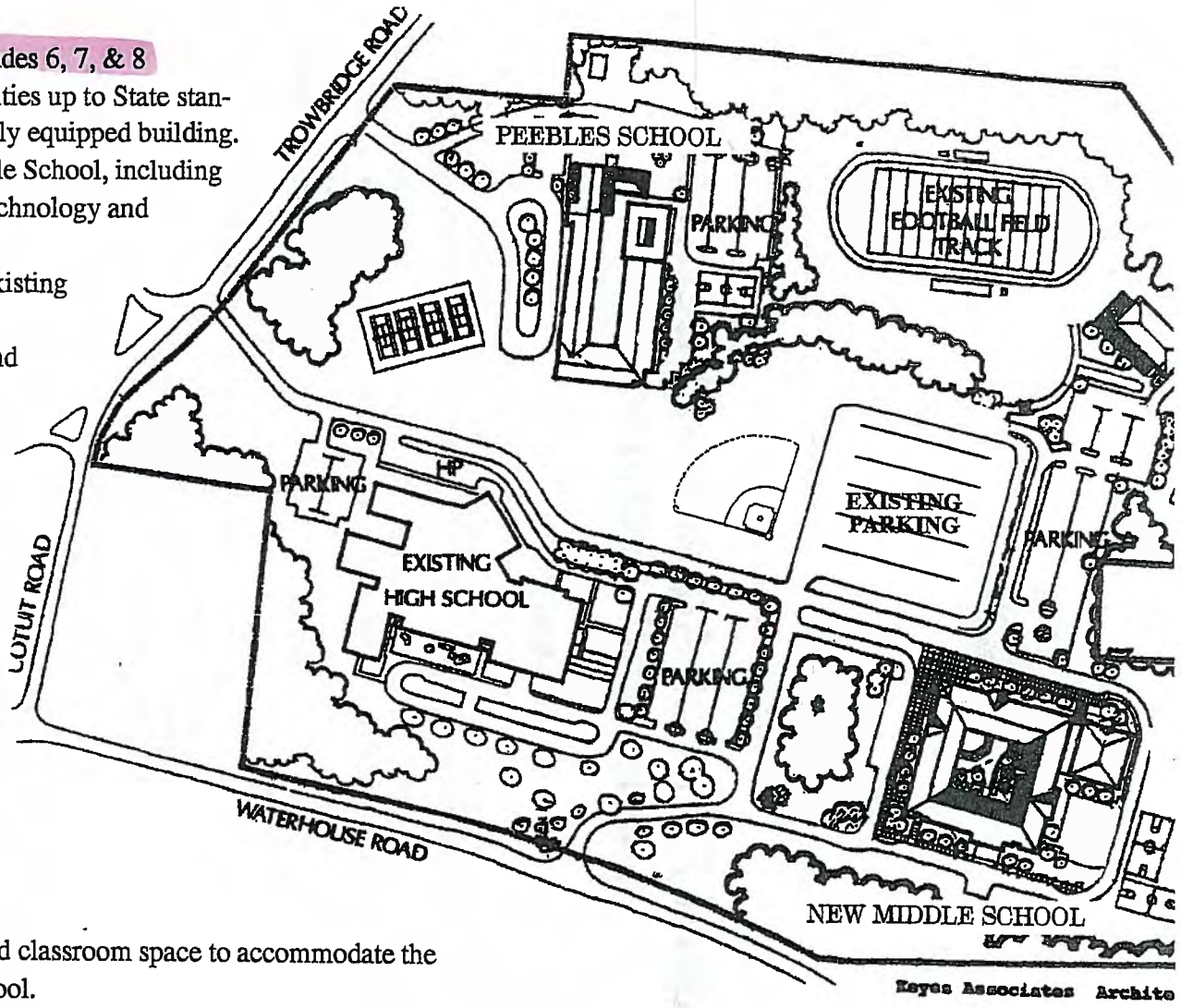
This pamphlet was prepared to inform you about the upcoming Town Meeting and referendum ballot votes on the proposed Bourne Middle School. This building will provide our 6, 7, and 8th grade students facilities for a quality, modern education, while providing community facilities for everyone. The State will pay 64% of the cost to design, build and equip this building.

WHY BUILD A NEW MIDDLE SCHOOL?

- To provide modern middle school program for grades 6, 7, & 8
- The cost to bring two existing middle school facilities up to State standards is more than 80% of the cost of a new, fully equipped building.
- The State will pay 64% of the cost of a new Middle School, including design, construction, furnishings, equipment, technology and financing.
- The State will pay nothing for improvements to existing middle school buildings
- Savings will be realized from energy efficiency and consolidation of transportation

WHAT IS THE SCOPE OF THE PROJECT?

- Construction of 110,000 sq. ft., two story, pitched roofed building designed to educate 800 students in grade 6, 7, & 8 with core facilities for 830 students.
- Project is being built on Town owned property south of the High School.
- The cost is estimated at $16.5 million with Bourne's share to be $5.9 million.
- Projected opening is September, 1998.



WHO WILL BENEFIT?

The Students

- This facility will make maximum use of combined classroom space to accommodate the cooperative learning concept of the middle school.
- Educational facilities will be the most modern available, with permanent space for art, music, and other programs presently held in locker rooms, dining areas, closets, hallways, and on carts.
- The school will be equipped with the technology needed to prepare our students for the 21st century.
- The eighth grade students – currently at the High School – can be returned to the Middle School.

The Citizens

- At the suggestion of Town residents, community on the ground floor, with separate access for a
- Studies show that new schools attract new busin
- Construction project will stimulate local econom
- New facilities are less expensive to maintain.
- State funding levels are guaranteed now but the

#1 new middle school

AIA Document B141

Standard Form of Agreement Between Owner and Architect

1987 EDITION

THIS DOCUMENT HAS IMPORTANT LEGAL CONSEQUENCES; CONSULTATION WITH AN ATTORNEY IS ENCOURAGED WITH RESPECT TO ITS COMPLETION OR MODIFICATION.

AGREEMENT

made as of the day of in the year of
Nineteen Hundred and Ninety-Four.

BETWEEN the Owner: Town of Bourne, a municipal corporation, acting by and through its School Building Committee
(Name and address) 24 Perry Avenue
Buzzards Bay, MA 02532

and the Architect: Keyes Associates
(Name and address) One Moody Street
Waltham, MA 02154

ADD WWTP 800 middle school students

For the following Project: A public school to serve approximately ~~750 pupils in Grades 6, 7~~ and 8 together with associated site improvements
(Include detailed description of Project, location, address and scope.) to be located on land owned by the Town whereon are now situated the high school and the Peebles Elementary School, located between Trowbridge Road, Waterhouse Road, and Route 28 in the Village of Bourne. As programmed, the building will contain approximately ~~111,375~~ 124,000 square feet of floor area. Uses include but are not limited to general classrooms; computer, science, art, music, home arts and industrial arts classrooms; gymnasium; cafeteria; library and administration suite. Site improvements include but are not limited to roadways, parking and play fields. Phase I of this agreement includes services as stipulated herein to complete the project through the construction documents phase. Phase II of this agreement includes services as stipulated herein for the bidding and construction administration phases.

The Owner and Architect agree as set forth below.

Bourne Public Schools

36 SANDWICH ROAD – BOURNE, MASSACHUSETTS 02532
Telephone 508-759-0660
Fax 508-759-1107

John E. O'Brien, D.Ed.
Superintendent
Joan DeGeorge Schirmer
Director of
Pupil Personnel Services
Robert W. Watmough, RSBO
Director of
Business Services
Priscilla A. Lay
Administrative Assistant

December 18, 1997

Mr. Thomas Barlow, Chairman
Bourne Board of Selectman
Bourne Town Hall
Buzzards Bay, MA.

Dear Chairman Barlow:

The Bourne School Committee has voted to reaffirm their support for the construction of a new Middle School on the site of the Peebles School and Bourne High School.

The Committee has contacted the firm of Keyes Associates and requested up-dated cost estimates for the construction of an 800 student Middle School for Grades 6-8. Keyes Associates have provided the requested estimate of construction cost, a copy of which is attached to this letter.

As you can see in the attached information, the estimates for Middle School construction have risen from those of two years ago due to the additional years and different market conditions. The figure for the needed new Middle School is being recommended at $20,000,000. Mr. Vogel of Keyes Associates has determined his estimates with an approximate time frame of construction starting in the Fall of 1998 or the Spring of 1999. It is believed that start of construction beyond this time frame will most likely result in an additional increase in the cost of construction.

Please put into action the necessary steps to have the construction of a Bourne Middle School move forward as soon as possible.

Thank you for your continued interest and cooperation in support of the children of Bourne.

Sincerely,

John E. O'Brien

John E. O'Brien, D.Ed.
Superintendent of Schools

cc: School Committee

Bourne Public Schools

36 SANDWICH ROAD — BOURNE, MASSACHUSETTS 02532
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John E. O'Brien, D.Ed.
Superintendent

Kilburn E. Culley, Ph.D.
Supervisor of Curriculum and Instruction

Joan DeGeorge Schirmer
Director of
Pupil Personnel Services

Robert W. Watmough, RSBO
Director of
Business Services

Priscilla A. Lay
Administrative Assistant

May 28, 1998

Mr. Jim Anderson
Department of Education
Commonwealth of Massachusetts
350 Main Street
Malden, MA 02148-5023

Dear Jim:

This letter will deal with the Long Range Educational Plan and the Rationale for Construction as required for the June 1, 1998 submission relative to the new middle school to be constructed in Bourne.

The new middle school represents one segment of a larger long range plan which includes a new elementary school and the renovation/expansion of an existing elementary school. The plan is based on a Space Needs Study done by HMFH Architects in November of 1993.

The current Long Range Educational Plan and Rationale for Construction remain the same as previously defined in a letter to you from Dr. John E. O'Brien dated October 5, 1994 and in the information prepared for the School Building Needs Conference of August, 1994 entitled "PLANS FOR A BOURNE SCHOOL CAMPUS".

Based on data contained ~~in the aforementioned reports,~~ Diane Price, Administrator, School Governance Services wrote to Dr. O'Brien in October, 1994 indicating that "the Department of Education will support the School Systems New School Scenario".

The only change in this plan calls for the new middle school to be constructed for approximately 800 students with core facilities sized to accomodate 1,000 students.

I trust that this letter, together with the enclosed information, is sufficient to meet the requirements of the June 1, 1998 submission. If you require further information or if I may be of further assistance, please feel free to contact my office.

Sincerely,

Robert W. Watmough
Director of Business Services

The Commonwealth of Massachusetts
Department of Education

350 Main Street, Malden, Massachusetts 02148-5023 Telephone: (617) 388-3300
TTY: N.E.T. Relay 1-800-439-2370

October 26, 1994

Dr. John E. O'Brien, Ed.D.
Superintendent
36 Sandwich RD
Bourne MA 02532

Dear Dr. O'Brien:

The Governance, Environment and Structural Support Services Unit has reviewed HMFH Architects three space utilization cost scenarios involving existing elementary and middle school buildings in Bourne. Based on this data, the Department of Education will support the School Systems New School Scenario. It is our understanding that this scenorio calls for an addition and renovations to the Peebles School, a new elementary school and a new middle school all located on the present high school/Peebles Elementary School campus site.

Please keep us informed as to the progress being made towards the successful completion of the project.

Sincerely,

Diane Price

Diane Price, Administrator
School Governance Services

Bourne Public Schools

36 SANDWICH ROAD — BOURNE, MASSACHUSETTS 02532
Telephone 508-759-0660
Fax 508-759-1107

John E. O'Brien, D.Ed.
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Supervisor of Curriculum and Instruction

Joan DeGeorge Schirmer
Director of
Pupil Personnel Services

Robert W. Watmough, RSBO
Director of
Business Services

Priscilla A. Lay
Administrative Assistant

Wednesday, October 5, 1994

Mr. Jim Anderson
Department of Education
Commonwealth of Massachusetts
350 Main Street
Malden, MA 02148-5023

Dear Jim:

Enclosed please find copies of the information I received from HMFH Architects comparing the cost of bringing the existing Bourne School Buildings up to standard as compared to building new, and renovating and adding on to the Peebles School. This is the information that you and Diane Price asked that I send to you following the meeting we had here in Bourne to discuss the idea we have of consolidating our school buildings at the site of the present Bourne High School and the Peebles School.

You had indicated to us you needed to see figures that would substantiate the cost of the renovations and additions necessary to bring our existing buildings up to standard was at least equal to 50% to 70% of the cost of building new. As you can see by the material I have provided, the cost of the work necessary to the existing buildings is $35,006,200 in the first scenario that HMFH provided and the cost is $33,441,800 in the second scenario. I have included with this letter a sheet which estimates the cost of the new build option based on the per square foot numbers from the Department. This estimated cost is $38,417,926. As you can see, the cost of the renovation and addition projects are 92% and 87% of the build new option respectively.

Anderson, Jim *October 6, 1994*

I would also call to your attention that the two scenarios from HMFH call for spending 67% and 40% of the money on the military base where the future of the use of these buildings could be questioned.

You indicated that once this information has been received the Department would be able to give us an indication as to which of the two options the State would lend their support by way of building assistance. I would appreciate hearing from you at your earliest possible date concerning your position on this matter. As you know, we are under very close time constraints and an indication from you concerning your support for building new or renovating and expanding is crucial to our pressing on with our plan for the future of the Bourne Public Schools.

I appreciate your continued cooperation and support and I look forward to hearing from you shortly.

Sincerely,

John E. O'Brien, Ed.D.
Superintendent

cc. School Committee
School Building Needs Committee

Enclosure

Space Utilization - Scenario 1

	Action	Students	CR	pK	K	1	2	3	4	5	6	7	8
Hoxie	*Close*												
Peebles	*Add*	*710*	*30*	*2*	*6*	*6*	*4*	*4*	*4*	*4*			
Lyle	*Add*	*330*	*14*	*1*	*3*	*2*	*2*	*2*	*2*	*2*			
Stone	*Add*	*330*	*14*	*1*	*3*	*2*	*2*	*2*	*2*	*2*			
Otis	*Add*	*330*	*14*	*1*	*3*	*2*	*2*	*2*	*2*	*2*			
Campbell	*Close*												
Coady	*Close*												
New M.S.		*750*	*30*								*10*	*10*	*10*
High School		*600*											
Totals		*3050*	*102*	*5*	*15*	*12*	*10*	*10*	*10*	*10*	*10*	*10*	*10*

Cost Comparison Scenario 1

- Expanded Peebles
  710 students, pK-5

Addition:		$ 3,746,000.00
230 students x 115 s.f./student x 1.10 x $128.75		
Renovation:		1,943,000.00
480 students x 115 sf/student x 1.10 x $32.00/s.f.		
Total Peebles		$ 5,689,000.00

- Expanded Lyle
  330 students, pK-5

Addition:		$ 1,693,200.00
4 pK/K classrooms @ 1250 sf	5,000 s.f.	
2 general classrooms @ 900 sf	1,800 s.f.	
gross area factor @ 50%	3,400 s.f.	
Total area	10,200 s.f.	
@ $166.00/s.f.		
Renovation:		$ 2,449,300.00
38,000 s.f. @ $64.00/s.f.		
Total Lyle		$ 4,142,500.00

- Expanded Stone
  330 students, pK-5

Addition:		$ 2,739,000.00
4 pK/K classrooms @ 1250 sf	5,000 s.f.	
Gym	6,000 s.f.	
gross area factor @ 50%	5,500 s.f.	
Total area	16,500s.f.	
@ $166.00/s.f.		
Renovation:		$ 2,560,000.00
40,000 s.f. @ $64.00/s.f.		
Total Stone		$ 5,299,000.00

Cost Comparison Scenario 1 (Continued)

• Expanded Otis		
330 students, pK-5		
Addition:		$ 2,241,000.00
4 pK/K classrooms @ 1250	5,000 s.f.	
Gym	6,000 s.f.	
Library	2,500 s.f.	
gross area factor @ 50%	6,750 s.f.	
Total area	13,500 s.f.	
@ $166.00/s.f.		
Renovation:		$ 2,432,000.00
38,000 s.f. @ $64.00/s.f.		
Total Otis		$ 4,673,000.00
• New Middle School (from Proposed Plan)		$ 15,202,700.00
Total Cost Scenario 1		**$35,006,200.00**

Space Utilization - Scenario 2

	Action	Students	CR	pK	K	1	2	3	4	5	6	7	8
Hoxie	*Close*												
Peebles M.S.	*Add*	*750*	*30*								*10*	*10*	*10*
Lyle	*Add*	*355*	*14*	*1*	*3*	*2*	*2*	*2*	*2*	*2*			
Stone	*Add*	*475*	*20*	*1*	*4*	*3*	*3*	*3*	*3*	*3*			
Otis	*Add*	*475*	*20*	*1*	*4*	*3*	*3*	*3*	*3*	*3*			
Campbell	*Add*	*355*	*14*	*1*	*3*	*2*	*2*	*2*	*2*	*2*			
Coady	*Close*												
High School		*600*											
Totals		*3010*	*98*	*4*	*14*	*10*	*10*	*10*	*10*	*10*	*10*	*10*	*10*

Cost Comparison Scenario 2

- Expanded Peebles Middle School
  750 students, 6-8

Addition:		$ 7,095,000.00
350 students @ 135 s.f/student		
x 1.10 x $136.50		
Renovation:		4,055,000.00
400 students @ 135 s.f./student.		
Total Peebles		$11,150,000.00

- Expanded Lyle
  355 students, pK-5

Addition:		$ 2,141,400.00
4 pK/K classrooms @ 1250 sf	5,000 s.f.	
4 general classrooms @ 900 sf	3,600 s.f.	
gross area factor @ 50%	4,300 s.f.	
Total area	12,900 s.f.	
@ $166.00/s.f.		
Renovation:		$ 2,449,300.00
38,000 s.f. @ $64.00/s.f.		
Total Lyle		$ 4,590,700.00

- Expanded Stone
  475 students, pK-5

Addition:		$ 3,498,450.00
5 pK/K classrooms @ 1250 sf	6,250 s.f.	
2 general classrooms @ 900	1,800 s.f.	
Gym	6,000 s.f.	
gross area factor @ 50%	7,525 s.f.	
Total area	21,075 s.f.	
@ $166.00/s.f.		
Renovation:		$ 2,560,000.00
40,000 s.f. @ $64.00/s.f.		
Total Stone		$ 6,058,450.00

Cost Comparison Scenario 2 (Continued)

• Expanded Otis		
475 students, pK-5		
Addition:		$ 3,672,750.00
5 pK/K classrooms @ 1250 sf	6,250 s.f.	
Gym	6,000 s.f.	
Library	2,500 s.f.	
gross area factor @ 50%	7,375 s.f.	
Total area	22,125 s.f.	
@ $166.00/s.f.		
Renovation:		$ 2,432,000.00
38,000 s.f. @ $64.00/s.f.		
Total Otis		$ 6,104,750.00
• Expanded Campbell		
355 students, pK-5		
Addition:		$ 4,257,900.00
4 pK/K classrooms @ 1250 sf	5,000 s.f.	
4 general classrooms @ 900 sf	3,600 s.f.	
Library	2,500 s.f.	
Gym	6,000 s.f.	
gross area factor @ 50%	8,550 s.f.	
Total area	25,650 s.f.	
@ $166.00/s.f.		
Renovation:		$ 1,280,000.00
20,000 s.f. @ $64.00/s.f.		
Total Campbell		$ 5,537,900.00
Total Cost Scenario 2		**$33,441,800.00**

SCHOOL SYSTEM NEW SCHOOL SCENARIO

PEEBLES EXPANSION TO 830 STUDENTS

# OF STUDENTS	830	
380 NEW STUDENTS		$6465415
480 STUDENT RENOVATION		$1943040
	TOTAL	$8408455

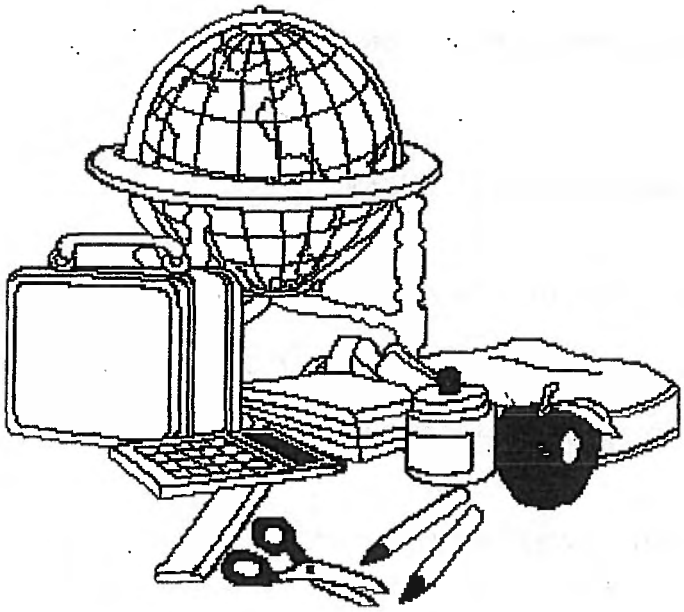
BUILD NEW ELEMENTARY SCHOOL FOR 830

#OF STUDENTS	830	
830 NEW STUDENT SCHOOL		$14121828

BUILD NEW MIDDLE SCHOOL FOR 750

# OF STUDENTS	750	
750 NEW STUDENT SCHOOL		$15887644
TOTAL NEW PROJECT COST		$38417926

INFORMATION FOR THE SCHOOL BUILDING NEEDS CONFERENCE



PLANS FOR A BOURNE SCHOOL

CAMPUS

August 19, 1994

INFORMATION FOR THE SCHOOL BUILDING NEEDS CONFERENCE

1. ***The current enrollment in the applicant's schools and projected enrollments up to ten years in the future.***

By grade: October 1, 1993:

Pre Kindergarten	4
Kindergarten	243
Ungraded	6
Grade 1	228
Grade 2	241
Grade 3	218
Grade 4	196
Grade 5	215
Grade 6	201
Grade 7	182
Grade 8	170
Grade 9	148
Grade 10	129
Grade 11	148
Grade 12	129
	2458

was 724
now 761
up 5-90

now 9/29 2519

By building: September 30, 1993

Bourne High School (8-12)	726
Peebles (K-4)	643
Hoxie (K-3)	213
Stone (5-7)	312
Lyle (5-7)	289
Otis Memorial (Pre K-4)	278

– now 231

Exhibit 2-A: Enrollment History and Projections
(Fiscal Years 1980 to 2010)

				GRADE LEVELS													
FiscalYr	BirthYr	Birth	PreK	K	1	2	3	4	5	6	7	8	9	10	11	12	Total
1980				168	198	201	212	244	225	205	201	245	193	235	218	180	2725
1981				206	199	212	199	213	241	211	211	198	206	185	208	199	2688
1982				198	198	180	196	187	207	221	200	199	178	196	181	198	2539
1983				219	190	189	180	184	175	203	229	191	186	180	189	179	2494
1984	1978	178		197	199	188	181	160	171	196	201	215	158	183	176	170	2395
1985	1979	201		193	211	196	166	181	154	170	197	207	189	169	178	159	2370
1986	1980	212		209	204	198	189	182	181	155	182	193	182	185	158	174	2392
1987	1981	211		230	216	208	194	179	185	181	156	180	167	161	168	166	2391
1988	1982	205		231	235	201	200	182	187	193	187	162	160	155	153	158	2404
1989	1983	207		263	223	216	207	183	188	178	195	184	140	142	149	137	2405
1990	1984	215		260	274	216	234	198	197	205	186	198	163	142	135	125	2533
1991	1985	230		243	240	239	213	213	200	188	184	176	172	150	136	126	2480
1992	1986	215		264	223	223	234	209	206	201	162	180	160	153	126	125	2466
1993	1987	213		237	252	219	208	227	205	193	178	164	136	148	135	116	2418
1994	1988	215		252	228	235	219	197	230	202	181	176	140	126	136	122	2445
1995	1989	219		250	242	213	235	209	199	229	187	179	150	131	115	123	2463
1996	1990	212	237	251	236	225	209	223	208	194	206	184	152	138	118	105	2451
1997	1991	209	232	243	238	222	220	201	222	204	175	204	156	140	123	108	2457
1998	1992	211	229	240	232	225	218	211	200	216	186	174	170	144	126	112	2454
1999	1993	213	230	244	229	218	222	207	211	197	198	184	147	157	130	114	2459
2000	1994	215	232	246	232	215	214	212	208	207	180	196	156	136	142	118	2461
2005	1999	221	238	253	240	225	219	208	206	201	180	180	157	143	131	113	2456
2010	2004	226	243	259	245	230	225	214	212	207	188	185	155	142	127	114	2503

	Building Totals					
FiscalYr	Peebles	Hoxie	Lyle	Otis	Stone	High School
1993	639	253	251	398	342	535
1994	627	247	257	433	357	524
1995	635	262	252	428	367	519
1996	634	263	247	402	391	514
1997	613	259	252	426	380	527
1998	622	254	249	417	360	552
1999	618	254	248	408	382	549
2000	616	256	247	415	376	552
2005	621	265	259	407	360	544
2010	633	275	265	419	373	538

Notes: - Prekindergarten enrollment counts are excluded from population projections.
- Enrollment history and projections do not include Town of Plymouth students.

Exhibit 2-B: Enrollment History and Projections with a 1.2% Annual Growth
(Fiscal Years 1980 to 2010)

				GRADE LEVELS													
FiscalYr	BirthYr	Birth	PreK	K	1	2	3	4	5	6	7	8	9	10	11	12	Total
1980				168	198	201	212	244	225	205	201	245	193	235	218	180	2725
1981				206	199	212	199	213	241	211	211	198	206	185	208	199	2688
1982				198	198	180	196	187	207	221	200	199	178	196	181	198	2539
1983				219	190	189	180	184	175	203	229	191	186	180	189	179	2494
1984	1978	178		197	199	188	181	160	171	196	201	215	158	183	176	170	2395
1985	1979	201		193	211	196	166	181	154	170	197	207	189	169	178	159	2370
1986	1980	212		209	204	198	189	182	181	155	182	193	182	185	158	174	2392
1987	1981	211		230	216	208	194	179	185	181	156	180	167	161	168	166	2391
1988	1982	205		231	235	201	200	182	187	193	187	162	160	155	153	158	2404
1989	1983	207		263	223	216	207	183	188	178	195	184	140	142	149	137	2405
1990	1984	215		260	274	216	234	198	197	205	186	198	163	142	135	125	2533
1991	1985	230		243	240	239	213	213	200	188	184	176	172	150	136	126	2480
1992	1986	215		264	223	223	234	209	206	201	162	180	160	153	126	125	2466
1993	1987	213		237	252	219	208	227	205	193	178	164	136	148	135	116	2418
1994	1988	215		252	228	235	219	197	230	202	181	176	140	126	136	122	2445
1995	1989	219		250	242	213	235	209	199	229	187	179	150	131	115	123	2463
1996	1990	212	239	253	238	227	210	225	210	197	208	186	155	140	121	107	2477
1997	1991	209	234	245	240	224	222	203	224	206	177	206	158	142	125	111	2483
1998	1992	211	231	242	235	227	220	213	202	217	188	176	172	146	128	114	2480
1999	1993	213	232	246	231	220	224	209	213	198	200	187	149	159	132	117	2485
2000	1994	215	234	249	234	217	216	214	210	209	182	197	158	138	144	120	2468
2005	1999	224	241	264	247	226	221	211	206	203	182	181	160	144	133	114	2492
2010	2004	233	245	277	262	246	241	230	218	213	190	186	156	142	129	115	2605

	Building Totals					
FiscalYr	Peebles	Hoxie	Lyle	Otis	Stone	High School
1993	639	253	251	398	342	535
1994	627	247	257	433	357	524
1995	635	262	252	428	367	519
1996	637	263	253	407	394	523
1997	621	261	252	430	383	536
1998	622	262	253	419	364	560
1999	621	257	252	411	387	557
2000	620	258	252	419	379	560
2005	632	271	266	409	363	551
2010	661	298	297	431	376	542

Notes: - Prekindergarten enrollment counts are excluded from population projections.
- Enrollment history and projections do not include Town of Plymouth students.

