



Shrewsbury Public Schools

Joseph M. Sawyer, Ed.D.
Superintendent

October 20, 2017

To: School Committee
From: Joe Sawyer
Re: Beal Building Project: Recommendation for future elementary grade configuration

As the work to design a renovated/expanded or new Beal School moved into the Feasibility Study phase, it became necessary for the School Committee to determine which of the two grade configurations put forth by the Massachusetts School Building Authority for the project should be adopted by our school district. This decision is necessary at this time in order to inform the work of the architect, owner's project manager, and the Beal Building Committee so that the design process, site selection, and other elements can move forward with guidance as to exactly what kind of school "Beal 2.0" should be. Further, this decision will inform planning for how the other elementary schools will be configured, if and when a "new" Beal will come online, which we believe would be for the 2022-2023 school year at the earliest.

The two grade configurations put forth by the MSBA are:

- 1) A 750-student early childhood center with Kindergarten and Grade 1
- or
- 2) A 790-student elementary school with Kindergarten through Grade 4

After carefully considering various factors related to these grade configurations, as well as the feedback from over 900 parents and community members and 275 staff members, **I recommend that the School Committee vote to establish a Kindergarten through Grade 4 grade configuration for all elementary schools in the Shrewsbury Public Schools**, to take effect if and when sufficient space is made available through construction of additional classrooms through the Beal building project.

Before outlining the factors that led me to this recommendation, it is important to note that both models are currently in place in different schools across the district, and both models are working well. In fact, the preference of staff for a K-1 or a K-4 model, respectively, is to continue the configuration in which they currently work. This indicates that they believe that their own respective configuration is successful, and based on our students' success in both configurations, the evidence is that both views are correct. This is a good thing, especially since we have several years in the immediate future where this hybrid configuration across the district will need to remain in place prior to a "new" Beal being built.

There are potential benefits and potential drawbacks to each model, and it will be very important to address the questions and concerns raised about both models regardless of

which configuration is adopted by the School Committee. I believe the K-4 model will be more beneficial for the following reasons:

- 1) A review of the educational research literature (see accompanying document) indicates that factors other than grade configuration are most important regarding student success and the quality of a school community; in other words, there is no evidence that a certain grade configuration is more effective than another educationally.
- 2) A review of the educational research literature indicates some concern that transitions between schools can compromise student achievement. Having fewer transitions was also seen by parents, community members, and staff as a strong benefit of the K-4 model.
- 3) Several other benefits are associated with the K-4 configuration regarding having fewer transitions, including:
 - a) Students remaining in one school for five years allows families to be more familiar with the school and its staff, and vice versa, and for students to become familiar with a smaller group of classmates
 - b) Vertical articulation of curriculum from grade to grade is stronger when educators from more grades are working together in the same building
 - c) Knowledge of students' needs from year to year is more cohesive when remaining in the same building for more grades, and this is especially important for students who are experiencing difficulties or who have special learning needs
- 4) Logistically, a K-4 configuration provides several benefits that a significant majority of parents, community members, and staff found desirable, including:
 - a) The climate of the school having a "neighborhood" feel, where older students serve as role models for younger students
 - b) Siblings within the grade range are at the same school, facilitating both bus transportation for children in the same family as well as parent transportation to and from school and/or extended care
 - c) Transportation on school buses will require fewer routes that are shorter in duration compared to the alternative; this is a logistical benefit as well as avoidance of significant additional cost that would require financial resources to be redirected from the educational program (see accompanying document)
 - d) The student population of Kindergarten and Grade 1 students is projected to be significantly higher than what can be accommodated by a proposed new Beal School, meaning that there isn't a way to provide the same grade configuration model to all students (projection for 2022 is for approximately 900 students in Grades K and 1; if the "new" Beal were a 750 student K-1 school, 150 students would need to attend a *different* school for those two grades, creating an equity issue). A universal K-4 configuration across five elementary schools provides more flexibility to distribute students across the schools in an equitable manner.

