

ACTON-BOXBOROUGH REGIONAL SCHOOL DISTRICT



ABRSD WELLNESS ADVISORY COMMITTEE REPORT

School Start Times

JUNE 2016

Contents

Introduction	3
Subcommittee 1: The causes of adolescent sleep deprivation the impact on health & wellbeing	3
Timing and Amount of Sleep	3
Impact of Chronic Sleep Loss in Adolescents	5
ABRSD Student Sleep Survey Data	5
Subcommittee 2: Landscape of School Start Times	10
National & Regional School Start Times	10
Local School Start Times	13
Published Resources on ‘School Start Time Change’	15
Subcommittee 3: Community Stakeholder Impact Surveys	16
Interview: Principals and Marie Altieri – 11/23/2015	16
Interview: Before And After School Program	18
Interview: JD Head, Director of Facilities	19
Interview: Andrew Shen, Principal of RJ Grey Junior High - 12/4/2015	19
Interview: Steven Martin, Director of Athletics - 12/4/2015	20
Overview of Community Survey Results	21
Report Summary	30
Recommendations	30
Appendices	31
Subcommittee Members	31
References	31

Introduction

This document contains a summary of the research of the Acton-Boxborough Regional School District Wellness Advisory Committee 2016. A presentation was made to the ABRSD School Committee on June 9th 2016.

Subcommittee 1: The causes of adolescent sleep deprivation the impact on health & wellbeing

Timing and Amount of Sleep

Sleep is not just a passive state when humans switch off. The medical and scientific literature describes sleep as an important part of our daily cycle that is dedicated to maintain health, replenish, and grow. The American Academy of Sleep Annual recently confirmed that the amount of sleep we need changes as we age. In infancy, we need approximately 16 hours of sleep every day. Toddlers and preschoolers need 11 - 14 hours of sleep, and teenagers need 8.5 to 9.5 hours of sleep in any 24 hours¹.

The timing of our daily body rhythms is controlled by a tiny cluster of cells in the brain called the **suprachiasmatic nucleus (SCN)**, or 'biological clock' (Figure 1). The clock communicates with other areas of our brain and body to control the timing of daily rhythms such as blood pressure, body temperature, and wakefulness.

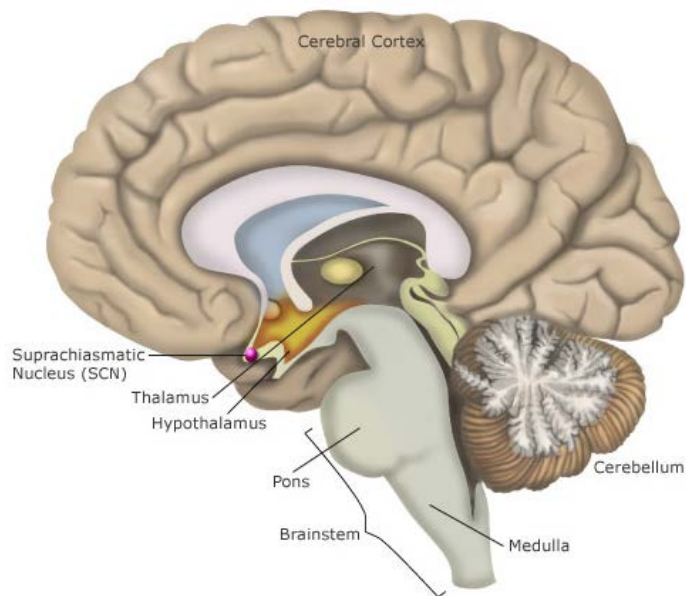


Figure 1: The Suprachiasmatic nucleus SCN ("biological clock") located in the hypothalamus.

The clock is able to keep accurate time by using a highly sophisticated system of specialized photoreceptive cells in the retina of the eye, called intrinsically photosensitive retinal ganglion cells (ipRGCs). This system communicates directly with the clock to provide information about the amount

and color of our environmental light. It is especially sensitive to bright blue light (e.g. the daytime sky). The clock is able to keep track of time by monitoring the appearance and disappearance of bright blue light.