PROJECTED ENROLLMENTS: HMFH REPORT PAGES 8, 9, AND 11

2. ***The current and proposed grade organization plan***

   a. The current grade organization which is based upon fitting students into existing buildings:

Hoxie School	Grades K-3
Peebles School	Grades K-4
Otis Memorial	Grades PK-4
Stone School	Grades 5-7
Lyle School	Grades 5-7
High School	Grades 8-12

   b. The proposed grade organization when adequate facilities are available:

Elementary	Grades PK-5
Middle School	Grades 6-8
High School	Grades 9-12

3. ***The current size and grade organization of the school system***

   The current size of the school system as of October 1, 1993, is 2458 students organized for the most part as grades PK-4, grades 5-7, and grades 8-12. This organization is due to not having adequate room to accommodate grade 8 with the other middle school students.

4. ***The manner in which occupational education and special education programs will be made available to pupils in the system***

   a. Occupational education and special education at the high school level is now available in adequate facilities due to the renovation and addition to the High School building that was completed in 1990.

   b. All introductory occupational programs for middle school grades 5-8 were eliminated by the 1992 budget

In the future, with the proper and adequate facility, middle school students can be offered pre-occupational and pre-vocational programs that are not possible in our present inadequate facilities.

c. At the elementary and middle school levels, special education programs are offered in a widely diverse variety of spaces. In some of our present schools, special education classes are able to have an actual classroom in which to operate. In some of our other schools, special education services must be offered in any small room that can be found.

d. With adequate facilities in the future, special education classes and services will be offered in appropriate spaces within facilities that have the room for these programs.

5. ***The capacity of the existing school plants including the available gross and net educational square footage of space available at the grade level(s) of the proposed project.***

a. The proposed project is designed to provide school facilities for grades PK-8 that can accommodate an up-to-date educational program at least 30 to 50 years into the future. The proposed facilities will ensure the health and safety of the school children, alleviate existing overcrowding in some schools, prevent overcrowding from increasing enrollments, and provide for a full range of educational programs.

b. **Hoxie School - Built in 1909**

Hoxie School capacity using state recommended 22 students per class:

- Hoxie School has eight regular classrooms that are not in the basement. Use of one classroom in the basement was determined to be a "temporary solution that will not be accepted by the State on a permanent

basis in a study done in 1972. At the present time, there are two classrooms still being used in the basement of the Hoxie School. A study done by HMFH Architects has determined there are seven usable classrooms if space is to be provided for special education, art, music, and other services. This provides room for 154 students at 22 per elementary class. The present enrollment at Hoxie School is 213 in grades K-3.

A study of Bourne School Facilities done in 1990 by CB&K Associates stated, "The Hoxie School is a wood frame structure that has outlived its usefulness as a modern, educational facility....The Hoxie School does not comply with the spirit of most of the provisions of the Massachusetts State Building Code, 1987...The Hoxie School should be closed for complete renovation or replacement immediately."

c. **Coady School - Built in 1915**

This building was the original Bourne High School. There are eleven classrooms, eight of which are small rectangular rooms that were recommended for a maximum of 20 students in a 1972 study. The four small rectangular rooms resulted from the partitioning of two large rooms built into the original building. Coady School stopped being used by the Bourne Public Schools as part of the 1992 budget cuts. The building is presently leased to a private school.

A facilities study done by HMFH Architects in 1993 determined nine classrooms could be available for regular classes if provisions were to be made for art, music, library, and computers. In a 1990 facilities study done by CB&K Associates, it was stated that, "The Coady Middle School is an old wood frame structure with brick veneer. The building is esthetically handsome and charming but seriously lacking in its ability to meet the needs of a modern

educational program. The Coady School does not comply with the provisions of the Massachusetts State Building Code, 1987. It is our opinion that the condition of the building, its age and configuration pose a serious threat to the life and safety of its occupants in the event of a fire.....The Coady School is not handicapped accessible and cannot reasonably be made accessible without major renovations and modifications." A recent measurement indicates 34,000 square feet are in the building.

The building could house 185 students at the middle school level using 25 per classrooms as described in the Massachusetts Reform Legislation.

d. **Peebles School - Built in 1950**

The Peebles School has been determined in the 1993 HMFH study to have available 20 regular classrooms if space is made available for music, art, special education, and an adequate library. Art is at present in a section of the cafeteria, music is in a converted custodial room, and some special education and Chapter I programs are in former locker rooms. Using the State Reform number of 22 students in elementary classes, the Peebles School should accommodate 440 students. At present the Peebles School has 643 students in grades K-4.

The CB&K study of school facilities indicates that "the Peebles School complies with the intent of most of the provisions of the Massachusetts State Building Code, 1987. ....There are numerous barriers to the handicapped for access to the building. .....In order to comply with current state regulations, an elevator will be required as well as adjustments to grade at the front entrance of the building. The change of level within the building precludes access to other than the main or entry level of the building.

e. **Lyle School - Built in 1961**

The Lyle School has been determined by a 1993 facilities study done by HMFH Architects to have nine regular classrooms available if space is provided for art, music, special education, computers, and a library. Lyle School is presently used as a middle school grades 5-7 and there are 289 students enrolled. Using the State's figures of 22 students in grades 5 and 6 and 25 students at grade 7, the Lyle School has an intended capacity of 207 students. CB&K Associates in their 1990 facilities study reported that, "There were minor structural and safety deficiencies observed at the Lyle Middle School. The majority of the problems, however, are related to general wear and tear and cosmetic issues. ....Lyle School complies with the intent of most of the provisions of the Massachusetts State Building Code, 1987," CB&K recommended a major renovation of this building including such things as roof replacement, skylight replacement, chimney replacement, ventilating system replacement, rebuilding of concrete foundation, and major replacements in the brick veneer.

f. **Stone School - Built in 1952**

HMFH Architects in their study have stated that there are 14 regular classrooms available in the Stone School if space is made available for art, music, computers, special education, and library. Using the State's figures of 25 students for grade 7 and 22 students for grades 5 and 6, this building has a capacity of 320 students in the present 5-7 organization. There are at present 312 students in the Stone School.

The 1990 CB&K Associates study of school facilities found, "The Stone School complies with the intent of most of the provisions of the Massachusetts State

Building Code, 1987." CB&K recommended some major renovations to the Stone School including roof replacement, gym floor replacement, rebuild chimney from the deck up, replace classroom flooring, replace ceilings, replace old and inadequate lighting, and raise or eliminate skylights.

This is the oldest of the four buildings on the Base and the general consensus of the studies is the building shows its age.

g. **Otis Memorial School - Built in 1959**

The facilities study done in 1993 by HMFH Architects determined there are 14 regular classrooms available at the Otis Memorial School. Using the State's figures of 22 students in elementary classes, this gives Otis Memorial a capacity of 308 students. Fourteen classes for regular use would provide room for art, music, special education, computers, and library. There are at present 278 students at Otis Memorial School in grades K-4 at the end of a school year but this number historically increases over the summer as the military families' children make up the population of this school.

CB&K Associates stated that the Otis Memorial School complies with the spirit of most of the provisions of the Massachusetts State Building Code, 1987. They have recommended major work on the building in the areas of roof replacement, masonry, interior walls, floors, ceilings, and door and window replacement.

g. **Campbell School - Built in 1966**

The Campbell School at this time remains unoccupied but in the past has been leased to a private school and to the United States Coast Guard. The facilities study conducted by HMFH Architects indicates there are 10 regular classroom available in this school once space

has been allocated for art, music, library, special education, and computers. This building was designed for use as an early primary grade school grades K-3. Using the State's figures for of 22 students for elementary, this building would have a capacity of 220 students in the early grades.

CB&K facilities study in 1990 indicated compliance with the spirit of the Massachusetts State Building Code, 1987. They found the building to be in generally good condition except for roof replacement, window repair and replacement, heating system to be repaired or replaced, lack of adequate bathrooms, no handicapped facilities, and a variety of other building issues such as damage from leaking.

6. ***The condition of existing school plant and its probable use in the future, and recommendations for abandonment, remodeling, rehabilitation, reconstruction, modernization, or addition to the existing buildings.***

The condition of the present buildings is addressed in detail in the information provided for question number 5 above. Present building conditions and the age of these buildings could lead to some logical conclusions, such as:

a. The Hoxie School will need to be replaced by another building which is capable of facilitating a modern educational program.

b. The Hoxie School's wood construction, limited space, lack of handicapped access, and a variety of other reasons make this building not a part of the school system's future.

c. The Hoxie School, once no longer used by the School Department, would be returned to the Board of Selectmen. There have been many suggestions for its use as a community center or other civic use. The

Selectmen would determine if the interest of the Town would be best served by the retention or sale of the Hoxie School.

d. The Coady School has no place in the future of a Bourne School System that has a vision of providing a modern educational program in adequate facilities.

e. The Coady School could be returned to the Selectmen should the School Department no longer have use for it. There have been many suggestions for use of the Coady building and property. The building has been looked at as a potential School Department Central Office, a youth recreation center, and it has even been suggested it would be a Town Hall. The Coady School property has potential for providing athletic fields should the School Department's central campus become a reality.

f. The Peebles School will continue to play a key role in the Bourne School System, but this building needs to have major renovation and an addition in order to continue its important role in the system.

g. The school buildings on the Otis Military Base (Stone, Lyle, Campbell, and Otis Memorial) have been determined to be on land that belongs to the Commonwealth of Massachusetts. If these buildings no longer are needed for Bourne school purposes, it appears the property reverts to the Commonwealth. There has been considerable interest in these buildings. Two of the interested groups could save the Commonwealth considerable money should they acquire these buildings. The Barnstable County Court has expressed an interest in having an Upper Cape court house in this complex, and the National Guard has interest in establishing a training center in these buildings.

7. ***Procedures to be followed by the application throughout the planning and construction of the project such as will assure maximum attention to the cost effects of program and design decisions, materials, and systems selections.***

Having completed a building project in 1990, the School Building Committee and the School Administration are well versed in the procedures for successfully completing the planning and construction of the project. Cost details and construction decisions will be monitored on a daily basis by the School Administration and the School Building Committee will meet regularly.

8. ***Options of tuitional agreements with adjacent school districts, of renting and acquisition of existing structures, together with conversations necessary to create a facility necessary to support a modern educational program. The availability of space in adjacent districts shall be considered as an alternative to construction.***

Tuitional agreements with adjacent school districts and the availability of space in these districts is not an option in attempting to satisfy the needs of the Bourne Public Schools.

Bourne's need is for appropriate and adequate space for students in grades K-8. This need is caused by growth at the elementary levels and the fact that Bourne has outdated buildings located in the wrong geographical locations. A brief review of the adjacent school districts follows.

a. **Mashpee**: The fastest growing community in terms of student population in the Commonwealth. Mashpee cannot construct buildings fast enough to house their population and they have grown so much they now must build their own high school because Falmouth can no longer accommodate them.

b. **Falmouth**: Falmouth is already experiencing a lack of room for their student population which is growing rapidly. Falmouth has had to close their doors to Mashpee students and they are now planning the construction of an additional elementary building. Finding space in Falmouth or tuitioning students to Falmouth is out of the question.

c. **Sandwich**: Sandwich school population has grown so rapidly that the two new buildings they have constructed are now reaching capacity. Sandwich could not possibly accommodate any substantial number of Bourne students.

d. **Wareham**: Wareham has had to go to relocatable classrooms to provide for their elementary student population. Wareham has recently constructed a new high school and they soon must address a elementary and middle school population that is rapidly growing. Wareham has no solutions for Bourne and needs solutions of their own.

Bourne Public Schools have had a long history of providing space for its students in a number of small buildings. Bourne school buildings are not designed to accommodate a modern academic program, and they pre-date when space became a necessity for special education classes, Chapter I programs, and other things that are required today. Bourne's students have been required to have music in school hallways, art delivered on a cart, special needs and Chapter I services in storage rooms and behind stage curtains, libraries that are a few book shelves in a small room, physical education and lunch together in the same space, and few, if any, spaces for computers or technology. This is but a small description of the hardships of having old buildings designed for another age that are demonstrating the effects of over use and under funding.

One of the major results of Bourne's school building situation and Bourne's difficult budget situation has been the need to often switch students each year to find room for them. Bourne

renovated and added on to its high school in 1990 to provide adequate room in a facility that had been seriously under spaced. This renovated high school was designed to provide for expansion up to an additional 200 to 250 students over the then population. The growing elementary population dictated the high school would need this extra room in five to ten years. In 1993, it became necessary to move almost 200 grade eight students to the high school as Bourne's old and small buildings no longer could accommodate shifting students for a third straight year. Grade eight at Bourne High School is a temporary solution which is one more in a history of temporary and patchwork solutions.

The Hoxie School, which at one time provided for the elementary children of Sagamore through grade six, now is down to grades K-3. The children in grades 4-6 are bussed to the Otis Military Base to find classroom space. Sagamore is Bourne's most rapidly growing section of town, and it is being served by the oldest and smallest building in the system. As described above, the Hoxie School has been recommended for replacement for over twenty years.

Bourne has had task forces and study committees working on long range educational plans since at least the early eighties. The Task Force of 1991, as did their predecessors, recommended an educational program that would provide a K-5 elementary educational program and a 6-8 modern middle school program. To this day, the major detriment to achieving an educational program in Bourne that provides consistency, equity of opportunity, a modern educational program, and one that can be offered year after year, is the lack of school facilities to accommodate the desired program.

William H. Wibel, Chairman
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Facilities Improvement Committee

To: Bourne School Committee
From: William H. Wibel, Chairman - Facilities Improvement Committee
Date: 06/13/2001
Subject: Interim Report

The purpose of this committee is outlined in the following mission statement:

It is the mission of the Facilities Improvement Committee to review the condition and physical operation of the existing Town of Bourne owned school buildings against best educational practice without regard to financial impact or transportation issues. The committee will engage in making facility improvement recommendations to the Bourne School Committee. These improvements must take into consideration best educational practices for grades (K - 5), state of the art technology, optimal class sizes for K - 5, aesthetically pleasing surroundings, building location, and anticipated growth factors.

The committee met the following dates 10/27/00, 11/08/00, 1/16/01, 2/15/01, 3/22/01, 4/26/01, and 5/24/01. 6/28/01

During this time:

- documentation regarding the condition of the existing elementary school facilities was gathered from archival evidence, on-site tours, and oral accounts
- demographic information generated from local and state sources
- letter written and sent to key community committees
- best educational practice researched and discussed
- land use and open space maps made available
- time lines discussed and developed
- questions raised

5500 Curtis Boulevard
Air Station Cape Cod,
MA 02542

1. PARAMETERS:

No base schools:

As the population in the Town of Bourne has shifted from the south and east to the west and north, it makes little sense in the deliberations of this committee to evaluate for further consideration the schools known as Lyle, Stone and Otis Memorial. The need to centrally locate the town's school population is in the best interest of the town, parents, and the economies of size.

Kindergarten Center:

(based on out come of School Committee vote on December 5th)

This will create an early childhood center team approach, where the focus will be on early intervention; activities will be developmental, preparing students for academic success. This allows for kindergarten only bus routes. The number of children in kindergarten classes will be evenly distributed..

1 - 5 Schools:

Creates community/area district schools. Creates learning environments where children will stay for five years requiring fewer transitions. Transitions will be more developmentally academically appropriate.

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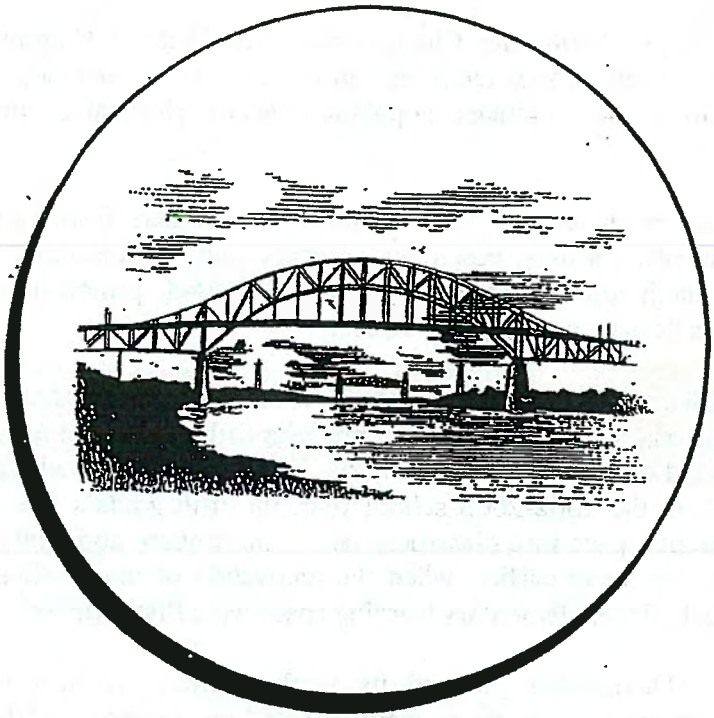


SCHOOL FACILITIES STUDY COMMITTEE FINAL REPORT

May 2002

BOURNE PUBLIC SCHOOLS
FACILITIES IMPROVEMENT SUBCOMMITTEE

FINAL REPORT TO THE SCHOOL COMMITTEE- October 3, 2001

In the Fall of 2000, the Chairperson of the School Committee appointed a subcommittee to review school facilities and to assess their adequacy from the point of view of educational best practices, population served, physical conditions, and future trends.

The Chairperson selected the subcommittee members from various areas of the community: parents, teachers, community leaders, School Committee members, senior services, and church representatives. William H. Wibel, principal of Otis Memorial School, served as the subcommittee chairman.

Initial discussions revealed that the area of greatest immediate concern was the facilities housing our elementary students (pre-K to fifth grade). Although the fifth grade is currently housed at the Middle School, that building was originally planned for sixth through eighth. In the 2002-2003 school year, the fifth grade's presence will require converting specialist space into classroom use. The concern about elementary facilities had arisen some ten years earlier, when the renovation of the Peebles School and the construction of additional elementary learning space were first proposed.

As the subcommittee pursued its work, current facilities were toured and evaluated, educational best practices were reported on, estimates of future elementary student population were attempted, existing reports on buildings were reviewed, and the approximate cost of construction and renovation were reviewed and compared.

The School Committee requested a final report on the subcommittee's work on elementary facilities for the regular meeting in October, and the following document is the response. The document is organized as follows:

I. Requirements of Massachusetts General Laws

II. Review of best practices in preparation of educational space

III. Analysis of future potential of existing buildings

IV. Analysis of demographics and definition of projected enrollments

V. School Building Assistance visit

VI. New construction considerations

VII. Recommendations

INFORMATION ON BOURNE PUBLIC SCHOOL ELEMENTARY FACILITIES FACT SHEET

What does the Massachusetts General Law Chapter 71 require in regards to school facilities?

"Every town shall provide and maintain a sufficient number of schoolhouses, properly furnished and conveniently situated for the accommodation of all children therein entitled to attend public schools.

Bourne Elementary schools:

- ***Bourne currently has three operating elementary schools.***
- ***Peebles School was built in 1953; an addition was added in 1959.***
- ***Hoxie School was built in 1909.***
- ***Otis Memorial School was built in 1960.***
- ***None of our elementary schools meet the current standards for best educational practices.***
- ***All lack sufficient electrical service.***
- ***Insufficient space exists for art, music, world language, and a media center.***
- ***The condition of the Bourne elementary schools as rated by a facilities study by Kaestle Boos Associates in 1997 rated the elementary schools as poor.***
- ***ADA (Americans With Disabilities Act) requirements for handicapped access are not met in many cases.***
- ***There are classes meeting in spaces not designed as classroom (shower rooms, basements).***
- ***Some classrooms do not meet Massachusetts Department of Education minimum requirements for space.***
- ***Grade five is currently housed at the Middle School. That building was planned for grades six through eight in accordance with the middle school philosophy. Because of space constraints at the elementary level, the School Committee voted to temporarily house grade five in the Middle School. Current best educational practices recommend grade five students be part of an elementary school community.***
- ***Insufficient working space exists for professional staff. (Eleven individuals share one office/classroom space at Otis.)***
  - ***All day kindergarten cannot be provided because of lack of space within the elementary schools.***
  - ***Lack of adequate storage space has resulted in equipment and supplies being stored in corridors, cafeterias, and on the stage (in violation of safety codes and against requests of the fire department).***

School Building Assistance

- ***School Building Assistance Program staff visited and toured Hoxie, Peebles, Otis, and Coady schools in the fall of 2001***
- ***Reimbursement for Otis is unlikely because our town does not control the federal property on which it is located, because the school is too far removed from our population centers, and because of access issues on the Massachusetts Military Reservation.***

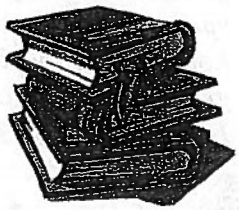
- *Reimbursement for Hoxie School is unlikely because of its age, condition, and small acreage.*
- *Reimbursement for Coady School is unlikely because of layout, condition, and small acreage.*
- *Renovation of Peebles is strongly recommended by the SBA because of its location and sound structural condition and construction.*

Recommendations

- *Replace Hoxie and Otis with a new elementary school to house grades kindergarten through grade 5.*
- *Renovate and add eight classrooms to Peebles Elementary School.*

Why is this project necessary now?

- *SBA will reimburse 63-69% of construction/renovation costs.*
- *Hoxie, Peebles, and Otis cannot adequately address current educational standards.*
- *Air quality meets minimum standards but has been a source of concern.*
- *Security is always a concern and could be improved with video surveillance equipment similar to that at Bourne High School and Bourne Middle School.*
- *Because of the overall condition and lack of access to the Base schools, Bourne would most likely receive a higher priority listing from SBA.*
- *SBA anticipates a town's reimbursement timeline to be six or more years. Every year of delay adds to the town's costs and places the project further back on SBA's reimbursement list.*
- *Bond rating is the lowest it has been for school construction in a number of years.*
- *It has been a School Committee goal to have students attend school off the Massachusetts Military Reservation.*
- *We owe it to our children to provide a quality education.*



How does the plan benefit the community?

- *Provides equity of education for all elementary children in Bourne.*
- *Reduces transportation time.*
- *Improved athletic facilities for community use.*
- *Good schools are a sense of pride to all communities.*

For the complete Facilities Subcommittee Report (October 2001) visit the Bourne Schools website at www.bourne.k12.ma.us/Community/facilities.

SECTION I – OVERVIEW

Executive Summary

Background

In May 2002, the School Facilities Study Committee, commissioned by the Bourne School Committee, issued a Final Report regarding the elementary schools Pre-K through Grade 5. The report made four recommendations regarding those grades (see Attachment No. 1). After considering the report, the Bourne School Committee issued a request for proposals (RFP) (see Attachment No. 2) in the Fall of 2002, and Kaestle Boos Associates, Inc. (KBA) was selected in October 2002 to provide preliminary architectural design services for the elementary schools Pre-K through Grade 5.

As a context for the study, the KBA Design Team relied heavily on the study that the company had completed for the Bourne Public Schools in 1997. A portion of that study analyzed the existing schools for continued/future use as educational facilities (see Attachment No. 3). In addition to that information, both the School Facilities Study Committee and the KBA Team were influenced by the report of a School Building Assistance (SBA) visit in September 2001 and a follow-up letter from SBA Administrator, Christine Lynch, in May 2002 (see Attachment No. 4). The KBA Team concluded that existing school buildings on the Massachusetts Military Reservation ("the base") could not be considered in any future planning. Two of those schools, Lyle and Stone, are already off line. Renovation of the third, Otis Memorial, currently housing grades Pre-K and K, would not be eligible for reimbursement. Those three schools were also undesirable sites because of their location on an active military base and because their location does not reflect the demographics of Bourne.

Two other elementary schools, Coady and Hoxie, were reviewed in 1997 and considered inappropriate for renovation/addition because of the age of the buildings, small sites, and serious/insurmountable access and other code issues. The 2002-2003 KBA team concurred in this finding.

The Study and Its Conclusions

The Peebles Elementary School is located on a campus site with the Bourne High School and Bourne Middle School. Approximately ten acres of the total site is credited to Peebles, thus limiting SBA approval of a larger facility since reasonable alternatives to that site exist. Further, even if the Peebles site were slightly larger, the fact that no schools exist on the west side of the Cape Cod Canal is of concern to the Bourne School Committee and many citizens of the Town.

In addition to site analysis and preliminary design services, the RFP called for an analysis of demographics and projected enrollments. For this aspect of the study, KBA called upon the services of the Merrimac Educational Collaborative (MEC) (see Section IV). Dr. Arthur Wagman of that firm reviewed all existing demographic data and, working with School Administration and KBA's in-house Director of Educational Planning, provided a comprehensive enrollment analysis. That document projects that 1,333 students will be enrolled in Grades 1 through 5 in 2012-2013. The MEC projections are congruent with the Town of Bourne Board of Health's buildout summary and, as is not unusual, above the annual NESDEC projections. The School Administration, School Facilities Study Committee, and the KBA team concurred that planning two elementary schools housing Grades 1 through 5 at 660 each is the prudent and fiscally responsible direction. The same groups agreed that providing an Early Childhood Education Center housing approximately 320 students fully answered the needs of the Pre-K through Grade 5 program for the foreseeable future.

Thus, the team focused on renovations/additions to Peebles School on the west side of the Cape Cod Canal and construction of a new elementary school and early childhood center on the east side on land owned by the Town as a result of legal proceedings.

The KBA team reviewed and updated the information regarding the Peebles facility and proceeded with a preliminary design. At the same time, design activities for the new facility also continued.

The challenge of the new site was formidable, especially its access issues. While there is clear access to the site off Nightingale Pond and adjacent roads, a more desirable approach would include access/egress, or at a minimum egress, off the Scenic Highway (Route 6). The KBA Team and School Administration is pursuing that possibility. In the meantime, design for two adjacent schools with shared common areas and site access has been developed. The Nightingale Pond entrance, though not particularly popular with some of the neighbors, provides the safety, bus, and parent approaches necessary to the planned facilities.

In late winter, the economic situation caused the Commissioner of Education to issue a moratorium on the SBA process. When shortly thereafter that decision was reversed and an approved project list was issued, Bourne was pleased but a bit surprised to find its new elementary school/early childhood center in the number one slot of projects to be approved. Immediately, school officials and KBA geared up to provide the necessary data to insure a successful referendum. That goal was achieved at the May Town Meeting.

Until further developments in the SBA approval process, the Peebles design was put on hold and all efforts have focused on the new facilities at the Bournedale site. Because of the seven-year window for short-term borrowing, the School Administration and School Committee plan to begin construction only when appropriate to that reimbursement horizon. Thus, the KBA team has provided project costs that reflect as nearly as possible 2006 dollars.

At the time of this report, the School Committee, Administration, and the KBA Team directs their efforts to meeting the August 2003 deadlines for submittal of the Bournedale project. Subject to peer review, the services of KBA have been continued to accomplish that task.