Those educators, parents, and community members who promoted the K-1 configuration cited benefits and drawbacks as well, and it is very important that the district pay close attention to these if a K-4 configuration is adopted. I believe that many of these issues can be addressed effectively with the proper approaches. Examples include:

- 1) A benefit cited of a K-1 configuration was having a critical mass of early childhood educators working together in one school, as has been the case for the past 30 years at Beal, as well as being better able to have strong horizontal curriculum articulation across the the grade levels. If the “new” Beal were a K-1 building, there would be approximately 40 classroom teachers in Kindergarten and Grade 1, with about 20 in each grade. As we know from our experiences at Sherwood and Oak, it is very difficult to orchestrate certain kinds of collaboration among such large groups of teachers, and so these groups would need to be divided into smaller units even within the same building. It is interesting to note that if the “new” Beal is a K-4 building, there will be approximately 16 Kindergarten and Grade 1 teachers there, which is actually a *larger* team of early childhood educators than at the current Beal. A K-4 configuration will also provide teams of teachers at each grade level in each of the five schools, allowing for collaboration within that school. The district will need to ensure teachers in the same grade level at different schools are able to stay on the same page, which is something that we work to do in all of our grades K-4 in our current situation.
- 2) Another issue cited among K-1 supporters was ensuring that a proper early childhood environment be cultivated, and that this could be more challenging in a K-4 environment. It is important that the district commit to ensuring that Kindergarten and Grade 1 students have access to the proper furniture, equipment, and instructional materials for their age, regardless of which neighborhood school a student attends. Feedback from educators and parents, and my own observations over the several years during which our district has had Kindergarten and Grade 1 classes in K-4 schools, signal that we have been successfully meeting the needs of early learners within a K-4 configuration, in a manner that is developmentally sound. There are many successful school districts where Kindergarten and Grade 1 exist in grade configurations up to and including K-8 schools. The inclusion of higher grades in school with early childhood grades and having a successful early childhood program are not mutually exclusive, and it is incumbent upon the district and individual schools to ensure that the environment, the curriculum, and the approach to teaching are matched to the needs of our students. Along the same lines, the presence of upper elementary-aged students in the same environment as Kindergarten and Grade 1 students is something with which we have years of experience, and many see this as a benefit. While it is possible that younger students might have negative experiences with older students (some cited concerns about older students “intimidating” younger students), that is rare in our experience; of course, these same dynamics can and do happen among students in the same grade or only one grade apart.

In conclusion, after careful study and thoughtful feedback from stakeholders that represents a strong consensus, I believe that establishing a K-4 grade configuration across the district will be of greatest benefit to our students, educators, and families. I will be happy to answer any questions at our upcoming meeting on October 25.

Beal Early Childhood Center Feasibility Study



Grade Level Configuration Report: Educational Considerations

Submitted by Amy Clouter

Assistant Superintendent for Curriculum, Instruction & Assessment

Shrewsbury Public Schools

October, 2017

Introduction

The Massachusetts School Building Authority has provided two possible options for the future Beal Early Childhood Center possible renovation/expansion or new building project:

- a Kindergarten – Grade 1 school with a design enrollment of 750 students, or
- a Kindergarten – Grade 4 school with a design enrollment of 790 students.

As part of the feasibility study, the School Committee, in partnership with Dr. Sawyer and with input from community stakeholders, must thoughtfully consider the benefits and drawbacks to each model.

This report seeks to summarize the research on grade level configuration and the impact of various models on students and families with the goal of better informing the community.

Background Information

A 'Grade span' refers to the number of grade levels in a given school building. 'Grade level configuration' is a term that depicts which grades are grouped together. Currently Shrewsbury students in grades Kindergarten- Grade 4 learn in five different buildings with three different grade spans:

<i>School</i>	<i>Grade Span</i>	<i>Configuration</i>
Beal Early Childhood Center	2	K-1
Calvin Coolidge School	5	K-4
Floral Street School	4	1-4
Walter J. Paton School	5	K-4
Spring Street School	5	K-4

Given the uneven nature of school construction, this degree of variety is typical, not just in Massachusetts but across the country. As an early record review states, "The grade level organization of the American school is characterized not by a single uniform pattern but by a variety of grade level configurations. Each of these grade level configurations has its advantages and disadvantages which have varying weights and influences in local districts as a result of local circumstances...most researchers have concluded that decisions on grade level organization have

been for reasons that are more administrative than educational.” (KY state report, 1981) The same variety can be found in schools today.

Research and Literature Findings

What is the impact of different grade configurations on student achievement? Most studies have sought to answer this question for children in middle and/or high school. Researchers studying the effects of grade spans on high school graduation rates, for example concluded that students in rural communities and/or students that were disadvantaged benefitted from remaining in one school over a long period of time. (Howley, 2000) Not until recently did policy makers consider the impact of grade level configuration on younger students.