There are two systems which control the timing of our sleep; the clock tells us what time it is, and we feel more and more sleepy throughout the day as our brain uses up energy to perform its waking functions. These two processes are called Process C (from the clock) and Process S (our “sleep drive”). The interaction of the two processes determines when we fall asleep.ⁱⁱ

Elementary-aged children will have a natural bedtime of approximately 8:00pm, and most will fall asleep quickly. We can say that their bedtime matches their “sleep onset” time. As a human enters puberty, they will experience a natural delay in the timing of their clock (Process C), and they will also experience a reduction in their homeostatic sleep drive (Process S). Therefore, adolescents naturally fall asleep much later in the nighttime hours, irrespective of what time they go to bed. This is completely normal, and is called a “phase delay” in sleep onset. By the time our students reach high school, they will experience a significant phase delay to their sleep onset. The medical literature states that the average sleep onset for this age group is after 11pm. We surveyed the AB high school students about their sleep onset, and compared AB sleep onset to national and local survey results (see results section).

Overwhelmingly, the medical literature shows that sleep onset for teenagers is a physiological phenomenon directly related to changes in the human brain during puberty. The time at which teenagers fall asleep is a physiologically driven phenomenon and not behaviorally driven one. It is true that bedtime distractions or avoidance can be common for children and adolescents, but these may be remedied by education of the students and their families.



Adolescents fall asleep after 11pm and need 9 hours of sleep. Their alarm clock should ideally wake them at 8am. Early school start times (before 8:30am) directly result in sleep deprivation for adolescents.ⁱⁱⁱ

The scientific literature shows that when school start times are moved later in the morning, the average bedtime of the students does not significantly alter; i.e. the students continue to fall asleep as soon as their physiology allows.^{iv}

For a general overview about the timing and amount of sleep needed by adolescents, please refer to the latest statement from the American Academy of Sleep Medicine^v, and the 2014 policy statement from the American Academy of Pediatrics: “School Start Times for

Adolescents”.^{vi} Additional comprehensive resources may be viewed on the Ashland Public Schools “School Start Times Resource [Page](#)”.^{vii}

Impact of Chronic Sleep Loss in Adolescents

The medical literature covering the adverse effects on health, safety, and performance in sleep-deprived adolescents is far too extensive to cover in this report. Please refer to the American Academy of Pediatrics Policy Statement for a systematic review of the most relevant studies.

Of particular concern to the ABRSD Wellness Committee was the increased prevalence of anxiety, stress, mood disorders, suicide ideation, increased nonmedical stimulant use, increased risk-taking behaviors, and impairments in executive function. The following adverse health, safety, and performance concerns are copied from the AAP policy statement^{viii}:

- **Physical health and safety**
 - Increased obesity risk
 - Metabolic dysfunction (hypercholesterolemia, type 2 diabetes mellitus)
 - Increased cardiovascular morbidity (hypertension, increased risk of stroke)
 - Increased rates of motor vehicle crashes (“drowsy driving”)
 - Higher rates of caffeine consumption; increased risk of toxicity/overdose
 - Nonmedical use of stimulant medications
 - Lower levels of physical activity
- **Mental health and behavior**
 - Increased risk for anxiety, depression, suicidal ideation
 - Poor impulse control and self-regulation; increased risk-taking behaviors
 - Emotional dysregulation; decreased positive affect
 - Impaired interpretation of social/emotional cues in self and others
 - Decreased motivation
 - Increased vulnerability to stress
- **Academics and school performance**
 - Cognitive deficits, especially with more complex tasks
 - Impairments in executive function (working memory, organization, time management, sustained effort)
 - Impairments in attention and memory
 - Deficits in abstract thinking, verbal creativity
 - Decreased performance efficiency and output
 - Lower academic achievement
 - Poor school attendance
 - Increased dropout rates

ABRSD Student Sleep Survey Data

The ABRSD Wellness Committee investigated the amount of sleep that AB students are reporting using various survey tools.