Feasibility Study
Bourne Public Schools
Bourne, Massachusetts
KBA No. 02043.00

May 7, 2003

New Elementary School and Early Childhood Learning Center and Peebles Elementary School Renovations and Additions

Project Budget

April 25, 2003

New 660 Pupil Elementary School w/ 330 Pupil Early Childhood Learning Center	AREA	$/SF	BUDGET		
Phase I					
New Elementary School and Early Childhood Learning Center					
Hard Costs					
New Construction in Bournedale	129,920 SF	$125	$ 16,240,000		
Site Development			$ 1,300,000	$	17,540,000
Design Contingency		2.0%	$ 350,800	$	17,890,800
Construction Contingency		5.0%	$ 894,540		
Subtotal Hard Costs			$ 18,785,340		
Soft Costs			$ 3,757,100		
Total Phase I			**$ 22,542,440**		
Phase II					
Peebles Elementary School Renovations and Additions					
Hard Costs					
New Construction	52,666 SF	$125	$ 6,583,250		
Renovation of Existing	55,601 SF	$110	$ 6,116,110	$	13,599,360
Site Development			$ 900,000		
Design Contingency		2.0%	$ 272,000	$	13,871,360
Construction Contingency		5.0%	$ 693,600		
Subtotal			$ 14,564,960		
Soft Costs			$ 3,380,000		
Total Peebles Elementary School			**$ 17,944,960**		
TOTAL PHASE II			**$ 17,944,960**		
TOTAL PROJECT COST			**$ 40,487,400**		
Escalation @ 3%/year		**say 9%**	**$3,643,900**		
			$ 44,131,300		

Strekalovsky Hoit Raymond Architects

Architecture ♦ Interiors ♦ Planning

Vsevold O. Strekalovsky, AIA
Donald M. Hoit, AIA
Gene S. Raymond Jr., AIA

July 30, 2003

Mr. Hans Baumhauer
Director of Business Services
Bourne Public Schools
36 Sandwich Road
Bourne, MA 02532

Dear Mr. Baumhauer:

Re: Independent Review
Elementary School Feasibility Study

Strekalovsky Hoit Raymond Architects has been retained to perform an independent review (per M.G.L.C.M, Section 38H (i)) of the Bourne Public Schools Feasibility Study, dated May 7, 2003, conducted by Kaestle Boos Associates, Inc. (KBA) of Franklin, Massachusetts. The intent of the independent review is to determine the "reasonableness" and the "adequacy" of the study as presented. It is also intended that the study document is understood on its own without additional explanation.

The KBA study is a review and recommendation for the additions and renovations to the existing Peebles Elementary School and the presentation of a new Pre-Kindergarten to Grade 5 Elementary School. The focus on these schools was the result of a report issued by the Town's Facilities Improvement Committee in October 2001. The KBA study presents the existing facility and site assessments, the educational programs, proposed site and architectural designs, estimated project costs and proposed construction schedules. The information presented is adequate and the solutions appear to be reasonable. Based upon our review of the Bourne Public Schools Feasibility Study we feel comfortable recommending the acceptance of the presented material.

If you should have any questions or concerns, please do not hesitate to contact us. It has been a pleasure being able to assist the school department as you move forward with these necessary projects.

Sincerely,

Strekalovsky Hoit Raymond

Donald M. Walter, AIA

51 North Street | Hingham, MA 02043 | t 781.749.4160 | f 781.740.4279 | www.strekhoit.com

New Elementary School

1/4/2006

Bourne Public Schools

Preliminary Space Needs Program

Projected Student Enrollment : 660 Students — November 3, 2005

Program Space	#	Cap.	Area	Total Area	Data Outlets
INSTRUCTIONAL AREAS					
GENERAL CLASSROOMS					
Grade 1	6	132	820 SF	4,920 SF	36
Grade 2	6	132	820 SF	4,920 SF	36
Grade 3	6	132	820 SF	4,920 SF	36
Grade 4	6	132	820 SF	4,920 SF	36
Grade 5	6	132	820 SF	4,920 SF	36
Area Sub Totals	30			***24,600 SF***	
Capacity @ 22 students per room		***660***			
STUDENT COMMONS					
Grade 1	1		580 SF	580 SF	2
Grades 2, 3, 4	3		580 SF	1,740 SF	2
Grade 5	1		580 SF	580 SF	2
Area Sub Total	5			***2,900 SF***	
SPECIALIZED CLASSROOMS					
Art Room	1		1,000 SF	1,000 SF	6
Art Storage	1		150 SF	150 SF	
Kiln room	1		60 SF	60 SF	
Music	1		950 SF	950 SF	6
Music Storage	1		100 SF	100 SF	
Computer Lab	1		900 SF	900 SF	
Computer Project Room (5th Grade)	0		0 SF	0 SF	0
Science Project Room (5th Grade)	0		0 SF	0 SF	0
Tutorial Rooms	5		150 SF	750 SF	
Tutorial Rooms	0		80 SF	0 SF	
Area Sub Total	11			***3,910 SF***	
SPECIAL EDUCATION					
Self-Contained Classroom-Behavioral (w/toilet)	1		675 SF	675 SF	6
Timeout	1		55 SF	55 SF	
Self-Contained Class.-Developmental (w/toilet)	1		675 SF	675 SF	6
Timeout	1		55 SF	55 SF	
Learning Center	1		600 SF	600 SF	6
Area Sub Totals	5			***2,060 SF***	
ADMINISTRATIVE AREAS					
Gen Office / Secretary / Reception	1		540 SF	540 SF	4
Principal's Office	1		180 SF	180 SF	2
Large Conference Room	1		250 SF	250 SF	1
Small Conference Room	1		170 SF	170 SF	1
Office	1		140 SF	140 SF	1
Storage	1		90 SF	90 SF	
Toilets	2		45 SF	90 SF	
Admin. Workroom	1		250 SF	250 SF	2
Teacher Workrooms	2		300 SF	600 SF	4
Area Sub Totals	11			***2,310 SF***	
HEALTH					
Waiting Area /Office	1		120 SF	120 SF	1
Exam / Treatment / First Aid	1		100 SF	100 SF	1
Cot Area/ Meds	1		400 SF	400 SF	
Storage	1		40 SF	40 SF	
Toilets	2		50 SF	100 SF	
Area Sub Totals	6			***760 SF***	

PUPIL SUPPORT SERVICES				1/4/2006
Speech	1	150 SF	150 SF	1
Title I	1	400 SF	400 SF	1
Social Worker	1	120 SF	120 SF	1
Psych/testing	1	120 SF	120 SF	1
World Language Office	1	120 SF	120 SF	1
Reading	1	300 SF	300 SF	2
Area Sub Totals	**6**		***1,210 SF***	

CORE FACILITIES

Gymnasium				
PE Teaching Stations	2	2,400 SF	4,800 SF	2
PE Exercise/Computer Alcove	1	150 SF	150 SF	2
PE Office	1	150 SF	150 SF	1
PE Storage	1	400 SF	400 SF	
Chair Storage	1	200 SF	200 SF	
Occupational Therapy / Physical Therapy	0 *with ECC*		0 SF	
Area Sub Totals	**6**		***5,700 SF***	

Library/Media Center				
Reading Area / Stacks	1	3,380 SF	3,380 SF	24
Story Area	1	200 SF	200 SF	4
Circulation Desk / Work Area	1	300 SF	300 SF	3
Literacy Center	1	175 SF	175 SF	2
AV Storage	1	140 SF	140 SF	
Head End Room (Video / Data Network)	1	200 SF	200 SF	2
Area Sub Totals	**6**		***4,395 SF***	

SUPPORT AREAS

Cafetorium / Food Service				
Dining	1	4,000 SF	4,000 SF	3
Stage (w/storage)	1	875 SF	875 SF	1
Teachers Lounge / Dining	1	350 SF	350 SF	1
Servery	1	1,000 SF	1,000 SF	2
Kitchen Complex	1	2,600 SF	2,600 SF	2
Dishwashing	1	450 SF	450 SF	
Lockers / Toilet	2	125 SF	250 SF	
Area Sub Totals	**8**		***9,525 SF***	

Custodial				
Custodial Office	1	150 SF	150 SF	1
Custodial Storage / Work Room	1	280 SF	280 SF	
Loading / Receiving	1	500 SF	500 SF	
General Storage (throughout building)	1	625 SF	625 SF	
Area Sub Total	**4**		**1,555 SF**	

Sub Total Net Area		**58,925 SF**
+ Walls / Toilets / Mechanical / Circulation (	**42.5%)**	**25,040 SF**

Total Building Area	**83,965 SF**
Computer Work Stations	**290 Outlets**

Bourne Public Schools

Edmond W. LaFleur
Superintendent

Joyce G. Harrington, Ph.D.
Assistant Superintendent for
Curriculum and Instruction

Lorna C. Ibbitson
Director of
Student and Special Education Services

Hans Baumhauer
Director of Business Services

Priscilla A. Lay
Administrative Assistant

June 1, 2006

Ms. Katherine Craven
Executive Director
Mass. School Building Authority
3 Center Place, Suite 430
Boston, MA 02108

Dear Ms. Craven:

Enclosed you will find a copy of the minutes of the Bourne School Committee meeting of February 1, 2006, indicating School Committee approval for the revised architectural plans including reductions in the square footage as well as a previous packet submitted indicating the history of the project.

Other information will follow including detailed plans and a written explanation of the changes.

Sincerely,

Edmond W. LaFleur

Edmond W LaFleur
Superintendent of Schools

EWL:pal

cc: Thomas Guerino
Linda Marzelli

BOURNE SCHOOL COMMITTEE MEETING
May 3, 2006

The Bourne School Committee met in the Community Meeting Room at Bourne High School on Wednesday, May 3, 2006. ***Present for the Committee were***: Richard Lavoie, Acting Chairperson, Tammy Staiger, Patricia Cleary, Wayne Collamore, and Jack Conway. Joe Gordon and Dr. John Harrington were absent.

Present for the Administration were: Edmond LaFleur, Dr. Joyce Harrington, Lorna Ibbitson, Hans Baumhauer, and Barbara Lavoie.

Principals present: Jeanne Holland, Debra Haskell, Ronald McCarthy, Donald Morrissey, and Ernest Frias.

Richard Lavoie called the meeting to order at 7:30 p.m.

Superintendent LaFleur and Richard Lavoie presented Kelly Barrett with a token of appreciation gift for her 2 years of service as the Student Member.

1. REGARDING REPORT FROM DEBRA HASKELL AND TITLE 1 STAFF RELATIVE TO THE TITLE 1 PROGRAM

Debra Haskell gave a report.

VOTED: On a motion made by Patricia Cleary and seconded by Tammy Staiger, it was unanimously voted to move item #10 up on the agenda.

10. REGARDING THE LEASE OF THE COADY SCHOOL

VOTED: On a motion made by Patricia Cleary and seconded by Tammy Staiger, it was unanimously voted to adopt the amendment to the lease for the Coady School as presented.

5. 8:00 P.M. REGARDING PUBLIC HEARING OF THE FY 2007 SCHOOL BUDGET

VOTED: On a motion made by Tammy Staiger and seconded by Wayne Collamore, it was unanimously voted to accept the FY 07 budget as presented.

2. REPORTS FROM THE SUPERINTENDENT/ASSISTANT SUPERINTENDENT/DIRECTOR OF STUDENT AND SPECIAL EDUCATION SERVICES/DIRECTOR OF BUSINESS SERVICES/DIRECTOR OF TECHNOLOGY

a. ***Superintendent***-Superintendent LaFleur gave his report.
b. ***Assistant Superintendent***- Dr. Joyce Harrington gave her report.
c. ***Director of Students and Special Education Services***-Lorna Ibbitson gave her report.
d. ***Director of Business Services***- Hans Baumhauer gave his report.
e. ***Director of Technology***-Barbara Lavoine gave her report.

3. STUDENT MEMBER'S REPORT

Kelly Barrett gave her report.

4. REGARDING SUBCOMMITTEE REPORTS

a. ***Facilities Subcommittee*** – Patricia Cleary gave her report.
b. ***Selectmen's Meeting Subcommittee*** – Patricia Cleary gave her report.
c. ***Cape Cod Collaborative*** - Patricia Cleary gave her report.
d. ***School Building Subcommittee*** – Superintendent LaFleur gave his report.
e. ***Curriculum Subcommittee*** – Wayne Collamore gave his report.

6. REGARDING PUBLIC HEARING ON THE SCHOOL COMMITTEE'S DECISION TO PARTICIPATE IN SCHOOL CHOICE

VOTED: On a motion made by Tammy Staiger and seconded by Patricia Cleary, it was unanimously voted to continue to participate in School Choice with 5 students per grade level in grades 9-12 and add 5 students per grade level in grades 5-8.

7. REGARDING THE SCHOOL COUNCIL PLAN FOR BOURNE HIGH SCHOOL

Ronald McCarthy gave a report.

VOTED: On a motion made by Patricia Cleary and seconded by Jack Conway, it was unanimously voted to accept the School Council plan for Bourne High School.

8. REGARDING A REQUEST TO ORGANIZE AN OVERNIGHT TRIP FOR THE WINTER TRACK TEAM TO THE DARTMOUTH RELAYS AT DARTMOUTH COLLEGE, HANOVER, NEW HAMPSHIRE, JANUARY 2007

This item will be postponed to the June meeting.

VOTED: On a motion made by Tammy Staiger and seconded by Wayne Collamore, it was unanimously voted to add to the agenda *Energy Award Trip to Washington, DC.*

16. REGARDING APPROVING THE ENERGY AWARD TRIP TO WASHINGTON, DC

VOTED: On a motion made by Patricia Cleary and seconded by Tammy Staiger, it was unanimously voted to approve an overnight trip to Washington, DC for the students to receive the Energy Award.

9. REGARDING APPROVAL OF THE EVALUATION INSTRUMENT FOR EDUCATIONAL SUPPORT PERSONNEL

VOTED: On a motion made by Tammy Staiger and seconded by Wayne Collamore, it was unanimously voted to approve the evaluation instrument for educational support personnel with the grammatical corrections.

11. **REGARDING APPROVAL OF REVISIONS TO THE BOURNE HIGH SCHOOL STUDENT HANDBOOK FOR 2006-2007**

VOTED: On a motion made by Patricia Cleary and seconded by Wayne Collamore, it was unanimously voted to approve the Bourne High School Student Handbook for 2006-2007.

12. **REGARDING THE NON UNION PERSONNEL SALARIES**

VOTED: On a motion made by Tammy Staiger and seconded by Jack Conway, it was unanimously voted to approve non union personnel salary increase as presented based on 4/7/06 memo by Superintendent LaFleur. (attached)

13. **REGARDING SCHOOL COMMITTEE APPROVAL TO CONTINUE SUPPORT THE NEW BOURNE ELEMENTARY SCHOOL AND EARLY CHILDHOOD CENTER**

VOTED: On a motion made by Patricia Cleary and seconded by Tammy Staiger, it was unanimously voted to continue to support the Bourne School Building Committee's commitment to continue with the new Bourne Elementary School and Early Childhood Center.

VOTED: On a motion made by Tammy Staiger and seconded by Wayne Collamore, it was unanimously voted to add to the agenda the *lease for the Cape Cod Collaborative.*

17. **REGARDING LEASE FOR THE CAPE COD COLLABORATIVE**

VOTED: On a motion made by Patricia Cleary and seconded by Wayne Collamore, it was unanimously voted to approve the lease for the Cape Cod Collaborative to use the Lyle School for alternate education.

14. **REGARDING SCHOOL COMMITTEE GOALS FOR 2005-2006**

No action was taken.

15. **REGARDING MINUTES OF MARCH 29**

VOTED: On a motion made by Wayne Collamore and seconded by Tammy Staiger, it was voted to approve the minutes of March 29, 2006.
Richard Lavoie abstained

VOTED: On a motion made by Tammy Staiger and seconded by Wayne Collamore, it was unanimously voted to adjourn at 9:46 p.m.

Respectfully submitted,

Christine Tavares
Recording Secretary

Bourne Public Schools

Edmond W. LaFleur
Superintendent

Joyce G. Harrington, Ph.D.
Assistant Superintendent for
Curriculum and Instruction

Lorna C. Ibbitson
Director of
Student and Special Education Services

Peter O. Simspon
Director of Business Services

Priscilla A. Lay
Executive Administrative Assistant

January 3, 2007

Ms. Catherine Craven
Massachusetts School Building Authority
3 Center Plaza
Boston, MA 02108

Dear Ms. Craven:

Enclosed please find additional information required to complete the MSBA application process.

Schedule for borrowing the $26,850,000.00 for the new elementary school authorized at the May 2003 town meeting.

Sincerely,

Edmond W. LaFleur

Edmond W. LaFleur
Superintendent of Schools

EWL:pal

Enclosure

B

DOCUMENT RESUME

ED 479 332 TM 035 136

AUTHOR	Wren, Stephanie D.
TITLE	The Effect of Grade Span Configuration and School-to-School Transition on Student Achievement.
PUB DATE	2003-00-00
NOTE	14p.
PUB TYPE	Reports - Research (143)
EDRS PRICE	EDRS Price MF01/PC01 Plus Postage.
DESCRIPTORS	*Academic Achievement; Elementary Secondary Education; *Grade Span Configuration; *Instructional Program Divisions; State Programs; Testing Programs; Transfer Students; Urban Schools
IDENTIFIERS	Michigan Educational Assessment Program; *Transition Time

ABSTRACT

The effect of grade span configuration (grouping of grades in schools) and school-to-school transition on student achievement was investigated. The Michigan Education Assessment Program test was used to collect data on the passing rate of students in 232 schools in a large urban inner city school district in the midwest. The results indicate that grade span configuration and school-to-school transition had significant positive and negative effects on student achievement respectively. The paper discusses implications for school districts. (Author)

The Effect of Grade Span Configuration and School-to-School Transition on Student Achievement

Stephanie D. Wren

Wayne State University

Abstract

The effect of grade span configuration and school-to-school transition on student achievement was investigated. The Michigan Education Assessment Program test was used to collect data on the passing rate of students in 232 schools in a large urban inner city school district in the midwest. The results indicate that grade span configuration and school-to-school transition had significant positive and negative effects on student achievement respectively. Implications for school districts were discussed.

The academic achievement of students in inner-city public schools has been a source of debate for politicians, school administrators, and parents. Much research has been conducted to determine which variables effect the academic achievement of students. Of the most notable variables (parent, peer, and community), the effect of school-related variables on the academic achievement of inner-city students is one of the most debated.

This article will address two school related variables-transition and grade span configuration-that receive little attention from school administrators. However, these two variables may have a major impact on student achievement as opposed to the school-related variables that receive the most attention-professional development, school improvement programs, and school reform--but may have the least impact on student achievement.

Studies have been conducted to assess the influence of variables such as teacher professional development, school programs, and school reform on student achievement. Desimone, Porter, Garet, Yoon, and Birman (2002) found that teachers were more likely to use specific teaching practices that were focused on during professional development workshops. If teachers are implementing teaching practices learned through professional development, then there is the potential for student achievement to be influenced. Yet, professional development alone is not enough to improve student achievement.

In an attempt to effect student achievement, urban school districts buy into and implement many different school programs. Some of the programs claim to effect students' social and emotional learning, improve staff relationships with the parents, or parent relationships with the child. The programs are evaluated by school district

personnel and conclusions are drawn regarding the success or failure of the program. Mattingly, Prislin, McKenzie, Rodriguez, and Kayzar (2002) analyzed 41 K-12 parent involvement program evaluations performed by each respective school district. Although all of the school district evaluations concluded that the programs were successful in improving student achievement, Mattingly et al. (2002) concluded there was little evidence to support the school districts' findings. Consequently, there is cause for concern as to whether student achievement is being positively influenced by some school programs.

Given the push towards educational accountability, school reform has been feverishly debated. Schools, school boards, and school districts in Detroit, New York, Cleveland, and other cities have been taken over by the state or by the school district. The objective is to reform or reconstitute failing schools with the purpose of improving student achievement. Malen, Croninger, Muncey, and Jones (2002) conducted an expoloratory case study on three schools in a large metropolitan school district. Those three schools were targeted for reconstitution by the school district. Malen et al. (2002) found that many factions within the school district-union representatives, school administrators, teachers-were negatively impacted by the reconstitution efforts. The authors also found that the new faculty and staff brought in as replacements were not motivated or as committed as is presumed under reconstitution. Once again, there is concern for whether student achievement is being positively influenced under those conditions.

If there is any effect that professional development, school improvement programs, or school reform has on student achievement, it appears to be indistinct. Given

the district resources that are being utilized to improve student achievement via the abovementioned, other areas that can have an effect on student achievement in urban inner city public schools, yet has received little attention in the literature or within the school districts, are school-to-school transition and grade span configuration and their impact on student achievement.

In a study of 15 schools in Missouri with grade spans 7-12, 9-12, and 10-12, Alspaugh (2000) found that the higher grade at which a student transitions to high school the more likely the student would dropout of high school. In the study, the author found that students in 7-12 high schools had a lower occurrence of high school dropout than students who transitioned to high school in the 10th grade. Alspaugh (2000) surmised that because the students in the 7-12 high school did not transition to an intermediate middle school those students were able to acclimate themselves to high school sooner than the students in the 10-12 or 9-12 high schools. Previously, Alspaugh (1998) determined that not only did the number of school transitions effect the high school dropout rate, but also transition in conjunction with school size.

If transition can effect the dropout rate, then it can also effect achievement. Alspaugh (1998) found that Missouri students in the K-8 grade span who transitioned to high school without attending an intermediate middle school experienced less of an achievement loss than students who had to attend a middle school or junior high school. So, along with transition, grade span configuration appears to have an impact on student achievement.

The aforementioned studies focused primarily on rural or small town school districts. Little detailed information was given or has been reported in the literature

regarding large urban inner city districts and the effects of school-to-school transition or grade span configuration on achievement. So, the purpose of this study is to investigate the effects of grade span configuration and transition on student achievement. More specifically, the research questions that will be investigated are:

1. What is the relation between grade span configuration and student achievement?
2. What is the relation between school-to-school transition and student achievement?
3. What is the effect of school-to-school transition and grade span configuration on student achievement?

Given the drive towards educational accountability, no stone can be left unturned. If grade span configuration and/or school-to-school transition can positively influence student achievement, then school district administrators should give serious thought to reconfiguring schools within the district to maximize student achievement.

Method

Participants

The sample consists of 232 out of 264 schools from a large inner city public school district in the Midwest. Thirty-one schools were eliminated from the study because those schools did not have measurements on the dependent variable. The student body within the school district is approximately 91% African-American.

Materials

The Michigan Educational Assessment Program (MEAP) test from 2001 was used to collect data on student achievement. The MEAP test is administered to students in grades 4, 5, 7, 8, 11.

Procedure

The independent variables, grade span configuration and school-to-school transitions, were based upon the configuration of the 232 schools within the sampled school district. The configurations ranged from pk-4 up to 9-12 and their ranges were numbered accordingly. For school-to-school transitions, elementary schools were coded as 1 because the students transitioned from home to pre-kindergarten, kindergarten, or first grade. Middle schools were coded as 2 because the students transitioned from home to elementary school then to middle school. High schools were coded as 3 because the students transitioned from home to elementary school, to middle school, then to high school. Sixty-nine percent of the various grade span configurations occurred at the elementary school level. So, if a school did not have a pre-kindergarten, kindergarten, or first-grade level, then that school was coded as a transition 2 school.

The dependent variable, student achievement, was measured using the percentage

of students who passed the MEAP in 2001 in their respective schools. This data was collected from the Standard and Poor's School Evaluation Services website. It is found by dividing the total number of included scores that met state standards in all subject areas of the test by the total number of scores for each grade and subject within the given school.

Results

The average grade span configuration was 6.32 years with a standard deviation of 1.99 years. With a sample of size 159, the average percent of students passing the MEAP in transition 1 schools was 36.6% with a standard deviation of 16.4 percent. The average percent of students passing the MEAP in transition 2 schools was 21.9% with a standard deviation of 8% and a sample of size 45. With a sample of size 28, the average percent of students passing the MEAP in transition 3 schools was 24.5% with a standard deviation of 14.3%. The overall average percent of students passing the MEAP was 32.3% with a standard deviation of 16.2%. The average number of school-to-school transitions was 1.44 with a standard deviation of .70. SPSS was used to perform all of the statistical analysis.

Research Question One: What is the relation between grade span configuration and student achievement?

A simple linear correlation was performed to evaluate the relationship between grade span configuration and student achievement. The data revealed a significant positive correlation (.26, $p<.01$) between grade span configuration and achievement.

Research Question Two: What is the relation between transition and student achievement?

A simple linear correlation was performed to evaluate this relationship as well.

The data revealed a significant negative correlation (-.35, $p<.01$) between transition and student achievement.

Research Question Three: What is the effect of school-to-school transition and grade span configuration on student achievement?

A multiple regression analysis was performed to evaluate the effect of transition and grade span configuration on student achievement with the objective of determining which predictor had the greatest impact on achievement. When transition and grade span configuration were simultaneously regressed upon student achievement it was revealed that transition was a significant predictor of student achievement ($R^2 = .12$, $p< .05$).

Scheffe's post hoc comparison test was performed to determine where student achievement differences exist with respect to school-to-school transition. Significant differences were observed between 1 school-to-school transition and 2 and 3 school-to-school transitions with mean differences of 14.7% and 12.1% ($p < .05$) and standard deviations of .25% and .30% respectively. No significant differences existed between the 2 and 3 school-to-school transitions.

Discussion

As grade span configuration increases so does achievement. The more grade levels that a school services the better the students perform. The more transitions a student makes, the worse the student performs as evidenced by the negative correlation for research question two. When these independent variables are assessed independent of one another, the results express the same conclusion and that is the longer a student stays in a given school the better the student performs. Furthermore, from the post hoc comparisons, it appears as if student achievement in the elementary schools is significantly better than student achievement in middle and high school.

Yet, when these variables are evaluated simultaneously the results are different. Only school-to-school transition is a significant predictor of student achievement when measured in conjunction with grade span configuration.

In elementary schools, the students are in a cozy, nurturing environment with very few stressors. In a middle or high school, the students are in a formal, impersonal environment with a great deal of stressors (navigating through the school, forming peer relations, organizational adjustments, etc.). Hence, it seems as if the stressors involved in school-to-school transition are so critical that they neutralize or even diminish the achievement gains that were made in elementary school. Moreover, Alspaugh (1998) found that students who transitioned from multiple elementary schools and merged into one middle school experienced greater achievement loss compared to those students who transitioned from a single elementary school into one middle school. Hence, this is an important finding because large urban inner city public schools typically merge multiple elementary schools into one middle school which can seek to explain some portion of the achievement loss associated with elementary to middle school transition.

In a study of eighth-grade transition programs and high school retention, Smith (1997) found that middle schools with transition programs which targeted students, parents, and staff produced high school students with higher GPA's and fewer high school dropouts. This was in contrast to middle schools that did not have transition programs or had transition programs which only targeted parents, students, or staff but not all three.

In conclusion, school district administrators may decide that the size of the school district does not feasibly or financially permit reorganization on the basis of grade span

configuration. Or, school district administrators may leave the selection of transition programs up to the individual school. But, when student achievement is at risk, decisions cannot be made cavalierly or off the cuff. Grade span configuration and school-to-school transition must be given serious consideration given their obvious impact on student achievement.

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Review of Literature on Grade Configuration and School Transitions
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CENTER FOR
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UNIVERSITY OF MINNESOTA

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A Review of Literature on Grade Configuration and School Transitions

Introduction

Beginning with the junior high school movement in the 1920s and continuing through the middle school movement in the 1960s, educational researchers have investigated the impact of school transitions and different grade configurations on a variety of student outcomes. In this report, we review the most salient empirical research to date on how school transitions and different grade configurations impact student achievement and behavior, as well as student psychological and social-emotional outcomes.

While our review of the literature is focused primarily on recent research, 2000 to present, we have broadened our sample to include several studies from the 1990s as well as one book from the 1980s because these studies were widely cited in the more recent literature. For example, several researchers cited the 1987 book by Simmons and Blyth titled, "Moving into adolescence: The impact of pubertal change and school context," so we included it in this review.

We employed strict criteria for choosing the articles to review in this report. More specifically, we only reviewed articles that appeared in peer-reviewed and reputable journals. We eliminated references that were opinion based, not empirically-based, or not peer reviewed and those with poor methodologies. We also excluded articles that appeared in journals that advocated for a specific grade configuration over another (ex. The Middle School Journal) or were produced by associations which advocate for a specific grade configuration. Overall, we reviewed 23 empirically-based peer reviewed articles, one dissertation, one peer-reviewed book, and one article that appeared in a peer-reviewed journal that articulated clearly the history of the different grade configuration movements for context [See Appendix for a summary of each of the articles reviewed in this report].