More recent studies cited on this topic suggest that the link between grade level configuration and achievement is specious even for our youngest learners. A report commissioned by the Scituate Public Schools in anticipation of an elementary building project in in 2013 reads:

The research reveals that grade level configurations have little impact on student achievement (Hooper, 2002; Howley, 2002; Klump, 2006; Renschler, 2000). In other words, it does not matter which grades are grouped together in a building. More important than the physical or structural set up is the appropriate selection and sequencing of curriculum, effective teaching practices and alignment of the written, taught and tested curriculum (Hooper, 2002) When these are done well throughout the district, it does not matter which grades are housed in which building; students will achieve.

This conclusion is supported by an analysis of common assessment data in Shrewsbury. Every one of our local elementary schools has a demonstrated record of success, and children in each of the current grade level configurations have grown both academically and socially. At the same time, a new building project provides an opportunity to ask: Is there evidence to support one option over the other for educational reasons?

A review of the literature suggests that rather than determining the ideal grade level configuration, districts should weigh the pros and cons of two key factors, namely school size and transitions.

School Size

The literature indicates that when parents are surveyed, they generally feel that the smaller the school the better, and there are some studies that support this belief. A 2006 study concluded that achievement gaps between boys and girls were narrower in small schools (Black, 2006) Smaller high schools tend to have better rates of attendance, behavior and achievement (Nathan and Thao, 2007) However, findings are inconclusive when it comes to students in the

lower grades. Most importantly, in Shrewsbury our educators have managed to achieve a small school feeling in their school communities despite increasing enrollment, and academic achievement and parent satisfaction are high across all of our schools, including the larger ones such as Floral Street School, the two middle schools, and the high school.

Although the size of the school does not determine the likelihood of student academic success at the elementary level, practical considerations would likely come into play in a K-1 school with 750 five and six year olds, particularly in common areas (restrooms, playground, lunchroom) and at transition times (arrival, dismissal). In a K-4 model older students make for positive role models, and there are fewer “new” students to orient to school routines. For this reason, in a K-4 model routines may be established sooner, freeing students and staff alike to focus on learning.

Transitions

Researchers claim that achievement declines when students transition from one level to another, regardless of the grade in which the transition occurred. Further, studies of students in the middle grades (6-8) conclude that the number of transitions a student makes is correlated to the likelihood that he or she will drop out of school (Pardini, 2002) For this reason, many educators advocate for schools with bigger grade spans, arguing that students and their families develop stronger relationships with teachers when they remain in one school over time. It’s important to note, however that others refute this belief, claiming that the effects of a transition can be mitigated by thoughtful planning. (Cromwell, 2006)

The Kindergarten – Grade 4 option reduces by one the number of transitions future students in Shrewsbury will have to make. Further, when students and families remain in one school over time, there are several other advantages to consider:

- Siblings are more likely to attend the same school.
- Kindergarten and Grade 1 students have opportunities to interact with older “learning buddies” as role models.
- When part of a longer, continuous stay at a single school with the same administration, families may be more comfortable with grade-to-grade transitions and be better able to anticipate the particulars of the following grade, as compared to a transition to an entirely new school.
- Educators can come to know students better, and to plan proactively to meet student needs. For example, students that are reading on grade level by third grade are likely to maintain their reading skills for the long term. Thus, early intervention and monitoring from Kindergarten through second grade is vital. Close communication between educators at different grade levels is more likely when teams teach in

proximity, and individual teachers are better able to consult with colleagues at the grade level below in this model as well.

Conclusion

In his book *What Works in Schools*, educational researcher Robert Marzano states, “Any school in the United States can operate at advanced levels of effectiveness – if it is willing to implement what is known about effective schooling.” (2003) We are fortunate indeed that in Shrewsbury educators at all levels and in all grade level configurations work hard to put best practices into place, to serve children and their families and to contribute to our community. Not surprisingly, our youngest students in Shrewsbury are well served by both of the proposed models presented as options.

This success makes for a dilemma; although there is strong consensus through parent, community and staff surveys that the K-4 configuration is seen as more beneficial, there are committed educators and contented families advocating respectfully for both options. The thoughtful support for each model makes the decision more difficult, and transparency in the process paramount. It’s my hope that the findings in this report will help guide this important decision. Finding the right fit for “Beal 2.0” is more a matter of scrutinizing local needs and comparing the number of proposed benefits of each option than dismissing either option out of hand.