We found that researchers studying the impact of transitions and grade configurations used a variety of outcome measures. As noted above, researchers primarily focused on student achievement, behavior, and psychological and social-emotional outcomes of adolescents. More specifically, in this review, researchers used the following outcomes to test for significant differences pre- and post-transition and between students in different grade configurations:

- Academic Outcomes
  - Grade point average (G.P.A.)
  - Standardized state math achievement scores
  - Standardized state English/ reading achievement scores
  - Standardized state math and reading achievement composite scores
  - Standardized all subjects achievement composite scores
  - Number of failed subjects

- Psychological and Social-Emotional Outcomes
  - Self-concept of achievement

- Academic & social efficacy expectations
- Planning for the future
- Class preparation/ preparedness
- Participation in extra-curricular activities
- Independence
- Social support
- Likes school
- Self image
- Self-esteem
- Locus of control
- Daily hassles (pressures)
- Feelings of anonymity
- Suicidal thoughts
- School safety
- School threat
- Violence
- Feeling victimized
- Overall school level substance abuse
- Individual substance use

- Behavioral Outcomes
  - Number of absences
  - Suspension rates
  - Overall combined score for infractions
  - Combined low attendance and suspension scores
  - Drop-out rates
  - Attendance rates
  - Probation levels
  - Individual violent behavior

In addition to the above, a group of researchers also investigated differences in teachers' perceptions of these topics based on grade configuration:

- Teacher Perceptions Outcomes
  - Student discipline
  - Teacher self-efficacy
  - Student decision-making opportunities
  - Student violence
  - Student substance abuse
  - Student absenteeism

Furthermore, one research study looked at differences in these school characteristics across different grade configurations:

- School Characteristic Outcomes
  - Financial resources
  - Class size
  - Teacher quality

The following review is divided up into sections based on the kind of student outcomes used in the studies: academic, psychological and social-emotional, behavioral, and finally teacher perceptions and school characteristics. In each section, an overall summary of the literature is given, followed by a summary table which includes the data and findings.

The Impact of Transitions and Different Grade Configurations on STUDENT ACHIEVEMENT

Fourteen of the 26 sources in this review focused on investigating the differences in student achievement outcomes between elementary, middle, and junior high school grade configurations and after school transitions. The majority of these studies found that elementary school students did significantly better than middle and junior high school students of the same age in G.P.A., standardized state math scores, standardized state reading scores, and state test composite scores. For example, Simmons and Blyth (1987) found that 7th graders in elementary school had significantly higher G.P.A.s than 7th graders who were in junior high schools. In addition, Poncelet & Metis Associates (2004) and Cook, et al. (2008) found that 6th graders in elementary school did significantly better on state standardized English/Reading exams than 6th graders in middle school.

Rockoff and Lockwood (2010), using a sophisticated projection model, found that 3rd graders slated to continue in elementary grade configurations versus middle school grade configurations would fare better on state math and reading achievement tests than students slated to attend a middle school. They also found that students projected to go to junior high school would fare better than those going to middle schools. Rockoff and Lockwood reported that the transition to middle school would be more harmful for low achieving students than high achieving students. Furthermore, Fink (2010) found that 6th, 7th, and 8th grade students in K-8 schools did significantly better on state math achievement tests than students in middle schools. These findings only held for special education students, however, on state reading scores. On the other hand, two research studies found no significant differences in student achievement outcomes between K-8 schools and middle schools. For example, one research study found no significant differences between 8th graders in K-8 versus 8th graders in middle school on G.P.A. or number of failed subjects (Weiss & Kipnes, 2006). The other study showed no significant differences in 6th grade state math or reading scores between elementary or middle school students (Dove et al, 2010).

Similar to what we found in the literature on grade configuration, the majority of research in this review investigating the impact of school transitions found that students transitioning to another school experience a significant drop in achievement related outcomes. For example, Gutman and Midgely (2000) found that when African American students transitioned to a new school from 5th to 6th grade, their G.P.A. significantly declined. In addition, Seidman et al. (1994) found that transitions at any age had an impact on student G.P.A., whether it was middle or junior high school. Despite these findings, there was one study which showed no significant differences in academic outcomes by transition year. Dove et al. (2010) found no significant differences between student math and reading scores pre- to post-transition for 6th graders.

Although the research reviewed in this report did not show significant advantages for a middle school model in terms of student academic achievement compared to a junior high model or a K-8 model, one study we reviewed investigated the differences in middle school achievement based on

the level of implementation of the Turning Points comprehensive school transformation model. Felner et al. (1997), in their research looking at level of middle school implementation found that students in high implementation schools scored a full standard deviation higher in math and even greater in reading scores than students in low implementation schools. These data suggest that if districts are planning on reconfiguring to middle schools, that they should monitor implementation of the criteria outlined in the Turning Points reforms closely. Unfortunately, these researchers did not compare high implementation schools with other grade configuration schools so it is unclear whether highly implemented models have any advantage over junior high school or K-8 configurations.

Because the research appears to favor a K-8 elementary model, two studies investigated the differences in student achievement between longstanding K-8 schools, newly reconfigured K-8 schools, and middle schools (Byrnes & Ruby, 2007; MacIver & MacIver, 2006). Research from both studies revealed that 8th grade students in established or old K-8 schools had significantly higher state math scores than 8th grade students in either new K-8 schools or middle schools. Neither study found significant differences in achievement between new K-8 schools and middle schools, although both studies showed slight advantages in new K-8 schools. These findings suggest that school districts looking to reconfigure to newly created K-8 school models may not experience significant academic gains, at least not right away.

More research is needed on the differences in culture, relationships, leadership, teaching practices, school size, grade size, demographic differences, and student populations in K-8 schools versus middle and junior high schools. For example, several researchers suggest that some of the differences found in academic achievement in the K-8 models may be due to differences in these other factors rather than on grade configuration per se. For example, Byrnes & Ruby (2007) hypothesized that the differences found in achievement may lie in the differences in the populations that middle schools and K-8 schools generally serve (e.g., Byrnes & Ruby, 2007). In addition, a few researchers found a distinct advantage in K-8 schools because cohort and class sizes were smaller in K-8 schools. Lee & Smith (1993) point out that grade size has been associated with decreased academic engagement and more stratification in achievement by SES. Consequently, because middle and junior high schools have higher enrollments per grade than K-8 schools, some of the academic disadvantages may be due to grade size rather than grade configuration. There is also some evidence showing that lower SES students tend to have a harder time academically in larger rather than smaller schools (e.g., Lee & Loeb, 1998; Alspaugh, 1998, Rockoff & Lockwood, 2010).

See Table 1 below for a summary of the research reviewed in this report on grade configuration, school transition, and academic achievement.

TABLE 1: Summary of Research Illustrating Significant Differences in STUDENT ACHIEVEMENT between Different Grade Configurations & Time of Transition(s)

Data	Grades Compared	Sig Differences	No Sig Differences	Outcome(s)
Grade Point Average	8th graders in K-8 vs. Middle School		Weiss & Kipnes, 2006	
	African American 5th grade vs. 6th grade (Transition)	Gutman & Midgely, 2000		5th > 6th
	Pre-post 5th transitioning to 6th grade or pre-post 7th transitioning to 8th grade	Seidman, Allen, Aber, Mitchell, & Feinman, 1994		5th > 6th; 7th > 8th
	7th grades in K-8/9-12 vs. K-6/7-9/10-12	Simmons & Blyth, 1987		K-8/9-12 > K-6/7-9/10-12
				Significant decrease in G.P.A. whenever a student transitions regardless of grade configuration
Standardized State Math Achievement Score	3rd graders: K-5, K-6, K-8 Elementary vs. Middle School (projected)	Rockoff & Lockwood, 2010		Elementary > Middle School
				Middle School < Junior High School
	General and Special ed. 6th, 7th, 8th graders in K-8 vs. Middle School	Fink, LL., 2010		General ed. 6th grade students in K-8 > Middle School
	6th graders: no transition (P-6, K-6, and 1-6) vs. first year of transition (6th only, 6-7, 6-8) vs. second year of transition (5-6, 5-7, 5-8)		Dove, Pearson, & Hooper, 2010	
	6th graders in elementary vs. middle		Cook, MacCoun,	

			Muschkin, & Vigdor, 2008	
	8th graders in Old (longstanding) K-8 schools vs. New K-8 schools, vs. Middle Schools	Byrnes & Ruby, 2007		Old K-8 > New K-8 and Middle Schools
	6th graders in K-8 vs. Middle School	Poncelet & Metis Associates, 2004		K-8 > Middle School
	8th graders in Old (longstanding) K-8 vs. New K-8, vs. Middle School	MacIver & MacIver, 2006		Old K-8 > New K-8 and Middle Schools
Standardized State English/ Reading Achievement Score	3rd graders: K-5, K-6, K-8 Elementary vs. Middle School (projected)	Rockoff & Lockwood, 2010		Elementary > Middle School Middle School < Junior High School
	6th graders in elementary vs. middle	Cook, MacCoun, Muschkin, & Vigdor, 2008		Elementary > Middle School
	General and Special ed. 6th, 7th, 8th graders in K-8 vs. Middle School	Fink, LL., 2010		Special ed. 6th grade students in K-8 > Middle School
	6th graders: no transition (P-6, K-6, and 1-6) vs. first year of transition (6th only, 6-7, 6-8) vs. second year of transition (5-6, 5-7, 5-8)		Dove, Pearson, & Hooper, 2010	
	8TH graders in Old (longstanding) K-8 schools vs. New K-8 schools, vs. Middle Schools	Byrnes & Ruby, 2007		Old K-8 schools > New K-8 schools and Middle Schools New K-8 schools > Middle Schools

	6th graders in K-8 vs. Middle School	Poncelet & Metis Associates, 2004	K-8 > Middle School
	8th graders in Elementary (K-8/K-9/3-8) vs. Middle (4-8/5-8/6-8) vs. Junior High (7-8/7-9) vs. Junior/Senior high (6-12/7-12/8-12)	Wihry, Coladarci, Meadow, 1992	Elementary > Middle, Junior, and Junior/Senior High No differences found between Middle and Junior High
Standardized Math and Reading Test Composite Score	6th, 7th, 10th, 11th graders: Elementary (K-6, K-7) vs. Middle/Junior High (6-7, 7-8, 6-7, 7-8, 7-9) vs. Secondary (7-12, 8-12, 9-12) vs. Unit (K-12)	Franklin & Glasscock, 1998	6th graders in elementary and K-12 > Middle school 7th graders in elementary and K-12 > Middle school 10th grade in K-12 > Secondary Schools No significant differences in 11th grade
Standardized All Subjects Test Composite Score	Group 1: 1 K-8 and 1 H.S. vs. Group 2: 1 K-5, 1 M.S., and 1 H.S. vs. Group 3: 3 K-5, 1 M.S., 1 H.S.	Alspaugh, 1998a	Group 1 5th graders in K-8, 9-12 model > Group 3, 5th graders in K-5, M.S., H.S. model
	8th graders in Elementary (K-8/K-9/3-8) vs. Middle (4-8/5-8/6-8) vs. Junior High (7-8/7-9) vs. Junior/Senior high (6-12/7-12/8-12)	Wihry, Coladarci, Meadow, 1992	Elementary > Middle, Junior, and Junior/Senior High No differences found between Middle and Junior High
Failed Subjects	8th graders in K-8 vs. Middle School	Weiss & Kipnes,2006	

The Impact of Transitions and Different Grade Configurations on STUDENT PSYCHOLOGICAL AND SOCIAL-EMOTIONAL OUTCOMES

Eight of the 26 sources reviewed for this report investigated differences in student psychological and social-emotional outcomes during periods of school transitions and between students in different grade configurations. Overall, the majority of research showed significant advantages in these areas for students in elementary and K-8 grade configurations versus students in middle school or junior high school grade configurations. For example, Weiss and Kipnes (2006) found that 8th grade students in K-8 schools had significantly higher self-esteem than 8th graders in middle schools. Similarly, Simmons and Blyth (1987) found that 6th and 7th graders in K-8 had significantly higher self esteem than students in junior high schools. Furthermore, in a national study (using NELS 88 data) Eccles et al. (1991) found that students in K-8 schools had significantly higher self-concept of their achievement potential, reported significantly lower levels of school threat or violence, were significantly better prepared for class, were absent significantly less often, and reported significantly less substance abuse than students in either middle schools or junior high schools. Furthermore, this national study showed no significant differences in these factors for students in middle schools versus junior high schools.

There were a few areas where research showed no significant differences in grade configurations. For example, Simmons and Blyth (1987) found no significant differences between students in 6th through 10th grade K-8 and junior high school students in the areas of planning for the future or feeling independent. In addition, Weiss and Kipnes (2006) found no significant differences between 8th grade students in K-8 and middle schools in liking school or feeling safe. Lastly, Gunter and Bakken (2010) found no difference in 6th graders' self report in K-6 vs. 6-8 in substance use or violent behavior.

Similarly to what we found with academic achievement, the majority of research reviewed for this report showed that school transitions have a significantly negative impact on students' psychological and social emotional wellbeing. For example, Seidman et al. (1994) found that students reported having significantly lower self-esteem after they transitioned to a new school including transitions between 5th and 6th grade as well as between 6th and 7th grade. Students prior to transitioning to a new school in this study also reported significantly lower levels of threat or school violence and significantly fewer daily hassles or pressures. They also reported significantly higher participation in extra-curricular activities and reported feeling better prepared for class. Despite these results showing disadvantages for students who transition to either middle or junior high schools, there were some positive aspects to transitioning. In the same study Seidman et al. (1994) found that after transitioning to a new school, 6th and 8th graders reported significantly higher levels of social support and academic and social efficacy than 5th graders or 7th graders, respectively.

In Table 2 (below) we summarize the psychological and social emotional findings across the studies.

TABLE 2: Summary of Research Illustrating Significant Differences in STUDENT PERCEPTIONS OF PSYCHOLOGICAL AND SOCIAL EMOTIONAL OUTCOMES between Different Grade Configurations & Time of Transition(s)

Data	Grades Compared	Sig Differences	No Sig Differences	Outcome(s)
Self-Concept of Achievement	National Sample Student Survey (NELS 88) K-8 vs. 6-8, vs. 7-8, vs. 7-9	Eccles, Lord, & Midgley, 1991		K-8 > 6-8, 7-8, and 7-9 No sig differences found between middle and junior high
Academic & Social Efficacy Expectations	Pre-post 5th transitioning to 6th grade or pre-post 7th transitioning to 8th grade	Seidman, Allen, Aber, Mitchell, & Feinman, 1994		5th < 6th; 7th < 8th
Planning for the Future	6th through 10th grade students who went to K-8/9-12 vs. K-6/7-9/10-12		Simmons & Blyth, 1987	
Class Preparation/ Preparedness	Pre-post 5th transitioning to 6th grade or pre-post 7th transitioning to 8th grade	Seidman, Allen, Aber, Mitchell, & Feinman, 1994		5th > 6th; 7th > 8th
	National Sample Student Survey (NELS 88) K-8 vs. 6-8, vs. 7-8, vs. 7-9	Eccles, Lord, & Midgley, 1991		K-8 > 6-8, 7-8, and 7-9 No sig differences found between middle and junior high
Participation in Extra-Curricular Activities	Pre-post 5th transitioning to 6th grade or pre-post 7th transitioning to 8th grade	Seidman, Allen, Aber, Mitchell, & Feinman, 1994		5th > 6th; 7th > 8th
	10th graders who went to K-8/9-12 vs. K-6/7-9/10-12	Simmons & Blyth, 1987		K-8/9-12 > K-6/7-9/10-12
Independence	6th through 10th grade students who went to K-8/9-12 vs. K-6/7-9/10-12		Simmons & Blyth, 1987	
Social Support	Pre-post 5th transitioning to 6th grade or pre-post 7th transitioning to 8th grade	Seidman, Allen, Aber, Mitchell, & Feinman, 1994		5th < 6th; 7th < 8th

Likes School	8th graders in K-8 vs. Middle School	Weiss & Kipnes, 2006	
Self Image	6th and 7th graders in K-8/9-12 vs. K-6/7-9/10-12	Simmons & Blyth, 1987	K-8/9-12 > K-6/7-9/10-12
Self-Esteem	8th graders in K-8 vs. Middle School	Weiss & Kipnes, 2006	K-8 > Middle School
	Pre-post 5th transitioning to 6th grade or pre-post 7th transitioning to 8th grade	Seidman, Allen, Aber, Mitchell, & Feinman, 1994	5th > 6th; 7th > 8th
	6th and 7th graders in K-8/9-12 vs. K-6/7-9/10-12	Simmons & Blyth, 1987	K-8/9-12 > K-6/7-9/10-12
Locus of Control	National Sample Student Survey (NELS 88) K-8 vs. 6-8, vs. 7-8, vs. 7-9	Eccles, Lord, & Midgley, 1991	K-8 > 6-8, 7-8, and 7-9 No sig differences found between middle and junior high
Daily Hassles (Pressures)	Pre-post 5th transitioning to 6th grade or pre-post 7th transitioning to 8th grade	Seidman, Allen, Aber, Mitchell, & Feinman, 1994	5th < 6th; 7th < 8th
Feelings of Anonymity	6th and 7th graders in K-8/9-12 vs. K-6/7-9/10-12	Simmons & Blyth, 1987	K-8/9-12 < K-6/7-9/10-12
Suicidal Thoughts	6th graders *self report* in K-6 vs. 6-8	Gunter, & Bakken, 2010	Elementary girls > Middle School girls
School Safety	8th graders in K-8 vs. Middle School	Weiss & Kipnes, 2006	
School Threat	8th graders in K-8 vs. Middle School	Weiss & Kipnes, 2006	K-8 < Middle School
Violence	National Sample Student Survey (NELS 88) K-8 vs. 6-8, vs. 7-8, vs. 7-9	Eccles, Lord, & Midgley, 1991	K-8 < 6-8, 7-8, and 7-9 No sig differences found between middle and junior high
	Pre-post survey of 8th graders transitioning to 9th grade in new school vs. 8th graders staying in same school through 9th grade	Weiss & Bearman, 2007	Non transitioning < transitioning
Feeling victimized	10th graders who went to K-8/9-12 vs. K-	Simmons & Blyth, 1987	K-8/9-12 > K-6/7-9/10-12

	6/7-9/10-12			
Overall School Level Substance Abuse	National Sample Student Survey (NELS 88) K-8 vs. 6-8, vs. 7-8, vs. 7-9	Eccles, Lord, & Midgley, 1991		K-8 < 6-8, 7-8, and 7-9 No sig differences found between middle and junior high
Individual Substance Use	6th graders *self report* in K-6 vs. 6-8		Gunter, & Bakken, 2010	
Individual Violent Behavior	6th graders *self report* in K-6 vs. 6-8		Gunter, & Bakken, 2010	

The Impact of Transitions and Different Grade Configurations on STUDENT BEHAVIOR

Nine of the 26 studies we reviewed investigated the impact of different grade level configurations and school transitions on student behavior. Our analysis across studies showed mixed results. For example, Weiss and Kipnes (2006) and Rockoff and Lockwood (2010) found no significant differences in absentee rates between students in K-8 versus students in middle school. In addition, Simmons and Blyth (1987) found no significant differences between students in K-8 and junior high schools in suspension or probation rates. On the other hand, Cook et al. (2008) found that 6th graders in elementary school had significantly lower combined scores for infractions than 6th graders in middle school. Moreover, Fink (2010) found that general and special education students in 6th, 7th, and 8th grades in K-8 schools had significantly higher attendance rates than students in those grades who attend middle schools. Lastly, Franklin and Glasscock (1998) found that 6th, 7th, and 10th graders in elementary schools and K-12 school configurations had significantly lower combined attendance and suspension scores than students in middle or secondary school configurations.

One clear finding across the studies was that school transitions, overall, had negative effects on student behavior. For instance, Arcia (2007) found that 6th and 7th graders who transitioned to new schools had significantly higher rates of suspension after they transitioned. In addition, two studies from Alspaugh (1998a; 1998b) found that in districts with fewer transitions (K-8/9-12) student drop-out rates were significantly lower than in districts with K-5, middle school, and high school configurations. Thus, the more transitions in districts, the higher the rates of student drop-out.

Table 3 below gives a summary of the research findings on the impact of transitions and different grade configurations on student behavior.

TABLE 3: Summary of Research Illustrating Significant Differences in STUDENT BEHAVIOR between Different Grade Configurations & Time of Transition(s)

Data	Grades Compared	Sig Differences	No Sig Differences	Outcome(s)
Absences	8th graders in K-8 vs. Middle School		Weiss & Kipnes, 2006	
	3rd graders: K-5, K-6, K-8 Elementary vs. Middle School (projected)		Rockoff & Lockwood, 2010	
	National Sample Student Survey (NELS 88) K-8 vs. 6-8, vs. 7-8, vs. 7-9	Eccles, Lord, & Midgley, 1991		K-8 < 6-8, 7-8, and 7-9 No sig differences found between middle and junior high
Suspension	3rd graders: K-5, K-6, K-8 Elementary vs. Middle School (projected)		Rockoff & Lockwood, 2010	
	6th and 7th graders in K-8 vs. Middle School (Transition)	Arcia, 2007		K-8 < Middle School
	7th graders in K-8/9-12 vs. K-6/7-9/10-12		Simmons & Blyth, 1987	
Overall combined score for infractions	6th graders in elementary vs. middle (projected)	Cook, MacCoun, Muschkin, & Vigdor, 2008		Elementary < Middle School
Combined low attendance and suspension score	6th, 7th, 10th, 11th graders: Elementary (K-6, K-7) vs. Middle/Junior High (6-7, 7-8, 6-7, 7-8, 7-9) vs. Secondary (7-12, 8-12, 9-12) vs. Unit (K-12)	Franklin & Glasscock, 1998		6th graders in elementary and K-12 < Middle school 7th graders in elementary and K-12 < Middle school 10th grade in K-12 < Secondary Schools
Drop-Out Rates	Group 1: 1 K-8 and 1 H.S. vs. Group 2: 1 K-5, 1 M.S., and 1 H.S. vs. Group 3: 3 K-5, 1 M.S., 1 H.S.	Alspaugh, 1998a		H.S. students in Group 1 K-8, 9-12 model < H.S. students in Group 2 and Group 3 K-5,

			M.S. and H.S. model
	447 Districts with all different grade configurations	Alspaugh, 1998b	The more transitions = higher drop-out rates
Attendance	General and Special ed. 6th, 7th, 8th graders in K-8 vs. Middle School	Fink, L.L., 2010	General and Special ed. 6th grade students in K-8 > Middle School
Probation	7th graders in K-8/9-12 vs. K-6/7-9/10-12	Simmons & Blyth, 1987	

The Impact of Different Grade Configurations on TEACHER PERCEPTIONS OF STUDENTS AND OF SELF AND SCHOOL CHARACTERISTICS

We found only two studies which investigated the differences between grade configurations on teachers' perceptions of their students and teacher self- efficacy. In addition, we only found one study which investigated the difference in school characteristics by grade configuration.

Regarding differences in teacher perceptions by grade configuration, Eccles, et al. (1991 and 1993) found that teachers in elementary schools reported significantly fewer student discipline issues, student violence, student substance abuse, and student absenteeism than teachers in middle and junior high schools. In addition, in the 1991 study, researchers found no significant differences in teachers' perceptions of student substance abuse, violence, or absentee rates between teachers in middle school or junior high school. Interestingly, math teachers in elementary school reported significantly higher self-efficacy than math teachers in middle schools.

Lastly, Rockoff and Lockwood (2010) found no significant differences between any of the grade configurations on school characteristics such as financial resources, class size, or teacher quality.

Tables 4 and 5 below show the summary of research results across the studies.

TABLE 4: Summary of Research Illustrating Significant Differences in TEACHER PERCEPTIONS OF STUDENTS AND SELF between Different Grade Configurations & Time of Transition(s)

Data	Grades Compared	Sig Differences	No Sig Differences	Outcome(s)
Need for Student Discipline	6th grade Elementary School Teachers vs. 7th grade Middle School math Teachers	Eccles, Wigfield, Midgley, Reuman, MacIver, & Feldlaufer, 1993		Elementary < Middle School
Teacher Self-efficacy	6th grade Elementary School Teachers vs. 7th grade Middle School math Teachers	Eccles, Wigfield, Midgley, Reuman, MacIver, & Feldlaufer, 1993		Elementary > Middle School
Student Decision-Making Opportunities	6th grade Elementary School Teachers vs. 7th grade Middle School math Teachers	Eccles, Wigfield, Midgley, Reuman, MacIver, & Feldlaufer, 1993		Elementary > Middle School
Student Violence	National Sample Teacher Survey (NELS 88) K-8 vs. 6-8, vs. 7-8, vs. 7-9	Eccles, Lord, & Midgley, 1991		K-8 < 6-8, 7-8, and 7-9 No sig differences found between middle and junior high
Student Substance Abuse	National Sample Teacher Survey (NELS 88) K-8 vs. 6-8, vs. 7-8, vs. 7-9	Eccles, Lord, & Midgley, 1991		K-8 < 6-8, 7-8, and 7-9 No sig differences found between middle and junior high
Student Absenteeism	National Sample Teacher Survey (NELS 88) K-8 vs. 6-8, vs. 7-8, vs. 7-9	Eccles, Lord, & Midgley, 1991		K-8 < 6-8, 7-8, and 7-9 No sig differences found between middle and junior high

TABLE 5: Summary of Research Illustrating Significant Differences in SCHOOL CHARACTERISTICS between Different Grade Configurations & Time of Transition(s)

Data	Grades Compared	Sig Differences	No Sig Differences	Outcome(s)
Financial Resources	K-5, K-6, K-8 vs. Middle School		Rockoff & Lockwood, 2010	
Class Size	K-5, K-6, K-8 vs. Middle School		Rockoff & Lockwood, 2010	
Teacher Quality	K-5, K-6, K-8 vs. Middle School		Rockoff & Lockwood, 2010	

Conclusion

In sum, the majority of studies in this review found that elementary school students did significantly better than middle and junior high school students of the same age in G.P.A., standardized state math scores, standardized state reading scores, and state test composite scores. In addition, most studies in this report showed that when students transition to another school, they experience a significant drop in academic related outcomes. Overall, the literature appears to favors a K-8 model over a middle school or a junior high school model.

Furthermore, the majority of research we reviewed showed significant advantages in the student psychological and social-emotional areas for students in elementary and K-8 grade configurations over students in middle school or junior high school grade configurations. Researchers also showed a significantly negative impact on students' psychological and social emotional wellbeing when students transitioned from one school to another. Analysis on the impact of different grade level configurations on student behavior showed mixed results. One clear finding across the studies, however, was that school transitions, overall, had negative effects on academic, psychological and social-emotional and student behavior outcomes. This suggests that the fewer transitions for students, the better.

Lastly, in the research we reviewed for this report, we found that teachers in elementary schools reported significantly fewer student discipline issues, student violence, student substance abuse, and student absenteeism than teachers in middle and junior high schools. There is no evidence suggesting there are significant differences between any of the grade configurations on school characteristics such as financial resources, class size, or teacher quality.

Despite these findings, authors of these studies caution that more research is needed to explore how school culture, student-teacher relationships, leadership, teaching practices, school size, cohort size, and demographic differences in student populations contribute to the differences seen in elementary school grade configurations versus middle and junior high school grade configurations. This is because several of the researchers suggested that some of the differences found in student academic achievement, psychological and social-emotional wellbeing, and behavior in the K-8 models may be due to differences in these other factors rather than grade configuration per se. What may be more important, then, is a school's organizational culture and teaching practices such as developmentally appropriate practices for early adolescents (Cuban, 1992; Eccles et al., 1993; Felner et al., 1997; Seidman et al., 1994), student-teacher relationships and support for learning (promoted in K-8 by smaller grade size; Eccles et al. 1993), heterogeneous grouping and high expectations for all students (less SES stratification in K-8 versus MS or JH; Lee & Smith, 1993; Lee & Loeb, 2000), and collaborative teacher relationships such as team teaching (Felner et al.1997; Lee & Smith 1993). All of these practices may be implemented within any grade configuration.

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Appendix

Summary of Each Study Cited in this Review

Citation: Dove, M. J., Pearson, C. L., & Hooper, H. (2010). Relationship between grade span configuration and academic achievement. *Journal of Advanced Academics, 21(2)*, 272-298.

Research Question: What is the relationship between grade span configuration and achievement on the state standardized test for 6th graders in Arkansas?

- This study uses a large sample rather than small case study samples that are often used to evaluate the effect of grade span

Research Design:

- Sample included 281 schools in Arkansas with a 6th grade – 20 different grade span configurations among them
- "Ex post facto repeated measures design", using one-between two-within ANOVA
- Outcome variables: math and literacy (percent proficient + advanced) scores over 3 years
- Predictor variable: grade span configuration – levels:
    - no transition – included P-6, K-6, and 1-6
    - first year of transition – 6th only, 6-7, 6-8
    - second year of transition – 5-6, 5-7, 5-8
    - *Were any K-8 schools included?
- No differentiation by student subgroups – school level data
- Literacy includes both reading and writing

Key Findings:

- No significant differences in achievement scores by grade configuration ($p = .06$)
    - While the differences were not significant, 6th graders in their first year of transition scored the lowest in both math and literacy, and second year vs. no transition at all were pretty similar
- Math achievement increased significantly across the 3 years but literacy did not

Important Findings from Introduction:

- The larger the grade span in the school, the better the achievement outcomes, both for students in the middle and high grades (many references, p. 278 and 281)

- The later the transition to high school, the higher the dropout rate (Brown, 2004 (rural schools only); Howley, 2002; Renchler, 2002)
- One interesting study suggested that transitioning after 4th grade results in better achievement than transitioning after 5th (middle school model), but found no difference between the middle school and junior high models (Johnson, 2002)

Citation: Cook, P. J., MacCoun, R., Muschkin, C., & Vigdor, J. (2008). The negative impacts of starting middle school in sixth grade. *Journal of Policy Analysis and Management, 27(1),* 104-121.

Research Question: What is the difference in behavioral outcomes between 6th graders who attend an elementary school vs. a middle school in North Carolina?

- End-of-grade achievement exams were also studied but of secondary interest

Research Design:

- Sample included 99 public school districts in NC
- Used a propensity score sample-trimming procedure to account for the fact that the likelihood of 6th grade being in an elementary school was not uniform across districts
    - Ended up with 243 schools and about 45,000 6th graders
    - Only 11% of the students were in elementary schools
- Conducted a "pseudo-longitudinal analysis" to project the infractions level for students before and after their 6th grade year
    - Infractions data were only available for the 2000-2001 school year, but the researchers had information about what schools the students attended and would later attend. So, they looked at the infractions for older and younger kids in the 00-01 school year and used this information to predict the probability of infractions for their sample students in grades 4-9
- Also conducted a pseudo-longitudinal analysis for EOG tests across grades 4-8

Key Findings:

- Both the incidence and prevalence of all types of disciplinary infractions among 6th graders were higher in middle schools than in elementary schools
    - Furthermore, the middle school students in this sample were of higher SES and maternal education level
    - The odds of having a behavioral infraction increase by a factor of 2.2 if you go to middle school instead of elementary (3.8 for a drug infraction)

- Results of the pseudo-longitudinal analysis suggest that the 6th graders in middle school actually had fewer infractions than their elementary counterparts in 4th and 5th grade, but that the increase in middle-school-6th graders' infractions remains elevated through 9th.
- Results of the achievement test analysis show that in 4th and 5th grade, the kids who would eventually attend 6th in a middle school had better math and reading scores than the kids who would eventually attend 6th in elementary. But by 6th grade and persisting through 8th, the MS 6th group was scoring lower than the EL 6th group in both subjects, sometimes significantly in reading.

Conclusion:

- Attending 6th grade in a middle school increases behavior infractions and decreases test scores
    - Authors acknowledge potential differences in reporting between EL and MS but note that in their pseudo-longitudinal analysis, all students were in middle schools by 7th grade and they still found differences
- K-6 makes sense, but the authors are not sure about K-8 because exposing younger kids to deviant adolescents may be harmful

Study limitations:

- The authors noted that "seventh grade students entering middle school for the first time should also exhibit a spike in behavioral problems (p. 108)", but that was all they said about moving the transition to one year later. Unless the authors are proposing never to have a transition at all, it seems they are ignoring the possibility that transitions in themselves cause problems, not just more freedom and more deviant peers. A better study, in our opinion, would examine behavior and achievement of students who transitioned at 6th and at 7th, ideally across the 5th-8th grade years.

Citation: Franklin, B. J., & Glascock, C. H. (1998). The relationship between grade configuration and student performance in rural schools. *Journal of Research in Rural Education, 14,* 149-153.

Research Question: Do student behavior and achievement in grades 6, 7, 10, and 11 vary based on school grade configuration?

Research Design:

- Sample includes schools randomly chosen within grade configuration group from all Louisiana schools in 1993-94
- Definitions of grade configuration levels in this study:
    - Elementary: K-6, K-7

- Middle/Junior High: 6-7, 6-8, 6-9, 7-8, 7-9 (not interested in the differences between middle and jh in this study)
- Secondary: 7-12, 8-12, 9-12
- Unit: K-12

- Used ANOVA with post hoc Tukey tests to compare schools within the same grade but different grade configurations on achievement and behavior.

Key Findings:

- Grade 6: students in elementary and unit schools performed better in both achievement and behavior than did 6th graders in middle schools
- Grade 7: similar – students in elementary and unit schools performed better in both achievement and behavior than did 7th graders in middle schools
- Grade 10: students in unit schools performed better in both variables than 10th graders in secondary schools
- Grade 11: no significant differences here – unit and secondary 11th graders were similar on achievement and behavior

Study limitations:

- 11th graders were tested in different academic subjects than the other grades
- Title says rural schools, but the sample was drawn from the population of all LA schools
- An initial analysis revealed no interaction effects between grade configuration and the control variables of school size and SES, though I'm not sure if this is an adequate control procedure.

Citation: Fink, L.L. (2010). A comparison of grade configuration on urban sixth to eighth grade students' outcomes in regular and special education. *Doctoral dissertation, University of Maryland, College Park*

Study Purpose/Research Question: Examined the effect of grade configuration in the middle grade years on selected educational outcomes in an urban school system across three grades. Addressed four research questions, two regarding achievement and two regarding attendance.

1. What is the effect of school grade configuration on student math and reading achievement (in general education 6th-8th grade) on the Maryland State Assessment (MSA)s.
2. What is the effect of school grade configuration on student math and reading achievement (in special education 6th-8th grade) as measured by the MSA?
3. What is the effect of school grade configuration on attendance in 6-8th grade general education classrooms?

4. What is the effect of school configuration on attendance in 6th-8th grade special education classrooms?

Research Design: Study was conducted in the Baltimore City Schools, where the author followed a cohort of fifth grade students through the middle school years. The author used a quasi-experimental design as students were not randomly assigned to configuration conditions. Student academic outcomes (Maryland State Assessment in math and reading) and attendance in middle school were compared to K-8th grade by their performance on outcome measures in 6th, 7th, and 8th grade. The study included 5,312 students (28% in K-8; 72% in middle school).

The author examined the data using hierchical linear modeling (students nested into classrooms). The outcome variables were predicted by several variables including demographic information and baseline student achievement/attendance data. The independent variable of interest was school configuration (K-8 vs. middle school).

Key Findings:

- Note: The findings examine the effect of school configuration on achievement and attendance after accounting for individual characteristics, demographic information, and prior school achievement.
- Reading Achievement – Special education students attending K-8 schools had significantly higher achievement gains on the 6th grade reading MSA then their peers in middle schools.
- Math achievement – Regular education students in the 6th grade who attended K-8 schools had significantly higher gains on the MSA. No other comparisons were statistically significant.
- Attendance – Both general and special education 6th grade students in K-8 schools had significantly higher attendance than their peers in middle schools. The associated coefficients were very small. There were no statistically significant differences between K-8 and middle schools in 7th and 8th grade.

Citation: Gutman, L.M., & Midgely, C. (2000). The role of protective factors in supporting the academic achievement of poor African American students during the middle school transition. *Journal of Youth and Adolescence, 29*(2), 223-249

Information from Lit Review:

- With multiple risk factors, the transition to middle school can be troubling for minority youth.
- Transition to middle school is often characteristics by a move to a larger, more complex environment, less emotional support from teachers, and decreased contact between students-teachers, and students-peers.
- Most students are forced to adjust to a new school environment that is characterized by harder grading, more social comparison, and increased competition.

Study Purpose/Research Question: Authors investigated psychological, family, and school factors that support the academic achievement of poor African American students during the transition from elementary to middle level schools.

- Specifically the authors examined the main effects of academic self-efficacy, parental involvement, perceived teacher support, and feelings of school belonging.
- They also examined the interactions between psychological and family factors, psychological and social support factors, and family and school factors.

Research Design: Authors examined data from a larger longitudinal study in Michigan. The smaller sample used data from families from one school district (7 elementary schools, 4 middle schools). After using several selection variables 69 families were included in the final sample. ANOVA and hierarchical linear regression was used to examine the main effects and interaction effects of the variables.

Authors compared students GPA from 5th grade to 6th grade while controlling for previous levels of academic achievement.

Key Findings:

- On average students experienced a significant decline in GPA across the transition to middle school.
- Parental involvement, perceived teacher support, and school belonging did not significantly predict grade point average across the transition.
- But, students with high levels of involvement and perceived teacher support had higher grade point averages across the transition than peers with high levels in one or zero of these factors.
- Academic self-efficacy was positively associated with GPA across the transition. The interactions of self efficacy and the other variables were not significant.
- Parental involvement, school belonging, and perceived teacher support were not associated with students' grade point average across the transition to middle school.

Study Limitations:

- Small sample size – limited power to detect effects of predictors
- Collected information from parents during middle of 6th grade year, so they cannot make inferences if continued parent involvement affected students academic achievement after 6th grade.

Citation: Cuban, L. (1992). What happens to reforms that last? The case of the junior high school. *American Educational Research Journal, 29(2)*, 227-251.

Thesis: The junior high is a school reform that has persisted for many years (1920s-90s) but that has become watered down – intended as a fundamental (major) reform that in practice acts more as an incremental (minor) reform. Moreover, junior highs/middle schools have generally become little high schools and have not succeeded in creating the proposed unique environment

Purpose: Background info on the history of the junior high and middle school movements

Multiple Agendas – No Cohesive Mission

- Historical context: early 1900s, 1913, 1918: NEA's Commission on the Reorganization of Secondary Education
    - Elementary for ages 6-12, Secondary for 12-18, with secondary divided by junior and senior
- Keep 12 year olds off the street, prevent dropout after 8th grade
- Provide prevocational exploration and choices, provide more semi-skilled labor for industry
- Eliminate the "waste" associated with overage retained students and repetitive content in K-8 schools
- Adolescence: late 1800s – general movement toward the "whole child", "fitting school to the child"
    - G. Stanley Hall's 1904 book on Adolescence (developmental perspective)
    - The first 3 years of secondary schooling (grades 7, 8, 9) should be devoted to exploration of personal aptitude and work interests
- Reform schools – change elementary and secondary curriculum, more child-centered
- Alleviate overcrowding

The Spread of Junior High: By the 1930s, junior highs had anywhere from 2-4 grades in them, and senior highs had as many as 6 grades, divided by 3-3 or 2-4

Criticisms (by the 1930s)

- Depart- (or compart-) -mentalization (switching classes, teachers teach only one subject and don't communicate, no interdisciplinary activities)
- Too academically centered (not enough vocational material)
- Improper teacher training (not enough focus on kids' development)
- Teaching/structure too similar to high school (textbook-focused, teacher-directed, 40-50 min periods)
- Tracking (by ability and achievement)
- The exploration of personal interests is limited to home ec, shop class, and clubs

Changes Under the Junior High Model

- Small, incremental changes – not the sweeping reforms originally intended
- Fusion of similar disciplines into core courses (e.g., spelling/writing/reading = English, geography/sociology/history = social studies)
- More electives (fine and practical arts)
- Guidance classes
- Increase in number of curricula, course options (often limited to 9th)
- Longer class periods
- A few exemplary schools included "correlated" classes – blocks of time where English and social studies (e.g.) could be combined to foster inquiry and HOT
- Ability grouping nearly doubled from 1954-1964 (some evidence for unequal instruction)

Actual Resulting Functions of the Junior High:

- More varied curriculum
- Adaptation to the needs of adolescents
- Less dropout after elementary school

The Middle Schools Movement

- 1960s – educators and reformers displeased with the "little high schools" adolescents attended
- Needed a place more suited to the changes and diversity within 10-14 year olds
- In 1967, more than half of district administrators surveyed said they reorganized to middle school to alleviate overcrowding
- "The dominant reason for the middle school given by administrators in 1977 was to design a program geared specifically to the social, psychological, moral, and intellectual needs of early adolescents. The school's organization, curriculum, and instruction were to help boys and girls make a smooth transition from elementary to high school while building their self-esteem and nourishing their unexplored talents. Such schools, ac-cording to partisans, would be organized to permit students to pick subjects usually unavailable to them in elementary school. They would attend classes for an hour or longer where content from two or more subjects was integrated, work with teams of teachers rather than moving from subject to subject, and receive guidance from a teacher in a nonclassroom setting. Instruction by state-certified teachers, trained to be aware of the special needs of this cohort, would be delivered in a mix of large group, small group, and individual settings. Instruction would encourage academic achievement, decision-making skills, leadership, and thinking for one's self" (p. 243-4).

- "exploratory courses or minicourses for all students in all grades, an eight-period day, interdisciplinary teams, and cooperative learning"

Actual Resulting Middle Schools

- Research (1987) suggests little to no higher-order thinking or interdisciplinary instruction
- "Only about 10 percent of the schools that contain grade 7 do all three of the following: use interdisciplinary teams, provide at least two hours per week of common planning time for team members, and use more than a little of that planning time for coordinating activities that strengthen the effects of interdisciplinary teams." (p. 246)
- Ended up a lot like junior highs – influence of high school bears down on the lower grades

Why Did This Happen?

- Organizations over time become more alike than different
- Schools have ambiguous/uncertain goals, imperfect "technologies" (teaching practices), uncertain outcomes, and are at the mercy of external forces (taxpayers, student enrollment options); so they need to please the public by looking professional and legitimate, and they mimic success they see in other successful institutions – in this case, the high school
- Why didn't junior/middle schools choose to model themselves after elementary schools which seem to be doing everything reformers were hoping for?
    - History again: in the early 1900s, high school was a place for the elite – high school was something to both "emulate and anticipate"

Citation: Lee, V. E., & Smith, J. B. (1993). Effects of school restructuring on the achievement and engagement of middle-grade students. *Sociology of Education, 66(3)*, 164-187.

Research Question: Does attending a restructured school increase levels of achievement and engagement, decrease failure and dropout, and distribute positive outcomes more equitably?

Research Design

- Sample from NELS:88
- Measures of school restructuring focus on:
    - Reduced or eliminated departmental structure – less departmentalization and exposure to *fewer* teachers each day earns a higher score
    - Heterogeneously grouped instruction – principal reports
    - Team teaching – yes/no principal reports
    - General index of restructuring – dummy-coded, not sure who is reporting/observing
- Achievement: reading and math tests

- Engagement
    - Academic: prepared for class, time on homework, feelings of boredom in school
    - At risk behaviors: discipline/behaviors, fights, absence/tardy, warnings to parents, being viewed as a troublemaker by others
- Controlled for:
    - Student level: SES, minority, gender, academic background (proxy for ability)
    - School level: average SES, minority concentration, sector, # students in 8th grade, standard dev of achievement (measure of academic homogeneity)
- Used ANOVA for prelim analyses and HLM for main analyses
    - Used the slope of SES for each outcome as a measure of the distribution of equity of each of the outcomes

Key Findings (results section is long and complex)

- Overall: while all results are modest after controlling for the demographic variables, there is some evidence that decreasing departmentalization, increasing team teaching, and reducing grade size may lead to improved achievement, academic engagement, and equity of positive outcomes across SES, but is not associated with a decrease in at-risk behaviors.
- As expected, student outcomes and school restructuring were related to student and within-school background/demographic variation, so these were controlled for in the multilevel analyses
- *Achievement*: Reduced departmentalization had the greatest effect on achievement and the least SES differentiation of the elements of school restructuring
- *Academic Engagement:* Team teaching was associated with less SES differentiation, and the general restructuring index was modestly correlated with increased engagement
- *At-risk Behaviors*: schools with less rigid departmentalization and more team teaching led to more at-risk behavior and more SES differentiation – not in the hypothesized direction!
    - This was the least reliable measure and had the least between-school variation
- *Grade size:* Larger grades associated with decreased academic engagement and more stratification in achievement by SES
    - *Middles and junior highs tend to have higher enrollment per grade than K-8, which may have negative effects on engagement and equity of achievement
- *As suggested by the absence of correlations with the general restructuring index, restructuring seems to benefit students more when a few important elements are implemented deeply, rather than adding more shallow elements

Lit Review

- Two structural models of school social and instructional organization

- Rational-bureaucratic: affectively neutral interactions between teachers and students, rule-governed, differentiated by status
- Communal: informal social relationships, minimizes differentiation, shared values, emphasizes discretion among individuals

- Consequences of the shift from communal → rational-bureaucratic:
  - Alienation: normlessness, estrangement from teachers and principals, less commitment to rules
  - Differentiated curriculum (ability grouping): leads to social stratification of academic outcomes, lower quality instruction in vocational/lower-level track
- Two focus areas of school restructuring:
  - Changing how instruction is organized in classrooms – who is taught what?
  - Changing how teachers are organized to deliver instruction – who does what teaching?
- Emphases of restructuring:
  - Heterogeneous grouping (collaborative learning)
  - Reducing departmentalization
    - Mixed evidence of effects in MS: increases teacher collaboration but may reduce teacher content area expertise
  - Increasing teacher collaboration: interdisciplinary teaming
    - Reduces discipline problems, fosters sense of community, increases academic engagement, clarifies learning goals, increases achievement
    - May increase teacher self-efficacy and satisfaction
    - Requires ongoing administrative support
  - School size and grade size
    - Larger schools offer more academic opportunities, but more social stratification of achievement and alienation
    - Grade size varies as a function of number of grades in the school

Citation: Alspaugh, J. W. (1998a). Achievement loss associated with the transition to middle school and high school. *The Journal of Educational Research, 92(1)*, 20-25.

Question/Purpose: To further examine the relationship between achievement loss at the transitions to middle school and high school, and to explore the relationship between transitions and high school dropout rates

Research Design:

- Sample: three groups of 16 school districts by grade configuration structure
  - Group one: K-8 elementary and 9-12 HS
  - Group two: one elementary, one middle, and one high (linear)
  - Group three: two or three elementary, one middle, and one high (pyramid)

- Used ANOVA

Key Findings:

- From grades 5-6, students in K-8 schools experienced an achievement gain, while other students experienced a transition loss; the loss was larger (and only statistically significant) for the pyramid group
- Students in all schools experienced a transition from 8th- 9th grade, and all experienced an overall transition loss in achievement – no statistical difference between them
    - Analysis of specific subjects shows K-8 made a gain in math
- HS dropout rates were significantly higher in districts with two transitions (both middle school groups) than in the district with one transition (K-8 group)

Study limitations:

- The author notes in the summary that "students attending middle schools experienced a greater achievement loss in the transition to high school than did the students making the transition from a K-8 elementary school", but this difference was not statistically significant overall – only at a class subject-specific level
- There were no urban schools included "in the comparison groups"
- Enrollment per grade is much lower in the K-8 schools, but % FRL was higher – I don't think the author controlled for any of these things in his analyses

Citation: Alspaugh, J. W. (1998b). The relationship of school-to-school transitions and school size to high school dropout rates. *The High School Journal, 81(3)*, 154-160.

Purpose/Question: What is the relationship between number of transitions, grade level of the last transition to high school, and K-12 enrollment with high school dropout rates?

Research Design:

- 447 districts in MO
- Measures
    - Dropout rate was a 5 year average of the annual dropout rate – "the number of students leaving grades 9-12 without a transcript request divided by the enrollment count for grades 9-12, expressed as a percent"
    - SES measured by % receiving FRL
    - "enrollment per attendance center" measured by total district enrollment divided by # of schools, I think – an average across all school levels

- ANOVA and hierarchical multiple regression

Key Findings:

- The number of transitions in a district is linked to demographic factors (enrollment and SES) and dropout rate; the more transitions, the higher the SES (generally), the higher the enrollment, and the higher the dropout rate.
- Similarly, increasing grade of last transition is correlated with higher SES, higher enrollment, and higher dropout rates (the grades of last transition ranged from 6-10)
    - The correlation of these two predictors (# of transitions and grade of last transition) is .73 – strong (makes sense, but how do we know which characteristic is more important?)
- Average enrollment was the strongest predictor of dropout rates, then number of transitions – but including all variables in the model explains the most variation (%FRL, enrollment, # transitions, grade last transition)

Literature Review:

- Participation in high-profile extracurriculars keeps kids in school; this type of participation decreases in large schools. Large schools are associated with lower attendance and higher dropout rates.
- The author equates normative school transitions with discontinuous transfers – I am not sure this is accurate
- *As school size increases, the negative correlation between low SES and high school dropout is magnified
- When enrollment increases, schools tend to add another transition, now setting two adverse variables in place

Citation: Eccles, J. S., Wigfield, A., Midgley, C.,Reuman, D., MacIver, D., & Feldlaufer, H. (1993). Negative effects of traditional middle schools on students' motivation. *The Elementary School Journal, 93(5),* 553-574.

Purpose/Question: How do changes in school and classroom environments across school transitions affect adolescents' achievement-related beliefs and behaviors?

Research Design:

Sample

- Part of the Michigan Adolescence Study, conducted in 4 waves over 2 years
- Student and teacher samples from 12 school districts in mid and low SES communities
    - Focused on math teachers – area of greatest decline in motivation

Measures

- Questionnaires:
  - Students: measured beliefs regarding all subjects, perceptions of math class environment, etc.;
  - Teachers: measured trust/respect of students, beliefs about control and discipline, (growth mindset), etc.
- Classroom environment measures (fairness, competition, discipline, autonomy, teaching practices, student interaction): student, teacher, and observer report
- Student/teacher classroom decision-making – same questions to both Ss and Ts

Method

- ***Based on three initial variables, students were divided into four groups
  - Initial variables: T efficacy, T-S relationship, between-class ability grouping
  - Four S groups for each of the above variables:
    - positive environments in 6^{th} and 7^{th}
    - negative environments in 6^{th} and 7^{th}
    - positive in 6^{th}, negative in 7^{th}
    - negative in 6^{th}, positive in 7th
- Used ANOVA and repeated measures ANOVA for most analyses

Key Findings:

- Major Take-Home: Classroom environments, not just school transitions in themselves, make a difference for student motivation and achievement. Students with high-efficacy, supportive teachers in heterogeneously grouped math classes reported higher self-efficacy and value of math *after* the junior high transition, and ultimately performed better in math and had fewer behavior problems in 10^{th} grade. These findings vary by predictor so for specifics check out the details below.
- ***Interesting – see the Felner et al. (1997) study below: "One of the main reasons the Carnegie Council's [*Turning Points]* report is so powerful is that it deals with changes in school and classroom structure and organization rather than with more cosmetic changes in things such as the grades served by middle schools" (Eccles et al., p. 569).

Initial Findings

- *Teacher's beliefs about students*: 7^{th} grade (middle school) teachers, as compared with 6^{th} grade (elementary school) teachers, believed students needed to be disciplined and controlled more and were less trustworthy; 7^{th} grade teachers felt less efficacious than 6^{th} gr (this difference was the largest); all <.01 sig
- *Student-teacher relationships*:
  - Students and observers both saw 7^{th} grade Ts as less supportive, friendly, and fair

- All 3 groups saw more between-class ability grouping, whole-class instruction, and social comparison of grades

*Findings from the 3 variables * 4 student groups analysis:*

- *Teacher Efficacy:* Students who moved from high-efficacy to low-efficacy teaching classrooms had lower expectations and perceptions of their math performance and thought math was more difficult than students with no change or who moved from low to high efficacy
  - Especially dramatic declines in performance beliefs for low-achieving students
- *T-S Relationships (perceptions of support):* Students' intrinsic value of math was related to the change in perception of teacher support from 6th to 7th (low → high showed increase in value; high → showed decrease in intrinsic value as well as perceived usefulness and importance of math)
  - Again, greater declines in motivation for low-achievers
- *Between-class ability grouping:* (these 4 groups were slightly different; everyone had a heterogeneously grouped 6th grade math, and 7th graders were either high, avg, low, or hetero)
  - Initial results: students in the high class had lower self-concepts of math ability, while low class had higher self concepts than in 6th; avg and hetero no change
  - 10th grade: Ss from low class performed significantly worse on standardized math test than Ss from high class, even when math competence was equal in 7th
    - Placement in low class also showed more behavior problems

Stage-Environment Fit

- 7th graders reported wanting more decision-making opportunities in 4/5 areas, while both students and teachers reported that 7th graders have fewer decision-making opportunities in 7th than in 6th, reflecting a mismatch between classroom environments and student developmental needs.

Lit Review:

- Person-environment fit: may explain the reason for a decline in achievement in early adolescence; middle schools do not provide the appropriate environment for early adolescents' development (stage-environment fit)
  - Teachers may need to provide different type and level of structure at different ages
- Interest in school, intrinsic mot, self-efficacy, and self-esteem decrease with age, though may be subject-specific
- Girls may show a more marked decline in self-esteem than boys during the middle school transition
- Previous study by the same authors suggests that developmental/pubertal changes combined with school transition lead to decreases in motivation and interest in school and activities

- General self-esteem seems to be a problematic indicator, resulting in inconsistent findings – task or content-area specific self-efficacy is the way to go
- ***Studies in this area do not typically take school environments into account pre- and post-transition, including school size, teacher sense of self-efficacy, participation and opportunities for self-determination (autonomy?), level of personal teacher/student relationship

Limitations/Future Research:

- Sometimes it's hard to find schools that systematically vary by these predictors, especially classroom environment factors
- Neutral, external observers may not be necessary for measures of class environment
- Only included math class – no documentation that this is best
- I'm not sure how the authors determined that the 7th graders had equal competence in the between-class ability grouping analyses – in their graph (p. 566), the kids' math self-concepts in 6th grade (Wave 1 especially) aligned with their placements in 7th, suggesting a difference in competence from the start

Citation: Lee, V. E., & Loeb, S. (2000). School size in Chicago elementary schools: Effects on teachers' attitudes and students' achievement. *American Educational Research Journal, 37(1),* 3-31.

Note: This article does not address grade configuration, but it does discuss cohort size which is linked to grade configuration.