Last Words

Research suggests that the support of parents and guardians, thoughtful consideration of the needs of students as they learn and grow, the degree of collaboration among school staff, and the individual efforts on the part of the children matter most. For that reason, regardless of the decision made by the School Committee, and because under either configuration a “new” Beal will represent a significant change, it’s important that we honor the efforts of the educators that have served Beal Early Childhood Center students and families so well for so long. The teachers that shaped the model currently in place at Beal pioneered important work that met the needs of our students at a critical time, and that success will live on in the memories of the countless students and families that first experienced school at Beal.

References

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Shrewsbury Public Schools

Patrick C. Collins, Assistant Superintendent for Finance & Operations

18 October 2017

To: Dr. Sawyer

Subj: INPUT REGARDING SCHOOL TRANSPORTATION AND
FUTURE GRADE CONFIGURATION

Background

As part of the decision-making process regarding the district's future grade configuration, you have asked for input regarding the estimated impacts and differences in transportation costs and services if the "Beal 2.0 School" were a K-1 grade configuration versus a K-4 grade configuration.

Assumptions

It is assumed for this type of estimating that the district would retain the basic three-tier bus utilization system whereby the same bus has a high school route, a middle school route and an elementary school route so as to maximize cost and use efficiency of that asset. It is also assumed that "Beal 2.0" would be part of the elementary tier. Moreover, it is assumed that the district would shift into either offering or requiring full-day kindergarten for all students under either grade configuration. Finally, it is noted that actual bus routes and number of buses required are not part of this preliminary estimating process, which focuses simply on the differences that can be estimated at this point in the two different configuration options.

Current Statistics

One way to ascertain the differences in the proposed configurations is to look at current data as the district is actually operating in a hybrid grade configuration status now. After aggregating data from the 250+ bus routes we currently operate, one can see some relatively significant differences in efficient use of bus assets and average bus route times in the K-1 versus K-4 schools.

Beal currently operates as a K-1 school and has an average of 22 students per bus with an average route length of 13 miles and 41 minutes. However, busing for our K-4 schools operates more favorably with an average of 38-51 students per bus, an average route length of 7-9 miles, and an average ride time of 28 to 35 minutes. Obviously, the "neighborhood school" model lends itself to shorter bus rides as opposed to a centralized/district school for all students in the same grade.

All of this data is depicted in the table below.

	Grade Span	Avg. Riders/Bus	Avg. Route Length [Miles]	Avg. Route Time [Minutes]
Beal	K-1	22	13	41
High School	9-12	48	13	39
Spring	K-4	38	9	35
Paton	K-4	40	9	33
Sherwood/Oak	5-8	50	9	32
Floral	1-4	52	9	29
Coolidge	K-4	51	7	28

Estimating Bus Assets Required Under Each Model

The table on the following page is used to estimate and demonstrate the differences among our current model of service, a future K-1 model, and a future K-4 model for our elementary grades. Again, given the assumption of operating under a three- tier system with students for a given school/age level based together, we would need significantly more bus assets if Beal 2.0 were a K-1 school. As a reference point, the current annual cost of a bus is \$60,316. Under the K-1 model, it's estimated that an additional 10-15 more buses would be needed at a total incremental cost of \$600,000 to \$900,000 more on an annual basis.

		Current		
Tier 1	SHS	24		
	Special Education-SHS	2		
	Private School	2		
		Current		
Tier 2	Oak/Sherwood	33		
	Special Education-Middle	2		
	Private School	7		
Tier 3		Current	Estimated K-1 Model	Estimated K-4 Model
	Beal	9	25-30	15
	Spring	6	6	6
	Paton	5	5	5
	Floral	11	11	11
	Coolidge	5	5	5
	Special Education-Elem	6	6	6
	Private School	2	2	2
		44	60-65	50
Notes:				
1. Given that <i>Beal 2.0</i> would operate on Tier 3 and be required to transport students from the entire geography of the town, we would need sufficient assets at the same time we are using a separate set of buses to collect students in grades 2-4.				
2. Given that we plan to moderately reduce student population at elementary schools at the time of opening <i>Beal 2.0</i> , we may be able to re-allocate some bus assets to service <i>Beal 2.0</i> .				

Summary Comments

The data strongly suggests that from a transportation perspective, the K-4 model would be significantly more cost effective and also lead to shorter rides times for students and more efficient use of bus assets.