Problem/Question:

- "Is school size related to teachers' assessments of their colleagues' willingness to assume responsibility for students' academic and social development?" (school size → teacher attitudes)
  - What is the relationship between school size and teachers' shared commitment?
- Is school collective responsibility related to student achievement? (teacher attitudes → student learning)
- Does school size have a direct effect on student learning? (school size → student learning)

Research Design

- The authors describe their study and conceptual model as a "school effects study" – how characteristics of schools influence school members' attitudes/behaviors
- Two separate, related, multi-level analyses – controlling for factors at school, teacher, and student levels

- Focus on teachers' attitudes – within-school and between-school model
- Focus on student achievement– within-school and between-school model

- Sample: data from the Consortium on Chicago School Research – 264 K-8 Chicago schools
  - The authors note that this sample is actually the entire population, so instead of reporting statistical significance, they are reporting ES
- Analysis: HLM – controlling for race, SES, at school and student levels

Key Findings

- (Not a key finding but interesting: Teachers' experience is related to their sense of collective responsibility; U-shaped relationship where teachers with 6-10 years of experience score lowest)
- School size is negatively related to teachers' attitudes about collective responsibility (*presented in gamma coefficients so I'm not sure what the values mean – seem to be using beta for within-school analyses and gamma for between-school)*
- School size appears to act on students' achievement (math) directly and indirectly through influencing teacher collective responsibility – both are significant predictors
  - Adding the ES of both predictors, total effects of small schools on math learning are .64 SD, and effects of medium schools = .45, compared with large schools.
  - Authors posit that in reality, school size acts on both teachers and students indirectly, through the number of interactions possible with other staff and students – school size may be acting here as a proxy measure for the intimacy and quality of relationships

Limitations

- Chicago's K-8/9-12 structure is unusual – limits external validity
- Generally, the limitations of this study would tend to produce *underestimates* of effects

Suggestions

- Schools-within-schools – challenges:
- "small" in this study defined as <400 students, but not sure whether this is an appropriate number
- Be sure not to increase between-group stratification
- How autonomous should the small schools be?
- Will they require more funds and resources? Teachers?
- School size is especially important for disadvantaged, urban populations

Relevant Info from Lit Review

School Size

- Two streams of research in studying school size:
  - Sociological: as size grows, schools become more bureaucratic, instructional programs become more specialized (was supposed to be a benefit but turned out to be tracking – extensive differentiation yields social stratification), and relationships become more formal
  - Economic: benefits have not panned out – the idea was that expanding the scale would cut costs/increase efficiency by reducing redundancy and increasing resource strength and use, but the costs of expanding administrative staffs, transportation, and material distribution have largely offset these projected savings
- In high schools, students made the most achievement gains when enrollment ranged from 600-900 students – more important for low SES schools (Lee & Smith, 1997)

Teacher Collaboration

- Difficult to establish because the organizational norm in schools focuses on individualization, specialization, rather than cooperation
- Teacher collaboration fosters sharing of information and advice, promotes productive school culture as well as social contact with peers (Little, 1982, 1990; Rowan, 1990b).
- Teachers' attitudes (expectations and responsibility for student learning) have an effect on student engagement and achievement
- Collective responsibility for student learning: an average of teacher attitudes across the school
  - Level of responsibility for own teaching; attributions of student success (internal to teacher or external, such as student ability or family background)
  - Schools with higher collective responsibility and more consistency in these attitudes across teachers showed strong gains in student achievement (Lee & Smith, 1996).

Citation: Felner, R. D., Jackson, A. W., Kasak, D., Mulhall, P., Brand, S., & Flowers, N. (1997). The impact of school reform for the middle years: Longitudinal study of a network engaged in Turning Points-based comprehensive school transformation. *The Phi Delta Kappan, 78(7)*, 528-532, 541-550.

Purpose: Evaluate the implementation process of the recommendations in *Turning Points: Preparing American Youth for the 21st Century*.

- Turning Points is a report of the Carnegie Council – the second author of this article is the first author of *Turning Points*.
- The schools include 97 members of the Illinois Middle Grades Network (IMGN), a selective group that must meet rigorous criteria for acceptance and have agreed to implement the *Turning Points* recommendations.

Questions:

- As schools move to more comprehensive stages of implementation, are there parallel changes in student outcomes (long list)?
- How do outcomes vary for students in at-risk groups (race, SES, crime, unemployment)?
- How do school and community settings/contexts affect the relationship between implementation and outcomes?
- (This one was not specified in the RQs section but seems important: which components of *Turning Points* have which effects, dosage/diminishing returns information, combined effects)

Research Design

- "Compressed longitudinal" design – sets of schools starting at different phases of implementation (takes less time)
- Sample includes the range of school and student characteristics across all of Illinois
    - *Preliminary findings reported here pertain to 31 schools (second cohort) that have been in the study for two years
- 31 schools were divided into 3 groups by their (**relative** not absolute) levels of implementation (LOI):
    - High (9 schools): high levels of common teacher planning time, frequent advisory periods, low T:S ratios, developmentally appropriate student decision-making and instructional patterns
    - Partial (12): made some of these changes or made them more recently
    - Low (10?): no/few changes or no progress yet
    - Researchers attempted to keep demographics comparable across groups
- For the longitudinal section of the analyses, another dimension of LOI was added: degree of change over the last year (level 5 – no implementation last year and no change this year, versus level 1 – highest level of changes).

Key Findings

- These are preliminary findings -- data were collected through the third year of the study – not very long for systems-level change – use caution in interpretation

Cross-sectional Findings (limited – the purpose of this study is longitudinal)

- Student achievement: students in high LOI schools scored a full SD higher in math than students in low LOI schools! Difference was even greater for language! Still more than half a SD better in reading.

- Student behavior problems, teacher report: aggression, moodiness/shyness, and learning difficulties (all lumped together) were significantly lower for higher implementing schools – difference between each of the 3 groups was sig
    - Same pattern for student self-report of worry about something bad happening in school and about the future, fear of victimization, and self esteem

Longitudinal Findings

- Positive correlations between one- and two-year changes and achievement scores: reading (.51, .53) and math (.30, .35) – all sig at $p < .001$ – increases in implementation are associated with increases in academic achievement
- Average gains in math and reading achievement across 2 two-year periods were highest for the schools at the highest LOI (21 points – nearly half of a SD) and lowest for schools at level 5 (-1 point), with the expected gradations of each level in between (nice figure p. 548).
- Found similar results as the cross-sectional on social-emotional outcomes – not much presented on this in the article

Process Findings

- Reform must be comprehensive and integrative, with attention to the sequence and interdependence of elements
    - The "checklist" approach, with no regard to level of implementation, is too shallow to ensure an impact on teaching and learning
    - E.g., teaming – yes/no (checklist) versus looking at team sizes, T:S ratios, and common planning time (comprehensive)
- Critical levels (tipping points?) of implementation:
    - Teams should have < 120 students, at least 4 common planning periods per week, and have a S:T ratio below ~25:1
- Interdependence of reform elements: deficits in any one element limit effects of others
- Evidence suggests that the positive effects on students in the reform schools are not due to gains in the middle school, but to the absence of decline that is seen in the traditional schools – preventive
    - The declines are worse for students at risk
- (p. 541-2) The most successful sequencing of reform starts with changing leadership processes, staff attitudes toward the reforms, and shifting operational norms and structures – this will lead to quicker and larger changes in teaching and learning practices and school characteristics.

Citation: Byrnes, V., & Ruby, A. (2007). Comparing achievement between K-8 and middle schools. A large scale empirical study.

Note: Article reports on natural experiment in the Philadelphia School District.

Literature review information:

- Policy makers and researchers once thought middle schools would be the best way to address behavior, academic, and social-emotional needs of this age group. The return to K-8 schools represents a shift to the old ways.
- Previous research has shown that students in K-8 schools have better reading/math achievement and attendance. Also these students exhibit better performance in terms of social outcomes such as self-esteem leadership, and attitudes.
- Factors that may make K-8 schools better:
    - Middle schools in general serve student populations with higher rates of poverty and larger proportions of minority students, is one of the fundamental reasons suggested by prior research as to why the two school.
    - Teacher characteristics: most middle schools have low retention rates, less experience, and lower rates of certification.
    - School transition: The extra transition for students may be difficult and related to poorer academic and social outcomes.
    - School size: K-8 schools are often smaller which may foster a sense of community and allow teachers to use strategies such as team teaching and personal learning communities.

Purpose: The authors sought to provide a more rigorous evaluation of K-8 schools by employing a more appropriate method of statistical analysis, a substantially larger sample size, and a more diverse set of statistics control.

Design: The authors used a three level multi-level model with students nested into cohorts which were nested into schools. The authors included 40,883 students taken from 95 schools in their sample. The three cohorts were old K-8 schools, new K-8 schools, and middle schools.

The principle outcome measure was students' 8th grade scores from the Pennsylvania Statewide System of Assessment (PSSA). Fifth grade scores on the measure were used as controls for prior achievement. Time, student demographics, teacher data, school transitions (examined if students were in the same school in 8th grade as they were in fourth), and school factors (e.g. school size) were also included as control variables.

Hypotheses:

1. Do the old K–8 schools have a significant advantage over middle schools in terms of student achievement?
2. Do the new K-8 schools have a significant advantage over middle schools in terms of student achievement?

a. The authors hypothesized that "since new K–8 schools have intrinsic advantages over middle schools but at the same time serve more disadvantaged populations, they should not perform significantly differently from middle schools in the end."

3. After controlling for student and teacher characteristics is there an advantage for students in old K–8 schools over middle schools? Is there an advantage for new K-8 schools versus middle schools?
4. After controlling for external (student/teacher characteristics) and internal qualities (school size and school continuity) are there significant differences between old K-8 schools, new K–8 schools, or middle schools.

Results:

- HLM verified the need for 3 levels of analysis.
- > 75% of variation in student achievement in 8th grade was at the student level for both math and reading.
- Old K-8 schools had students with significantly higher levels of achievement, this finding held after controlling for population demographics.
- Newer K-8 schools did not perform different than middle schools. However, after controlling for population demographics, the new K-8 schools were statistically higher in reading but not math.

After controlling for school transition and grade size (last control variables entered into the models), there were no statistically significant differences! The authors concluded that this finding was due to newer schools serving a more disadvantaged population than the old K-8 schools.

Author conclusions:

As the new K-8 schools did not contribute to math achievement significantly more than middle schools (with the full model), "we might" conclude the features that changed with the transition are not enough to replicate the old K-8 school achievement advantage.

So much of the K-8 advantage resides in differences in student populations between old K-8 and middle schools.

Authors believe the factors that foster positive student achievement are due to the class size and continuity BUT ALSO the populations that middle schools commonly serve.

"As long as the student demographics remain unchanged, a district is unlikely to replicate the K-8 advantage based on size or transition alone."

The changes in student performance, while sizable, would have left more than 50% of students in middle school still scoring below proficient on the PSSAs in both math and reading.

Citation: Seidman, E., Allen, L., Aber, J.L., Mitchell, C., Feinman, J. (1994). The impact of school transitions on the self-system and perceived social context of poor urban youth. *Child Development, 65,* 507-522.

Literature Review information:

- The transition to middle school is likely to be disruptive to the self and to social relationships. If students do not successfully make the transition it will increase the risk for long term negative developmental outcomes.
- This may especially critical for poor urban youth who experience a greater number of environmental stressors.
- Attitudes toward school, achievement motivation, and intrinsic versus extrinsic motivation have been found to change negatively after the transition to middle school.
- Grade point average often declines after a school transition.
- The transition to junior high school is associated with a decrease in student participation in extracurricular activities (which is a marker of engagement).
- Developmental mismatch hypothesis: "The mismatch between the motivational and developmental needs of early adolescents making the transition and their first encounter with the structure and demands of the new social environment is responsible for decrements in the self-system and disruptions in the role relationships."

Purpose/Question: Examine the developmental mismatch hypothesis with urban youth. Four distinct research questions:

1. What is the impact of the early adolescent school transition on the self-system?
2. What is the impact of the transition on a student's perceived social context?
3. Are changes in the self system and social context that coincide with the transition common or unique to gender or race/ethnicity?
4. To what extent are the changes in the self-system a function of the changes in the patterns of transactions with the peer and school microsystems across the transition from elementary to middle/junior high school.

Research Design: Data for the study were drawn from a larger longitudinal study of youth attending Baltimore, Washington D.C., and New York City schools. In this study, 580 adolescents who had provided data for both pre- and post-transition and were black, white or Latino (p. 510). The authors used both multivariate analyses of covariance and analyses of covariance to answer research questions. In each analysis, a 2 (gender) x 3 (race/ethnicity) x 2 (time) design was used. Age and grade (5^{th}-6^{th}, or 7^{th}-8^{th}) were included as covariates. The authors were interested in the within-subjects main effect of time and the interaction between time x race/ethnicity and time x gender. In order to predict self-system change the authors used hierarchical multiple regression analysis to assess the changes across time.

Key Findings:

- Impact on Self-System:
  - Self-esteem declined on the transition
  - Academic and social efficacy expectations increased across the school transition
  - Decline in self reported GPA and class preparation.
- Impact on School and Peer Microsystem Transactions:
  - After the transition, daily hassles significantly increased,
  - Perceived social support declined significantly in the transition year
  - Participation in extracurricular activities also significantly declined.
  - There was also a significant decrease in daily hassles with peers.
- The multivariate gender x race/ethnicity x time was significant, until the authors included reading and math achievement scores. Then the interaction was not significant.
- The authors used HLM to find that changes in perceived school and peer microsystems were associated with changes in the academic aspects of the cognitive and behavioral domains of the self-system.
  - Increases in school daily hassles, across the transition, were associated with decreases in academic efficacy expectations, class preparation, and GPA.
  - The perception of conforming peer values was associated with increased class preparation
  - Increased peer hassles with reports of increased GPA (p. 518).
- The developmental mismatch hypothesis was supported by these findings (p. 519)

Citation: Weiss, C. C., & Kipnes, L. (2006). Middle school effects: A comparison of middle grades students in middle schools and K-8 schools. *American Journal of Education, 112(2),* 239-272.

Research Question: How do academic and self-esteem outcomes differ for 8th graders in Philadelphia who attend a middle school vs. a K-8 school?

- Do these differences persist after controlling for school and individual predictors?

Background: Middle Schools Failing Philadelphia Students

- Secondary Education Movement Strategic Plan: At the time the article was written, Philadelphia was in the process (begun in 2003, est. completion 2007) of restructuring to reduce the number of middle schools based on prior research that they were failing urban students
- Under the plan, 9 middle schools would be converted to smaller high schools (800-1000 students), and feeder elementary schools would increase by one grade level each year until they were in a K-8 configuration

- Aim was to foster a smaller, family atmosphere, with groups of students staying together for a longer time, and enabling parents and teachers to form stronger relationships
- In 1995-96 (the first wave of PELS during which the 8th grade data were collected), 10,335 8th graders were served in Philadelphia in 38 middle schools, and 3,671 8th graders were served in 41 K-8 schools.
    - ***Better teacher characteristics in K-8 schools – higher percentage certified, higher 3-year retention rate, and more years of experience on average than in MS**
    - MS also had more African American students and more students whose families received public financial assistance than K-8

Research Design:

- Data from PELS (Phila Education Longitudinal Study) – this study uses 8th grade data only
    - PELS includes a stratified random sample from the population of all 8th graders in the School District of Philadelphia (public only)
- Multilevel regression (data are nested with groups of students within groups of schools)
    - Used MLWin software, similar to HLM
- Outcomes:
    - Average for all final grades (except gym)
    - Failures: whether the student failed any courses
    - Absences: whether the student missed 20% of school or more in one year
    - Suspensions: whether the student was ever suspended that year
    - Threat: whether student had been threatened by another in school (dichotomous – from survey data)
    - Safety: factor analysis
    - Feelings toward school: factor analysis
    - Self-esteem: factor analysis including self-worth and satisfaction items
- The authors control for school variables (school size and racial composition), individual variables (African-American or not [self-report], gender, retention), and parent SES (parent high school education or not, receive public assistance or not)

Key Findings:

- First examined how student and family characteristics differ by school type (not controlling for anything yet): there are significant differences between MS and K-8 schools in Phila – MS have more Hispanic, less parent education, more poverty, more retention, lower grades (small difference but sig at <.001), more failed subjects, more missed school, lower self-esteem, less sense of safety, and feel more threatened than students in K-8
- In the full academic model, after controlling for several other demographic predictors, going to a middle school was not related to any of 2 academic or 2 school-behavior outcomes

- But there was a significant relationship between the contextual predictors of school size, racial composition of the school, individual race, gender, retention, attendance, and public assistance
- Larger schools are associated with lower grades and higher odds of failure

- In the full nonacademic model, after controlling for several demographic predictors, students attending middle school had significantly lower self-esteem and significantly higher perceptions of threat than students attending K-8.
  - Liking school and perceived level of safety *were not* related to MS vs. K-8
  - Race, gender, retention, and poverty *were* all related
- While the interaction term was not significant, results of models separated by school form suggest that self-esteem may carry more benefits for MS students than K-8 students for grades, course failures, and suspensions (but not attendance)

Limitations

- Authors note that concurrent data collection of predictors and outcomes obscures directionality: did low grades result in low-self esteem?
- I noted that this is just a study of Philadelphia public high school students – the authors generalized a little broadly by saying that eliminating middle schools is unlikely to succeed with only evidence from one city – we also don't have data on 6th or 7th graders
- I also noted that previous research says self-esteem is not really a good predictor because it's too general and has been shown not to relate as well to academic outcomes. Here are the items they used (Cronbach's alpha = .68, usually, the alpha should be .7 or above to be considered reliable).
  - You feel that you are very good at your school work.
  - You have a lot of friends.
  - You are happy with yourself most of the time.
  - You like the kind of person you are.

Citation: Rockoff, J. E., & Lockwood, B. B. (2010). Stuck in the middle: Impacts of grade configuration in public schools. *Journal of Public Economics, 94,* 1051-1061.

Questions:

- Does entering a middle school affect academic and behavioral outcomes in subsequent years?
- Do effects differ based on when the student entered middle school?

Research Design:

- Used school configuration in grade 3 as the predictor because whether and when they go to a middle school "is strongly related to the range of schools they attend in grade 3"
    - The ranges studied include K-5, K-6, and K-8
    - Called this their "instrumental variables strategy"
- The equation the authors used was designed to be sensitive to whether the students who were destined for middle school saw declines in achievement before they ever made it to middle school, another way of controlling for student factors (prior achievement?)
- Also used two-stage least squared regression (OLS) to account for the fact that not all students experience a systematic, predictable change to the next school
    - E.g., a student who enters MS at grade 7 may not have attended a K-6 school, but perhaps attended a K-8 and changed schools due to another reason (moving)
    - Found that the instrumental strategy and OLS came out with pretty similar results

Key Findings:

- Controlling for achievement and retention in grades 3-5, by the time they are in 8th grade, students who enter middle school at grade 6 are estimated to underperform relative to kids in K-8 (in math by .17 SDs and in English by .14 SDs); the level of underperformance is not as bad for kids who entered MS at 7th, relative to kids who never entered MS (underperforming K-8 8th graders in math by .10 SDs and .09 in English).
    - We would consider an effect size <.20 to be trivial, assuming these are equivalent to Cohen's *d* or *h*.
- Other findings
    - When looking only at students above the city median in grade 3 achievement, the difference between K-8 kids and 7th grade-entry MS kids in 8th grade achievement is not statistically significant
        - The transition to MS is more harmful for low-achieving kids
    - Cohort size had a small but statistically significant effect on achievement (average grade 8 cohort size in K-8 schools was 200 students fewer than in MS)
    - Parent perceptions of safety, academic rigor, and adult prosocial behavior were lower for parents of MS students than of K-8 students (survey data)
        - Also some evidence of lower *student* perceptions of these factors in MS than K-8
    - The authors looked into several other reasons for the differences in achievement between students who attend middle school and those who don't, including increased absences in suspensions in MS, financial resources, class size, teacher quality (though this was measured only , peer stability, student characteristic diversity, incidence of tracking, focus on math and English – none of these differed significantly/meaningfully by grade configuration type
    - Moreover, students who entered middle school in grade 6 underperform relative to students who entered middle school in grade 7. An F-test reveals that the expected

difference in achievement in grade 8 between students who entered middle school in grade 6 and those that entered in grade 7 is significant at the 1% level for both subjects.

Limitations:

- These data only go up through 8th grade – so not all students have made a transition yet.
  - We can't say middle school is the problem, because the inevitable transition to high school may cause similar declines in achievement for the K-8 students.

Citation: Gunter, W.D. & Bakken, N.W. (2010) Transitioning to middle school in the sixth grade: A hierarchical linear modeling (HLM) analysis of substance use, violence, and suicidal thoughts. *The Journal of Early Adolescence, 30*(6), 895-915.

Literature Review information:

- From 1970-2000 the proportion of sixth-grade students in traditional elementary schools went from approximately 75 percent of all sixth graders to less than one quarter (Cook et al., 2008).
- The majority of schools moved sixth grade into middle schools (6-8).
- Previous studies have examined standardized testing data, GPA, and behavioral consequences.
- However, analyzing changes in behavioral measures may reflect changes in staff response to problem behavior (more severe punishment) or changes in awareness (elementary school staff may not look for substance abuse problems).
- The authors of this study use self-report data to determine differences in substance use, violent behavior, and suicidal thoughts.

Research Design:

- Data from the study comes from a Delaware Risk Behavior Survey (developed by the CDC). The survey was administered to a random sample of 6th, 7th, and 8th grade classrooms between January and May 2007.
- 3 dependent variables: violence related behaviors, substance use, and suicidal thoughts/actions.
- 23 independent variables in 4 factors, emotional comfort, social acceptance, satisfaction with self, and resilience.
- The authors compared prevalence rates using chi-squared tests and then examined relationships between variables using HLM.
- HLM was also used to determine the relationship between grade configuration and the dependent variables.

Key Findings:

- Note: comparisons were drawn between students in terminal 6th grades (K-6, and non-terminal 6, 7, 8).
    - Students in terminal 6th grades reported a significantly higher response to both measures of violence, BUT this significant difference disappeared under HLM analyses.
        - "study provides evidence against the commonly held assumption that middle school increases exposure to violence and substance abuse" (p. 908)
    - There were no statistically significant differences in substance abuse between the two grade configurations.
- Finally, all indicators of suicidal thoughts/actions were higher among sixth graders in terminal schools.
    - Sixth grade girls in elementary schools were more than twice as likely to report a suicide attempt.
    - There was a gender x school type interaction. This suggests that the increase in suicidal actions during 6th grade for females was only significant in Elementary schools! (p. 906)
- Control comparisons were drawn between 7th grade and 5th grade responses on similar measures.
    - These comparisons showed that the differences between 6th graders did not exist in 5th grade (suicidal ideation was not measured) or 7th grade (except physical fighting, which remained significant).
- The full HLM model showed that emotional comfort, satisfaction, and resilience were significant predictors of suicidal actions.

Limitations: Small sample size and the use of local data limit the inferences from this study. The findings regarding suicide should be regarded as preliminary (p. 910).

Citation: Eccles, J.S., Lord, S., & Midgley, C. (1991). What are we doing to early adolescents? The impact of educational contexts on early adolescents. *American Journal of Education, 99*(4), 521-542.

Literature Review information:

- Several theorists have suggested that declines in adolescent performance in early adolescent is due to the stress from the junior high school transition or the pubertal changes in students at this time.
- Cumulative stress theory: declines in motivation result from two major changes, school change and pubertal change.

- Simmons and Blyth (1987): greater negative changes for students making the junior high school transition than those who stay in the same school.
- Motivational and behavioral declines may relate to the inappropriate educational environments in junior highs.
- Carnegie Council on Adolescent Development (1989) reported that educational practices for early adolescents should be consistent with a middle school philosophy (i.e. smaller groups of students, increased personal contact, more emphasis on objective based grading).

Research Design:

- Eccles et al. conducted several analyses based on the NELS:88 data to parse out the influences of age and transition on student changes in academic achievement.
- Authors made comparisons between schools with a P/K/1-8 (n=176), 6-8 (n=242), 7-8 (n=181), or 7-9 (n = 160) grade structure.
- *Outcomes included: grades, locus of control, self-concept, preparation for class, absenteeism, school violence, and substance abuse while at school.*
- Secondary analyses compared the P/K/1-8 structure to the other three on student outcomes.
- Investigated the effects of grade structure on student outcomes with regression.

Key Findings:

- Student outcomes did not differ between the 6-8 schools and the 7-8 schools or the 7-9 schools.
- The lack of significant differences between middle and junior highs calls into question the "age-at-transition" hypothesis regarding the decline in student motivation and achievement associated with the junior high transition (p. 526).
- Student outcomes in the K-8 schools were superior then student outcomes in the 6-8, 7-8, or 7-9 configurations.
    - Teachers and students reported that truancy, student violence, and substance abuse were higher in the "middle grade" structured schools.
    - Students in K-8 schools felt better prepared for activities and showed higher interest in school work than students in middle grade configurations.
    - Students in K-8 schools also reported receiving higher grades and having better self concepts, and a "greater locus of control" (p. 527).
    - These findings held, although the size of the coefficients was smaller, when including SES and setting (urban vs. suburban) in the model. "These suggest family-of-origin effects and community setting do not account for the school-grade structure differences" (p. 530).
    - Pattern of relations between school grade and outcomes remained largely unchanged when controlling for size of the school (slight reduction in effect sizes).
    - Examining differences between public and private schools showed no significant differences between K-8 and middle school configurations.

Citation: Arcia, E. (2007). A comparison of elementary/K-8 and middle schools' suspension rates. *Urban Education, 42*(5), 456-469.

Literature Review information:

- Suspension rates rise sharply in middle schools compared to elementary school
- Hypotheses for this increase:
  - Students may get more disruptive near adolescence
  - Middle school may provide poor fit for students this age.

Research Design:

- Sample drawn from Miami public schools.
- Comparison groups:
  - Students who attended K/8 or elementary school for 6th and 7th grade
  - Students who attended K/8 or elementary in 6th but middle school in 7th grade
  - Students who attended middle school in 6th and 7th grade
- Majority of the student attended middle schools in 6th grade.
- There were ethnic differences between students attending middle school vs. those attending K/8 or elementary schools in 7th grade so ethnicity was included as a covariate.

Key Findings:

6th grade:

- 8.7% of 6th grade students were suspended (at least once) in K-8/elementary schools
- 21.1% of 6th grade students in middle school were suspended at least once.

7th grade:

- 14.9% of 7th graders attending K-8 schools were suspended at least once.
- 24.6% of 7th graders attending middle schools were suspended at least once.
- 24% of students who transitioned from K-8/elementary schools to middle schools in 7th grade were suspended.

More students who scored below the 50th percentile on state tests were suspended than those who scored aboe the 50th percentile.

The suspension percentage was higher for Black students than Latino students which replicated other studies.

Regardless of where 7th graders attended 6th grade, a greater percentage of students in middle school were suspended than in K-8 schools.

- The higher rates of suspension across race/ethnicity, sixth-grade suspension history, and reading achievement suggest a strong setting effect

Citation: Poncelet, P., & Metis Associates. (2004). Restructuring schools in Cleveland for the social, emotional, and intellectual development of early adolescents. *Journal of Education for Students Placed at Risk, 9(2),* 81-96.

Research Questions:

- Have the Cleveland middle grades reforms been implemented keeping early adolescents' developmental needs in mind? (Case studies)
- What is the impact on student learning of removing a school transition? (Impact study)

Research Design:

- Case studies
  - 2 elementary schools in their 3rd year of restructuring to include middle grades
  - Included interviews and focus groups with stakeholders, record review
  - Half-day observation of one middle grades student throughout his daily school activities
- Impact study
  - Compared results on spring 2002 Ohio state test (OPT) for 6th graders in K-8 and middle schools
  - Used ANCOVA to account for achievement in fall of 5th grade (2000) on SAT-9
  - For reference, restructuring began in fall of 1999

Key Findings:

- I'm skipping over the case studies for now because I'm not sure it's helpful for our needs – but let me know and I can go back and summarize this
- Impact study:
  - 6th grade students attending new K-8 schools outperformed those in MS, after accounting for grade 5 achievement, with an effect size of .29
  - ES = .38 for math only

Lit Review:

2 major possible theories explaining the problems with middle schools:

- Coleman's 1974 focal theory of change: too many life transitions during the early adolescent period can harm psychosocial functioning
- Person-in-environment theory/ stage-environment fit: early adolescents thrive in a school environment that they perceive as safe, supportive, and providing autonomy
- Not mutually exclusive

Citation: Weiss, C. C., & Bearman, P. S. (2007). Fresh starts: Reinvestigating the effects of the transition to high school on student outcomes. *American Journal of Education, 113*, 395-421.

Research Questions:

- Do students who transition between schools from 8th to 9th grade have poorer outcomes than students who don't change schools?
- Does it make a difference for different groups of students?

Research Design:

- Data: Add Health database, using stratified design – includes private, religious, and public schools --- nationally representative samples
    - Wave 1: In-school questionnaires (1994-95 school year)
    - Wave 1 and 2: In-home surveys (majority of data for this study)
- This study includes students who were in 8th grade at the wave 1 interview and 9th at the wave 2 follow-up (n = 1680)
    - 70% of the sample changed schools moving from 8th – 9th grade
    - ***All of these are considered middle schools in this study, including K-8**
- Used HLM for multivariate analysis
    - For dichotomous outcome models, used second-order PQL estimation to minimize downward bias in between-group variance
- Outcomes
    - Nonacademic: fights drug/alcohol/tobacco use, delinquency, weapon at school
    - Academic: grades, school integration, having trouble in school (social, academic, behavioral), college aspirations

Key Findings:

- When controlling for other predictors, the only significant difference between 9th graders who changed schools and 9th graders who didn't is that those who changed schools were more likely to bring a weapon
- Changes occurred for all students in the shift from 8th to 9th grade, and for the most part, transitioning to a new school was not a significant predictor of the change
- Interaction effects suggest that school transitions have a **positive** effect for students who were socially isolated or had ever been retained by 8th grade

Limitations:

- These data do not address selection issues (if parents/students chose to attend a particular type of school)
- This study is only looking at one transition to high school – it's possible that several transitions are harmful even if one is not

Lit Review:

2 main schools of thought regarding why the transition leads to poor outcomes

- Developmental – 9th grade is just a difficult time in adolescents' lives – changing parental involvement in school, autonomy
- Changing schools – breaking up teacher and peer relationships, changes in organization and instruction – tougher discipline, less engagement, less trust, consequences of performance – effects of larger classes, grades, and schools – school climate

Positive effects of transition

- Exposure to new peers/norms is an academic benefit for low-achievers in MS
- Beneficial for students who were unpopular in MS
- Raises awareness of racial identity in some cases
- Few non-school outcomes have been studied

Citation: Mac Iver, M. A., & Mac Iver, D. J. (2006). Which bets paid off? Early findings on the impact of private management and K-8 conversion reforms on the achievement of Philadelphia students. *Review of Policy Research, 23(5),* 1077-1093.

Research Questions:

- Do students at schools run privately by educational management organizations (EMOs) make better academic improvement throughout the middle grades than students at other schools?
- Do students in a K-8 classroom make better academic improvement than students in middle schools?

Research Design:

- Sample includes the first and second cohorts to attend 8th grade in EMO schools
- Used longitudinal data, including PA state math test scores from the spring of 5th and 8th grades
- Used 3 multilevel change models since students are nested within schools – within-student, between-student, and school-level

Key Findings:

- ***Figure 1 does not support the text or conclusions – legend error?
- Privatization/EMO school management does not improve achievement in the short run
    - May be due to incomplete implementation/ following the district's status quo
- Conversion from MS to K-8 may be a promising development (listed in the findings and makes sense looking at Figure 1, but not Table 3)
    - Other work suggests that controlling for grade size reduces the K-8 effect (Byrnes, 2005)
- The 2004 8th grade cohort made bigger gains than the 2003 8th grade cohort
    - Authors attribute this to increased centralization, which provided instructional coherence and more state funding

Lit Review:

- Research on privatized, decentralized, and site-based management is mixed

Citation: Simmons, R. G., & Blyth, D. A. (1987). *Moving into adolescence: The impact of pubertal change and school context*. New York: Aldine de Gruyter.

- Focus on Part IV: Impact of School Environment

Analysis Plan for Ch. 7 and 8:

- Multivariate ANOVA to measure changes in clusters of outcome variables based on school type (grade configuration)
- Examine key variables in grades 6 and 7 where sig relationships are found
- Mean changes between grades 6 and 7 by different grade configurations and gender (four groups) – each group treated as if they all started at the same level in 6th (I didn't think this was as important because the K-8 group hadn't experienced any transitions yet)
- Looking at long-term change over five years for each of these same variables (I focused on this)

Chapter 7: The effect of type of school environment upon attitudes toward school and upon the self-image

RQ: How is school type (K-8/9-12 vs. K-6/7-9/10-12) related to student attitudes toward school and self-esteem?

- Attitudes include feelings of anonymity, discomfort, impersonality

Findings

- "top dog" phenomenon – students in all grades feel more anonymous when they are the youngest in the school and less anonymous when they are the oldest (regardless of grade configuration)
    - Same for self-image – better when students are "top dog"
- *Girls in the junior high configuration experienced a significant drop in self-esteem from grades 6-7 and grades 9-10 (the school transitions) while boys did not; both boys and girls in K-8 configurations increased in self-esteem from grade 6-10, including across the school transition
    - Note: self-esteem was not measured at grade 8

Chapter 8: The effects of type of school environment upon peer relationships, independence, future plans, and conformity behavior

RQ: how is school type related to peer relationships (participation and leadership in extracurriculars), independence, planning for the future, victimization and problem behavior, and academic performance?

Findings:

Extracurricular activities

- by 10th grade, males and females from K-8 schools were participating in more extracurriculars on average than they had in 6th grade, while 10th graders who went to junior highs are participating in fewer.
    - Males from both types of grade configuration participate in fewer extracurriculars than females do

Problem behavior and victimization

- 7th graders in junior high report less involvement in problem behavior than 7th graders in K-8 (but no sig diff in probation or suspension)
- 10th graders who went to K-8 schools report more victimization than those who went to junior highs

GPA and Achievement

- From 6th to 7th grade, GPA improves very slightly for kids in K-8 and decreases for kids in JH – decreases more for males than females.
    - Math achievement increases for all groups in this time frame, but the most for K-8 females and the least for JH males
- From 6th to 10th grade, GPA tends to decrease for all groups – unclear whether this is due to the stress of transition, stricter grading standards, or both (or the stress of transition is caused by stricter grading standards)

Non-sig

- No sig differences between K-8 and JH students were found in independence or planning for the future

Chapter 10: Individual Change and Recovery: Extracurricular Participation and GPA

RQ: How pervasive (a few kids or many) is the change in GPA found in Ch. 8? How substantial are the changes? Can we predict 5-year change just from the change between 6th and 7th grade?

Quick recap: K-6/JH/SH kids experience a drop when they transition schools to 7th grade; K-8/SH kids experience their drop when they transition schools to 9th grade. Everyone drops during 10th with no sig diff between them.

Findings:

- Change scores are pretty similar when you look at means or medians, suggesting that it's not a few extreme kids, but rather a general trend, that was found in Ch. 8
    - The only big difference here: differences in change scores among the K-8 kids from grade 6-9 show a bigger drop only for girls – K-8 boys drop in GPA about the same amount as JH boys from 6^{th} to 9^{th} grade
- While recovery from a drop in GPA at transition tends to occur at the group level, it seems that kids who experienced the largest drop from 6^{th} to 7^{th} continue to experience large decreases from 6^{th}-9^{th} and 6^{th} -10^{th}, while kids who experienced increases from 6^{th}-7^{th} show the smallest decrease from 6^{th}-10^{th} in GPA (everyone's GPA decreased in high school)

Grand Summary Findings of Chapters 7-10

- Transition to a junior high school was detrimental for self-esteem (girls only), GPA, and extracurricular participation among 7^{th} graders as compared with those who did not transition (K-8)
    - but this benefit dissipated when the K-8 cohort entered high school
- The effect appears to be neither due to a few extreme cases nor a very slight change in all children
- Children who had major losses from grades 6-7 do not seem to ever recover easily
    - Girls who attended JH were particularly unlikely to recover their self-esteem
    - JH students were somewhat less likely than K-8 students to recover participation in extracurriculars
- My summary: transitions are difficult whenever they happen, so the fewer the better; early intervention is necessary for kids who fall behind socially and academically in 7^{th} grade because their trajectory continues to decrease; K-8 shows slightly better outcomes, perhaps because of one less transition and delaying the drop in self-esteem, extracurricular participation, and GPA

Citation: Beane, J. & Lipka, R. (2006). Guess again: Will changing the grades save middle-level education? *Educational Leadership, 67(7),* 26-30.

There is often confusion between middle school configuration and middle school concept. According to the Carnegie Council on Adolescent Development and National Middle School Association, high-quality middle-level schools should:

- Improve academic achievement for all students.
- Understand young adolescence and provide strong transition supports.
- Provide a challenging and integrative curriculum.
- Create supportive and safe environment through such structures as small teaching teams.

- Ensure better teacher preparation for the middle grades.
- Improve relationships with families and communities.

The practices above which make up the *middle school concept* have shown considerable promise, however the problem has been that on the whole, these components have not been well implemented over time and rarely as a complete set of principles and practices. Often times when district decides on middle school configuration it is referring strictly to the grades in the building, not the teaching philosophy.

School Building Committee Meeting

March 10, 2016

Peebles Elementary School
Feasibility Study

PROJECT MANAGEMENT SMMA

Massachusetts School Building Authority

Flansburgh Architects

Community Forum No.5 Recap

Resources?

- Consolidated elementary resources
- Centralized campus / community resources

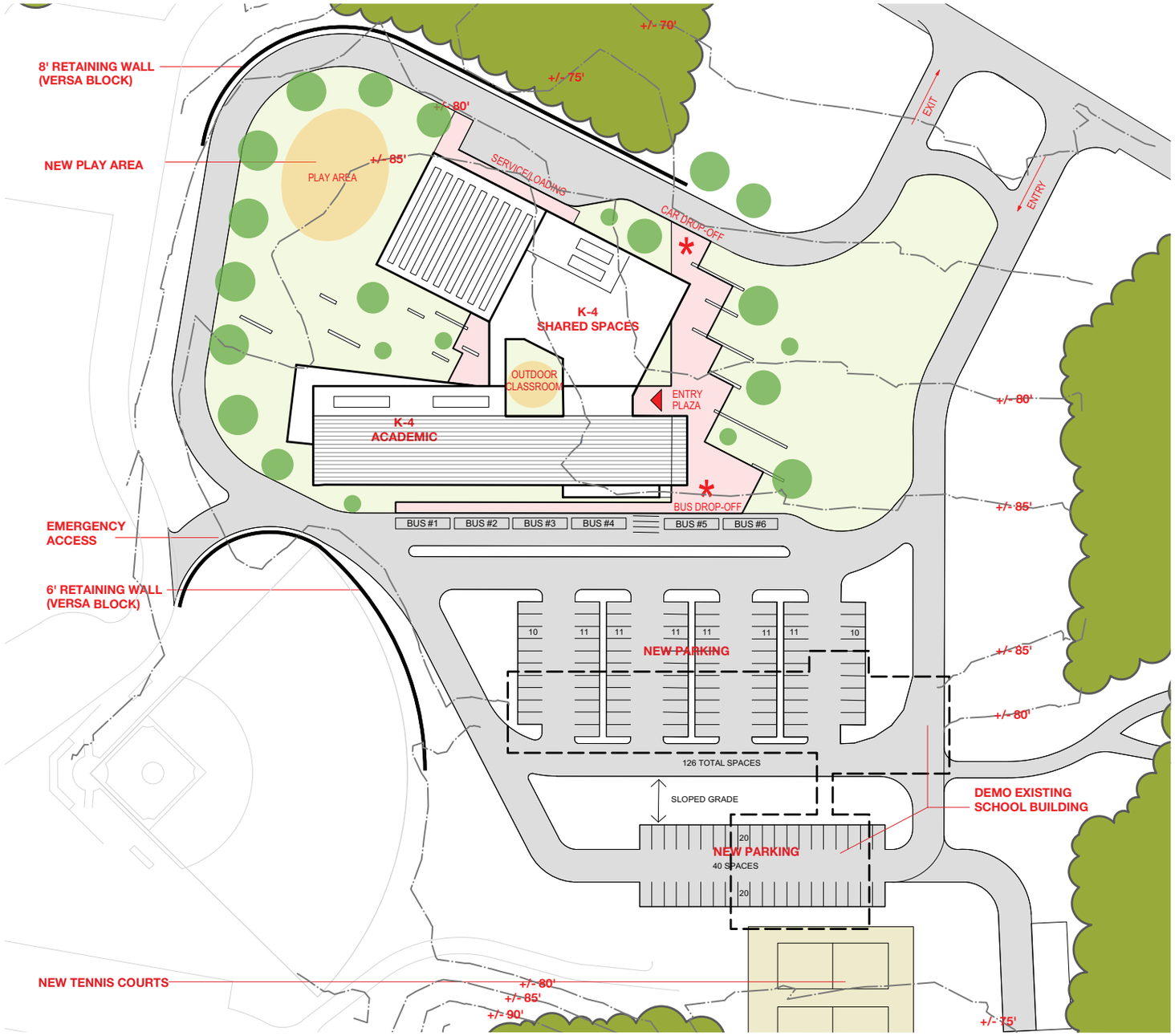
Transporation?

- Additional buses
- Changes to schedule

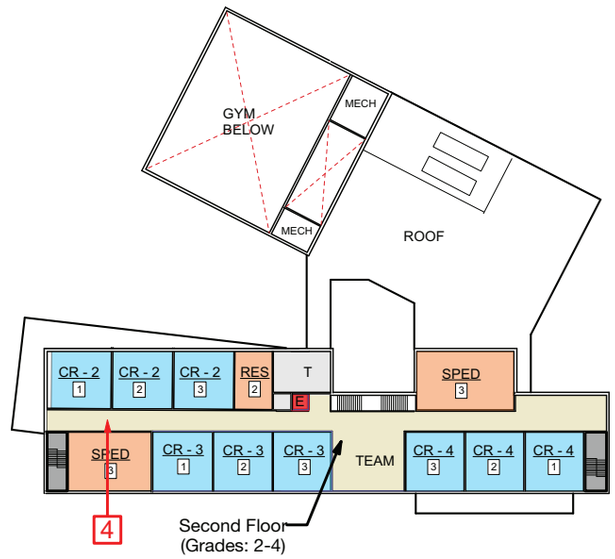
5th Grade Transition?

- Disruption to student
- Opportunity as leaders

Peebles New Construction Option 1A (250 students)



FIRST FLOOR PLAN



SECOND FLOOR PLAN

KEY

1. Arts & Innovation Studio:
   -Grouped with Arts,Music,Makers Space & Learning Commons to promote collaboration, shared resources
2. Outdoor Classroom:
   - Limits distraction to academic classrooms
   -project area with water, power
3. Community:
   - Stage open to gym & cafe to support larger venue to support greater community events on this side of the canal
4. Academic:
   -Neighborhood collab/display
5. Play Area:
   -Adjacent to Gymnasium to limit distraction to academic classrooms
6. Campus Resource:
   - Adjacent to Middle School and High School,Historic Village, Canal
7. Entry Plaza connects separate car and bus zones

Bournedale Addition/Renovation Option 2A (725 students)

KEY — New Addition: - - - - - -

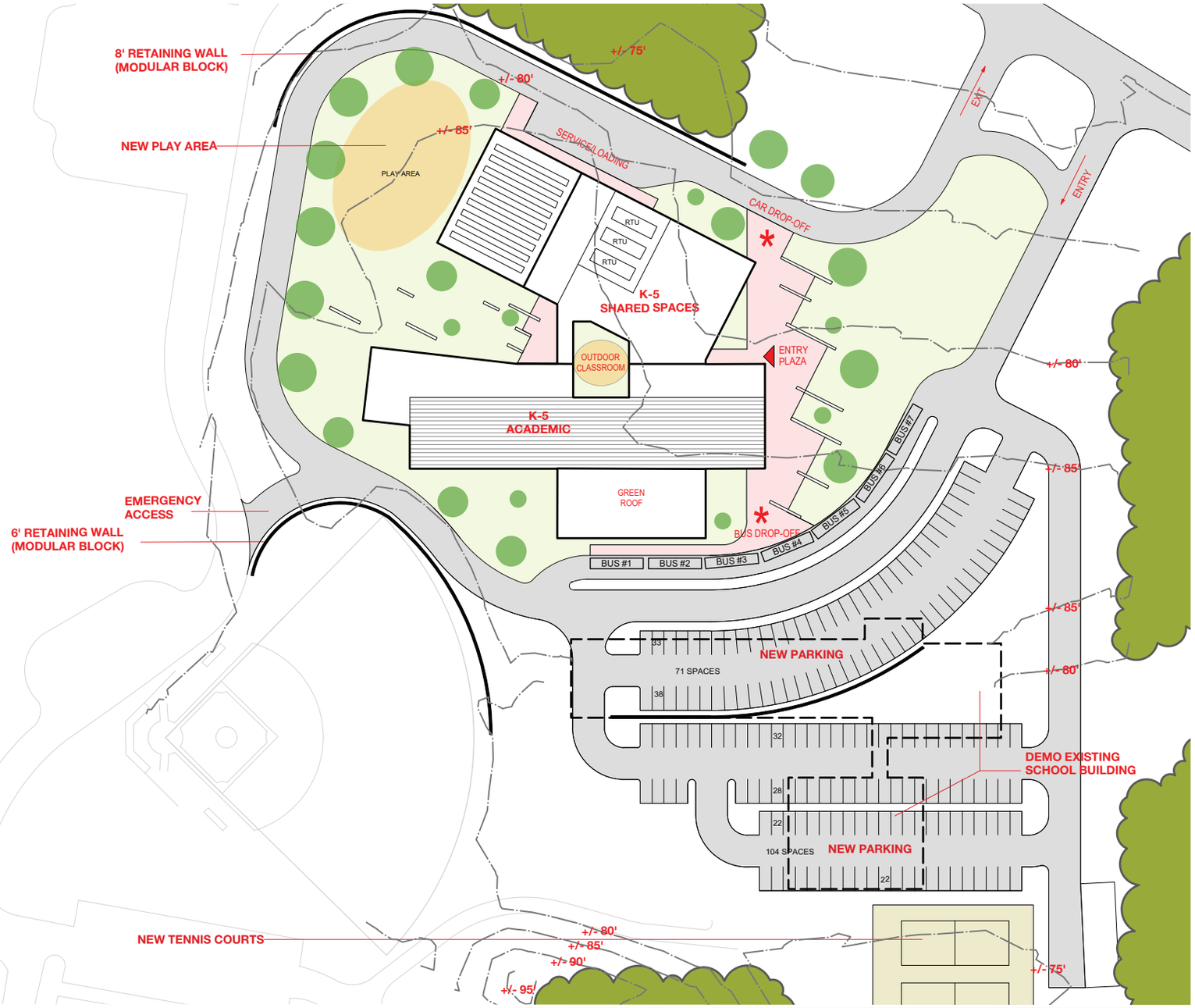
1. Arts & Innovation Studio:
   -Grouped with Arts to promote collaboration, shared resources
   -Remote from Learning Commons
2. Outdoor Classroom:
   - Limits distraction to academic classrooms
   -project area with water, power
3. Community:
   -Larger venue to support greater community events

4A. Academic: Neighborhood collab/display
4B. Academic: Existing building limits opportunity for Team Areas
5. Play Area: Remote from gymnasium
6. Separate car and bus drop-off entry locations
7. Distinct academic neighborhood:
   Existing Wing: Pk-2, New Addition: 3-4

FIRST FLOOR PLAN

SECOND FLOOR PLAN

Peebles New Construction Option 4A (410 students)



KEY

1. Arts & Innovation Studio:
   -Grouped with Arts,Music,Makers Space & Learning Commons to promote collaboration, shared resources
2. Outdoor Classroom:
   - Limits distraction to academic classrooms
   -project area with water, power
3. Community:
   - Stage open to gym & cafe to support larger venue to support greater community events on south side of the canal
4. Academic:
   -Neighborhood collab/display
5. Play Area:
   -Adjacent to Gymnasium to limit distraction to academic classrooms
6. Campus Resource:
   - Adjacent to Middle School and High School,Historic Village, Canal
7. Entry Plaza connects separate car and bus zones

FIRST FLOOR PLAN

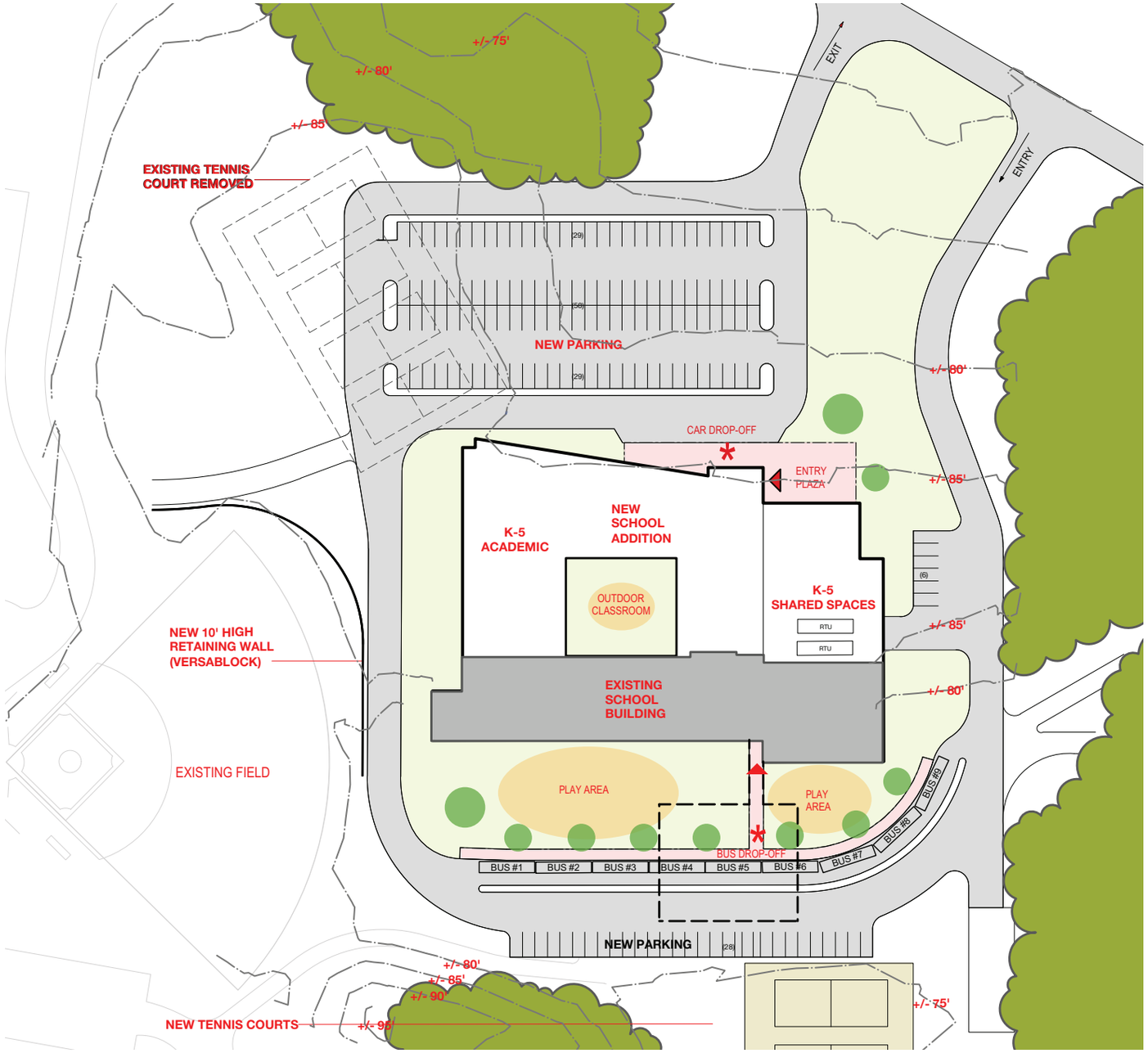
SECOND FLOOR PLAN

PROJECT MANAGEMENT SMMA

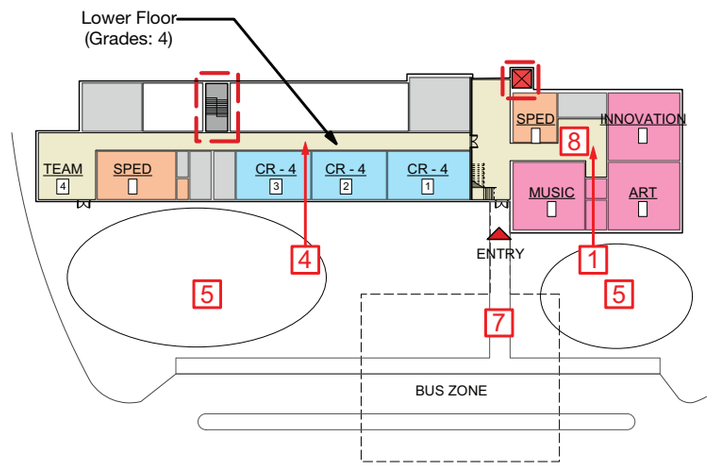
Massachusetts School Building Authority

Flansburgh Architects

Peebles Addition/Renovation Option 4B (410 students)



FIRST FLOOR PLAN



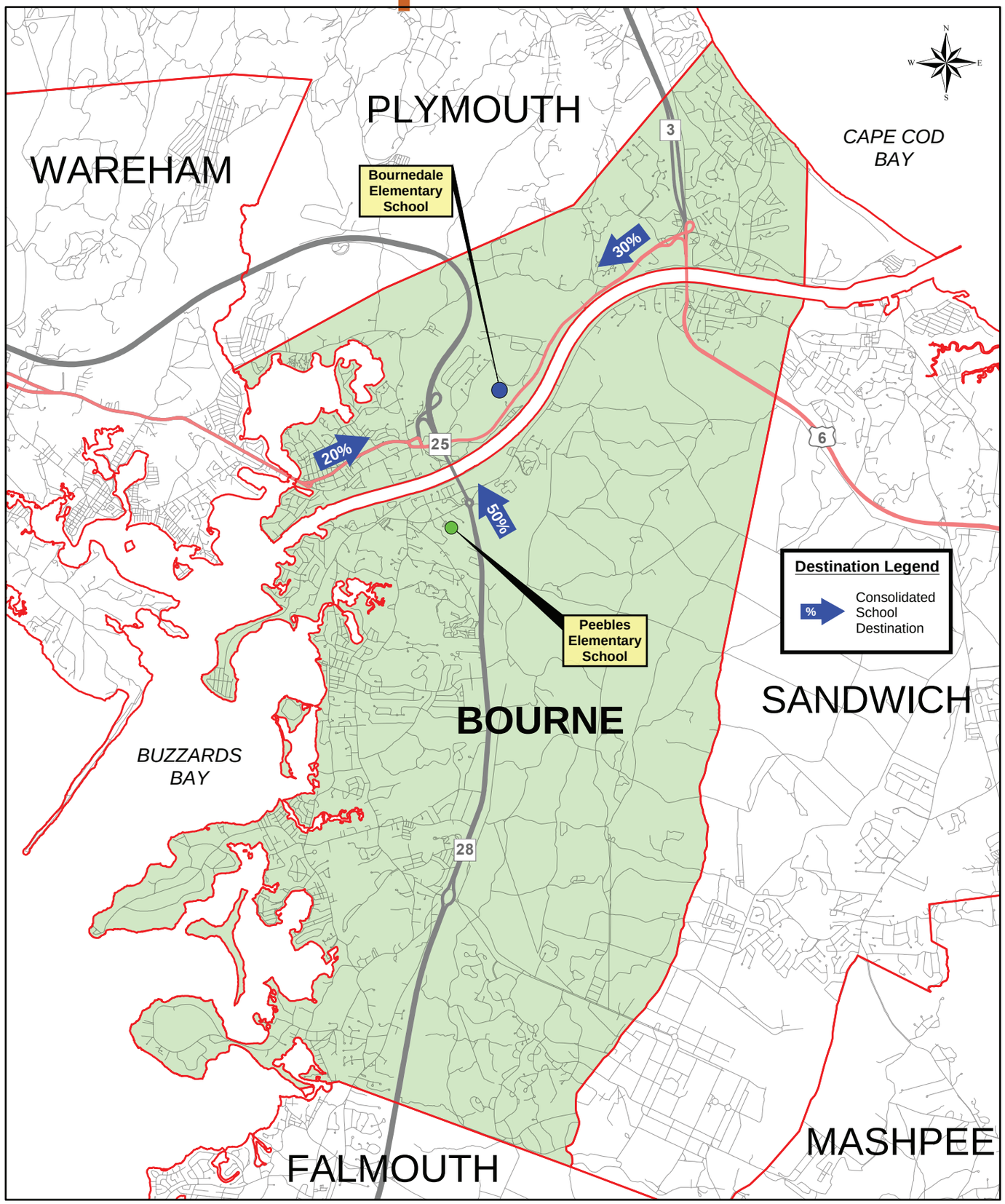
SECOND FLOOR PLAN

KEY — New Addition: - - - - - -

1. Arts & Innovation Studio:
   -Grouped with Arts,Music,Makers Space & Learning Commons to promote collaboration, shared resources (tucked away on lower level)
2. Outdoor Classroom:
   - Embedded within classroom wings may disrupt learning
3. Community:
   - Larger venue to support greater community events on this side of the canal
4. Academic: Neighborhood collab/display
   -Existing Bldg. has limited opportunity for larger Team Areas
5. Play Area: Remote from gymnasium
6. Campus Resource:
   - Adjacent to Middle School and High School, Historic Village,Canal
7. Separate car and bus drop-off entry locations
8. Potential noise concerns from proximity of gym to admin & Arts/Innovation area to Cafeteria Above

TRAFFIC AND SCHOOL TRANSPORTATION

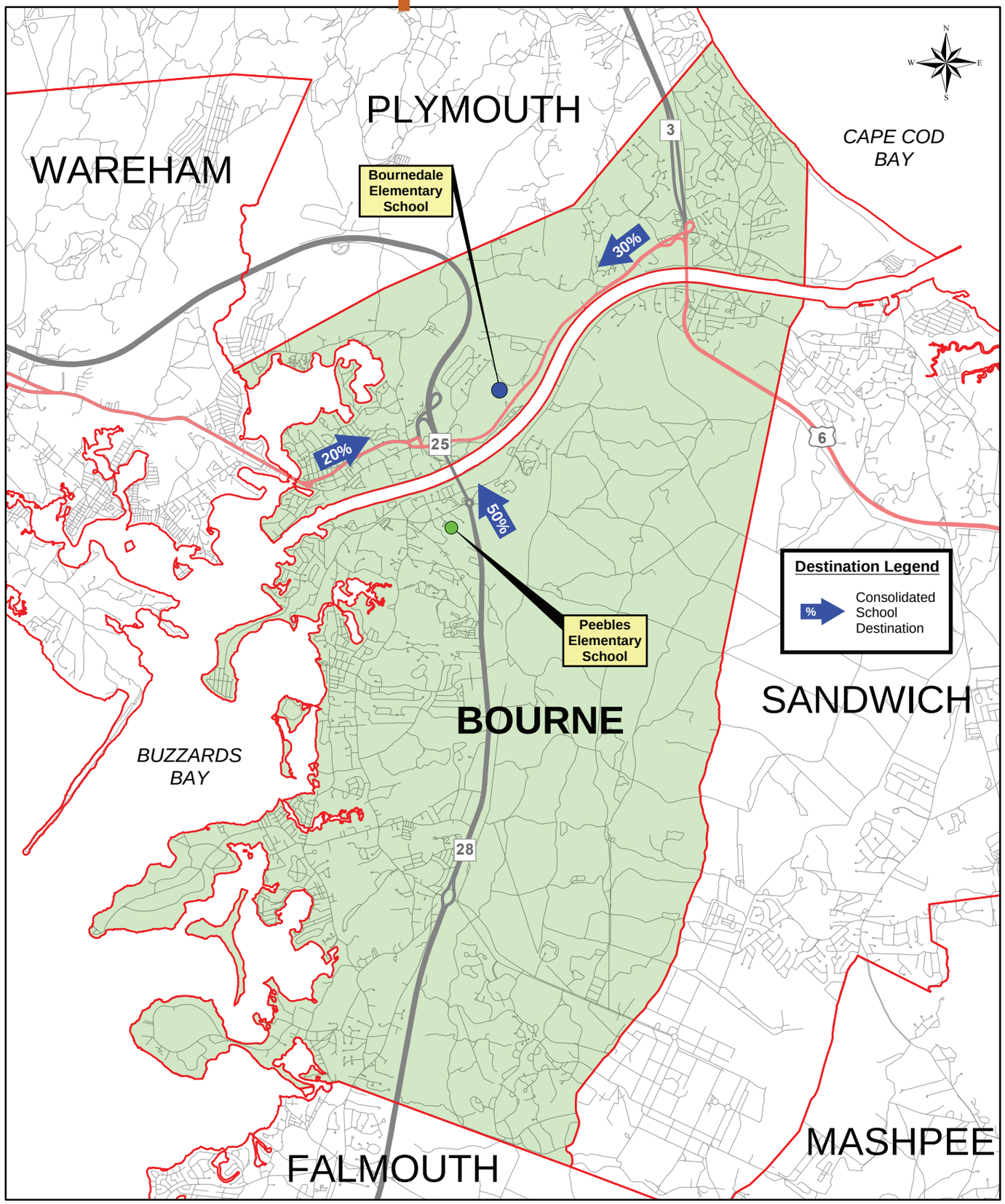
School Transportation



Bus Sequence

	Start Time	EndTime
High School	7:15	1:42
Middle School	8:00	2:22
Elementary Schools	9:00	3:00

School Transportation

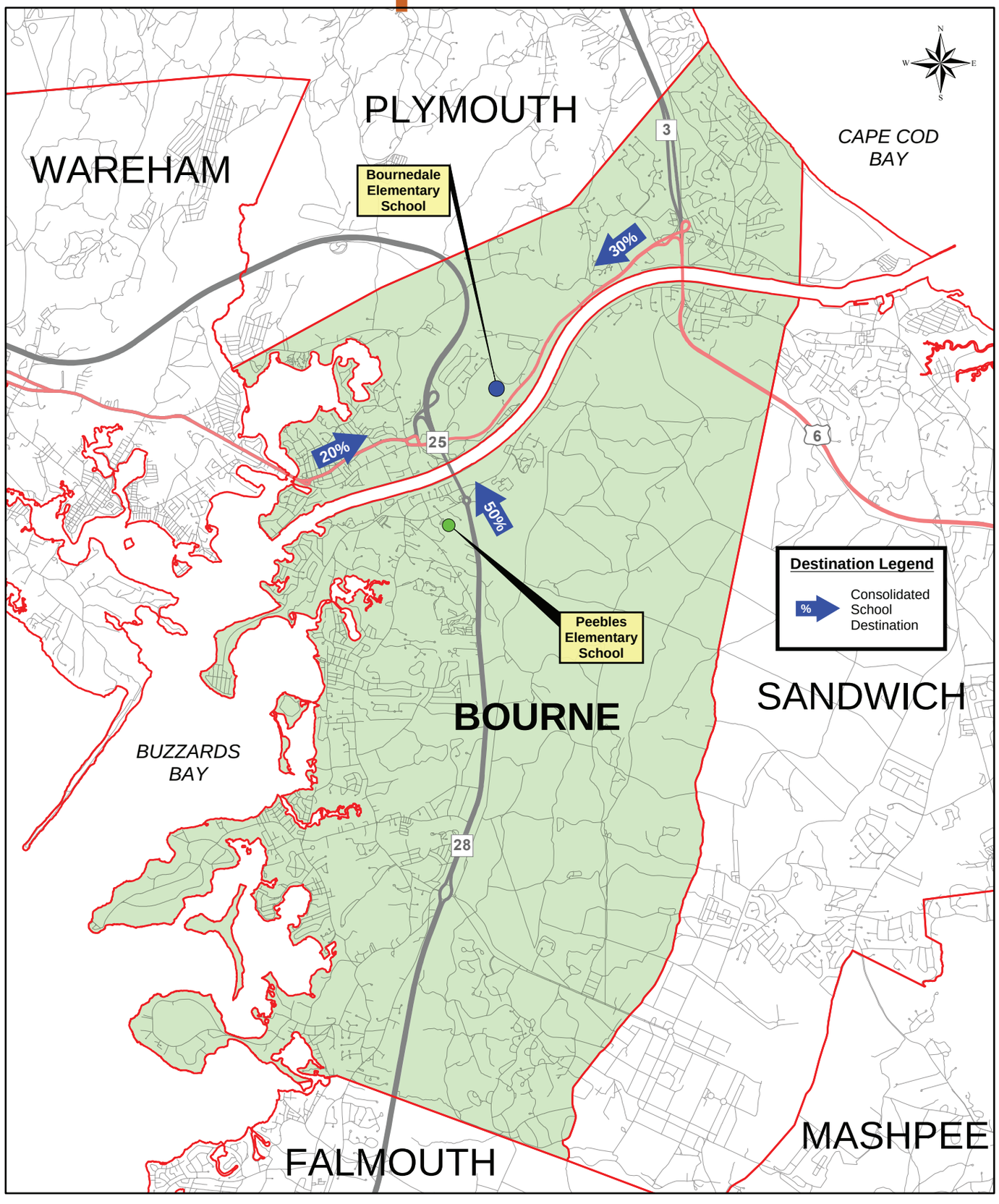


Option 1A (schools on both sides)

- No change to schedule
- Approx. $32,000 operational savings by eliminating morning and mid-day Kindergarten runs to Bournedale

* Cost based on full day Kindergarten

School Transportation



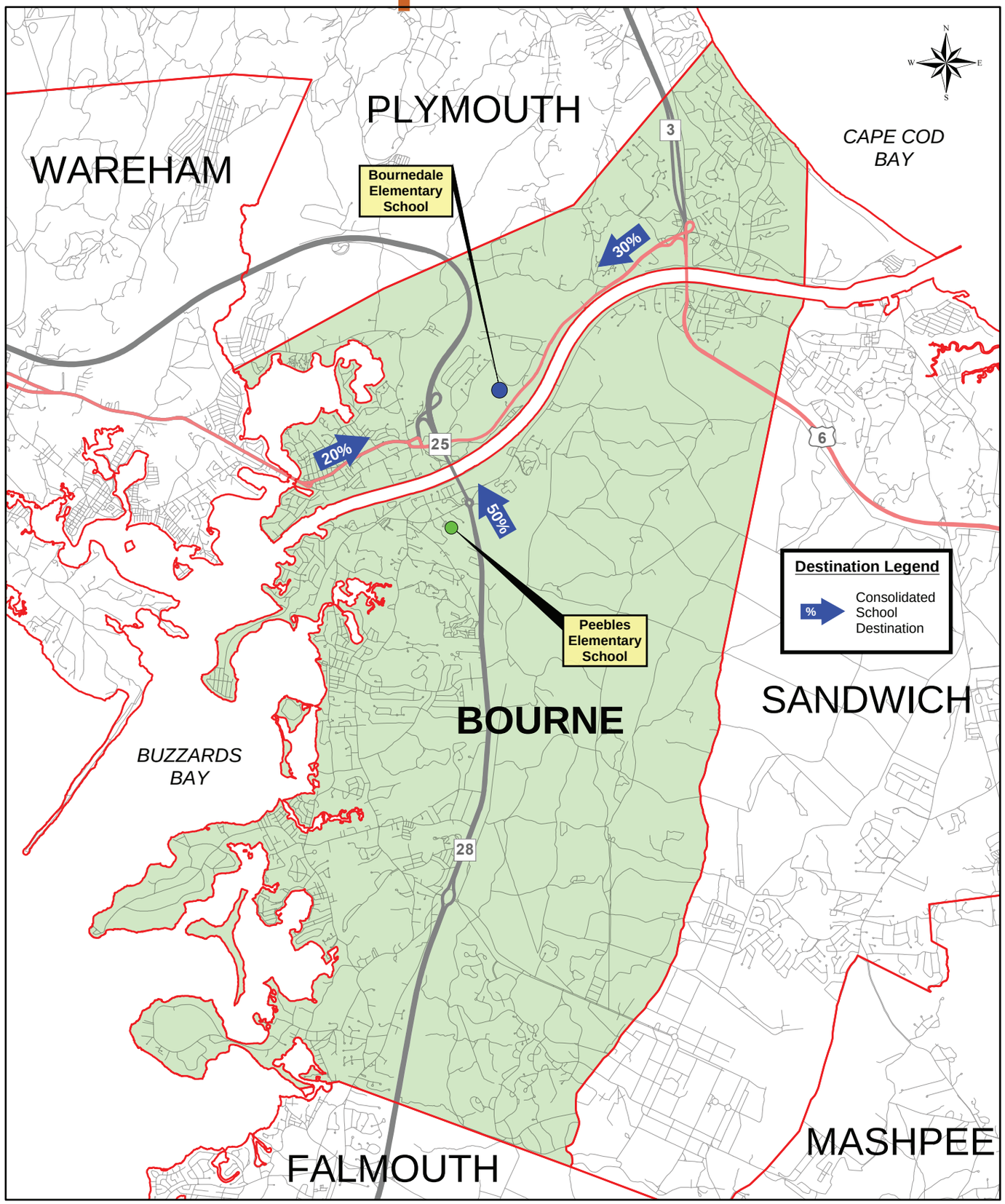
Option 2A (schools on both sides)

- Requires 20 minute change in start/end times of elementary school
- Potential increase in travel time to Cape-side students due to seasonal traffic impact beginning mid-April
- 1/2 day Kindergarten runs= $32,000 savings
- 2 additional runs = $4,000

Total approximate cost: **$28,000 savings**

	Start Time	EndTime
High School	7:15	1:42
Middle School	8:00	2:22
Elementary Schools	**9:20**	**3:20**

School Transportation



Option 4A & 4B (schools on both sides)

- Requires 1 additional bus for 5th grade students residing on Cape side.
- Requires 3 additional runs added onto existing buses for 5th grade students residing in the Buzzards Bay and Sagamore Beach areas.
- One additional bus = $53,000
- Three additional runs = $6,000
- 1/2 day Kindergarten runs= $32,000 savings
- Total approximate cost: **$27,000 increase**

CONSTRUCTION SCHEDULE

Construction Schedule

		Option 1A (K-4) Peebles New Construction 250 students	Option 2A (PK-4) Bournedale Add/Reno 725 students	Option 4A (K-5) Peebles New Construction 410 students	Option 4B (K-5) Peebles Add/Reno 410 students
Gross SF		**57,248 SF**	**114,593 SF**	**72,473 SF**	**72,473 SF**
Duration	Building	**19 Months**	**18 Months**	**19 Months**	**22 Months**
	Sitework	**5 Months**	**8 Months**	**5 Months**	**8 Months**
*** TOTAL**		**24 Months**	**26 Months**	**24 Months**	**30 Months**

* Estimated Construction Schedule subject to change as project is refined

** Options 2A and 4B require occupied phased renovation.

PRELIMINARY COST MODELS

Cost of Design Alternatives

		Option 1 (K-4) Peebles Elementary 250 students	Option 2 (PK-4) Bournedale Elementary 725 students	Option 4 (K-5) Peebles Elementary 410 students		Base Repair Only**
		1A New	2A Add/Reno	4A New	4B Add/Reno	
Gross SF		**57,248 SF**	**62,293 SF**	**72,473 SF**		**55,190 SF**
Construction Cost $ (Hard Cost)	Building	$22.62M	$25.29M	$26.14M	$26.82M	$10.53M
	Hazmat/Demo	$1.7M	$0	$1.7M	$1.21M	$1.16M
	Sitework	$4.04M	$4.46M	$4.18M	$4.61M	$.38M
	Total	**$28.36M**	**$29.75M**	**$32.02M**	**$32.64M**	**$12.07M**
Soft Cost $	Fees & Expenses	$5.4M	$5.48M	$5.8M	$5.98M	$2.8M
	FF&E	$.75M	$1.02M	$1.23M	$1.23M	$.25M
	Contingencies	$1.99M	$2.38M	$2.24M	$2.94M	$1.68M
Other Town Costs		no cost	TBD	no cost	no cost	no cost
*** TOTAL**		**$36.49M**	**$38.63M** New Addition: 46,493 Extensive Reno: 15,800	**$41.29M**	**$42.78M** New Addition: 34,916 Extensive Reno: 37,557	**$16.8M**
Cost per SF		**$637**	**$620**	**$570**	**$590**	**$304**

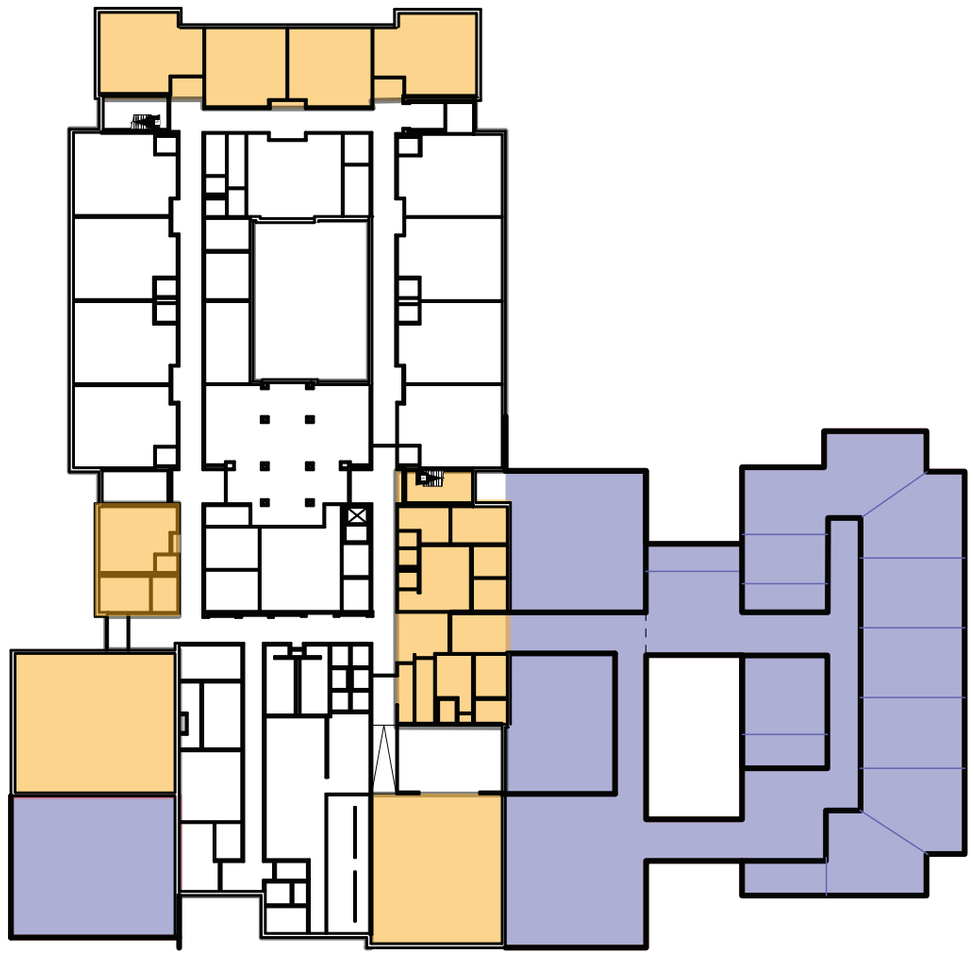
* Estimated Cost subject to change as project is refined

** Base Repair Only Option does not address the educational deficiencies in the school and does not meet MSBA standards

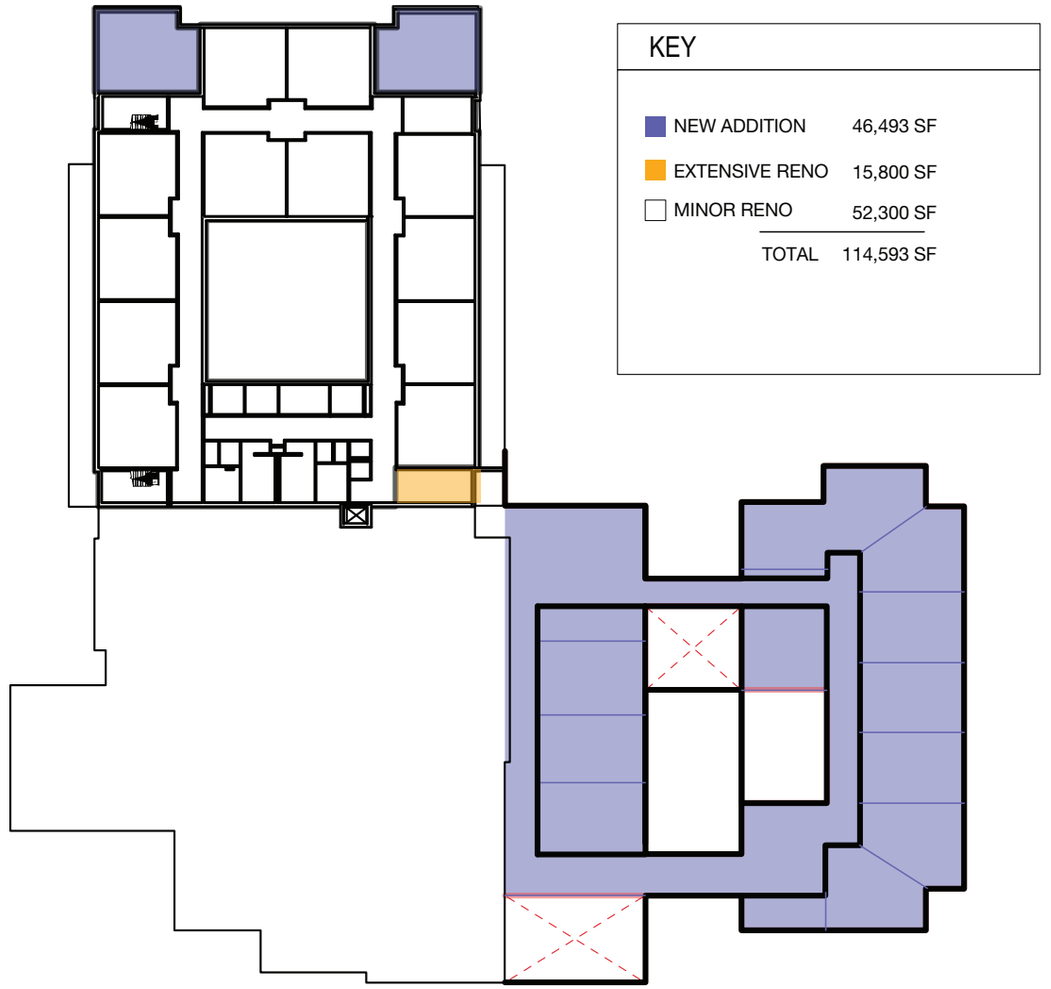
*** Option 2A cost per SF based on the sum of the Building Addition Area and Area of Major Renovations (appox. 46,493 SF and 15,800 SF respectively)

Bournedale Addition/Renovation Option 2A (725 students)

OPTION 2A: ADDITION/RENOVATION SCOPE



FIRST FLOOR PLAN



SECOND FLOOR PLAN

PROJECT REIMBURSEMENT

MSBA Reimbursement Process

- **MSBA is the state authority that administers and funds a program for grants for Massachusetts school projects.**
- **MSBA mandates a multi-step rigorous study and approval process.**
- **MSBA will reimburse all Eligible Costs.**
  - **Examples of Ineligible Costs are:**
    - Site Costs Over 8%,
    - Building Costs Over $299/sf,
    - Asbestos Flooring Abatement,
    - FFE/Technology Costs Over $2,400/Student,
    - Legal Fees, Moving Expenses, Construction Contingencies over 1% for new construction or 2% for renovations.
    - Prior Grant Cost Recovery/Renovation Costs on recent Previously Reimbursed Projects

Estimated Project Reimbursement Rate for Eligible Costs

	Option 1A	Option 2A	Option 4A	Option 4B
Base Reimbursement Rate	**43.84**	**43.84**	**43.84**	**43.84**
Maintenance	1.00	1.00	1.00	1.00
CM @ Risk	1.00	1.00	1.00	1.00
Renovation	0.00	2.97	0.00	2.59
Green Schools	2.00	2.00	2.00	2.00
*Total Reimbursement Rate	**47.84**	**50.81**	**47.84**	**50.43**

* Reimbursement rates subject to change based on MSBA Review

Estimated Project Costs and MSBA Reimbursement

	Option 1A	Option 2A	Option 4A	Option 4B
Project Cost	$36.49 M	$38.63M	$41.29M	$42.78M
Approximate MSBA Grant	$12.11M	$10.46M**	$14.69M	$15.47M
*Approximate Cost to Bourne	$24.38M	$28.17M**	$26.6M	$27.31M

* Costs subject to change as project is refined

** Option 2A costs subject to change based on MSBA Recent Previously Reimbursed Project Review

DESIGN CONSIDERATIONS

Design Considerations

Date: 3/10/16

Peebles Elementary School Feasibility Study
Educational and Working Group Meeting Action Items

	Date	Meeting Comment	Party	Resolution
January 7, 2016 School Building Committee Meeting				
1	1/7/16	W. Meier would like to confirm that the Preferred Alternative will alleviate capacity and enrollment pressures for many years to come.	**District**	
2	1/7/16	S. Lamarche would like to understand the costs incurred by the Town for the Middle School and Bournedale projects in context to today's costs for the Four Alternatives.	**SMMA**	Escalation of Middle School and Bournedale costs presented at Feb 4 SBC meeting.
3	1/7/16	J. Potter would like to understand if there are any MSBA required spaces in the Four Alternatives that were not required in the Middle School and Bournedale projects.	**District**	
4	1/7/16	F. Howe would like to understand the transportation and travel impact differences between the Four Alternatives.	**FAI**	
5	1/7/16	J. Potter indicated the Design Team should factor in any future planned Traffic Improvements by the Cape Cod Commission that may impact the Four Alternatives.	**FAI**	Nitsch has studied work being completed as part of Cape Cod Commission improvements and determined this work will have no impact on the school project.
6	1/7/16	K. Anderson would like to understand what other similar-sized Communities have elementary schools as large as 725 students.	**SMMA**	Comparative costs of similar projects presented at Feb 4 SBC meeting.
7	1/7/16	P. Meier would like to understand what other Town-projects may be seeking capital project funding appropriations over the next few years.	**Town**	
8	1/7/16	S. Lamarche would like to understand the Peebles community's emotional and cultural viewpoint for keeping the existing Peebles school and renovating versus razing and constructing new.	**SBC**	(To be determined through survey)
9	1/7/16	J. Norton would like to understand the cost and educational impact of doing nothing and maintaining the 62 year old Peebles.	**District**	
January 21, 2016 Community Forum #4				
1	1/21/16	Scope of Traffic Studies: use of bridges during peak times, for example, Friday afternoons April-Sept	**SBC**	Further study of traffic impact was not elected to be pursued.
2	1/21/16	Peebles Remediation Costs: Option 2 costs do not include any work at Peebles. Need to determine future use of Peebles building and cost to renovate or income from selling or leasing.	**SBC**	
3	1/21/16	MSBA reimbursement: Breakdown of cost to community and potential reimbursement would be helpful for consideration.	**SMMA**	Tentative reimbursement percentages presented at Feb 4 and Feb 18 SBC meetings.
February 4, 2016 School Building Committee Meeting				
1	2/4/16	Bus travel distances for Peebles and Bournedale options should be taken into consideration. K. Kovacs and E. Donoghue to meet week of 2/8.	**FAI**	Project impacts on bus travel presented at Feb 18 SBC meeting. Discussion with transportation coordinator ongoing.
2	2/4/16	Inclusion of 5th grade is a policy decision for the School Committee. C. Hyldburg to follow up with School Committee to provide direction to SBC.	**SBC**	
3	2/4/16	Public survey to garner community input could be helpful. SBC to develop questions for release at next community forum (No 5), with presentation of results at Forum No 6	**SBC**	Survey developed and ready for release.