On a national level:

- The National Sleep Foundation reports that 59% of students in grades 6 through 8, and 87% of high school students, sleep for less than the recommended 9 hours per night.
- The US Department of Health & Human Services reports that 69.3% high school students obtain less than 8 hours sleep per night and that self-reported “sufficient sleep” decreases throughout the high school years: 39.9%, 28.5% and 23.3% of students in grades 9, 11, and 12 respectively.

On a local level:

Sleep survey data was obtained from the Emerson Hospital Youth Risk Behavior Survey (EH-YRBS) (Figure 2, Figure 3, and Figure 4). AB high school students report similar sleep deprivation (7 or less hours of sleep per night) as the students in the surrounding towns: Concord & Concord-Carlisle, Groton-Dunstable, Harvard, Littleton, Maynard, Nashoba Regional, and Westford (Figure 2). As expected, the number of students who reported sleep deprivation increased from grades 6 to 9 as more students reach puberty and experienced a phase delay in sleep onset. This change across age groups is also seen in Figure 3. The percentage of students who experience sleep deprivation in each grade has not altered significantly since 2002 (Figure 3 & Figure 4).

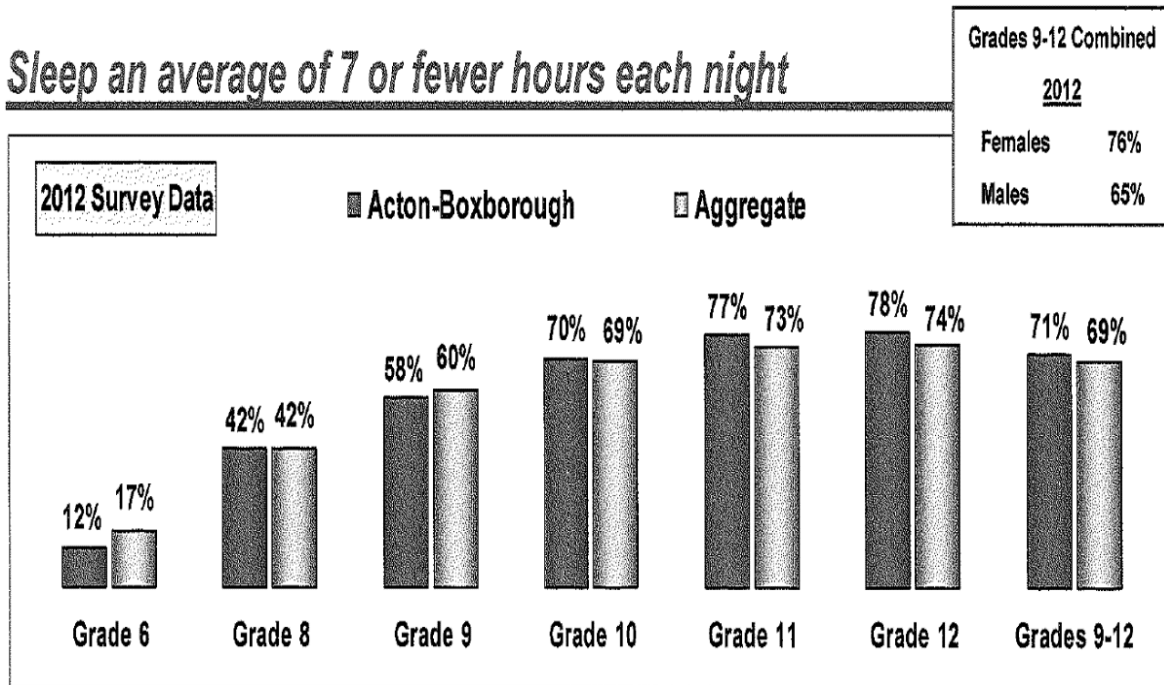


Figure 2: Emerson Hospital Youth Risk Behavior Survey data (2012). AB students report similar sleep deprivation to the aggregate of our surrounding towns (Concord & Concord-Carlisle, Groton-Dunstable, Harvard, Littleton, Maynard, Nashoba Regional, and Westford).

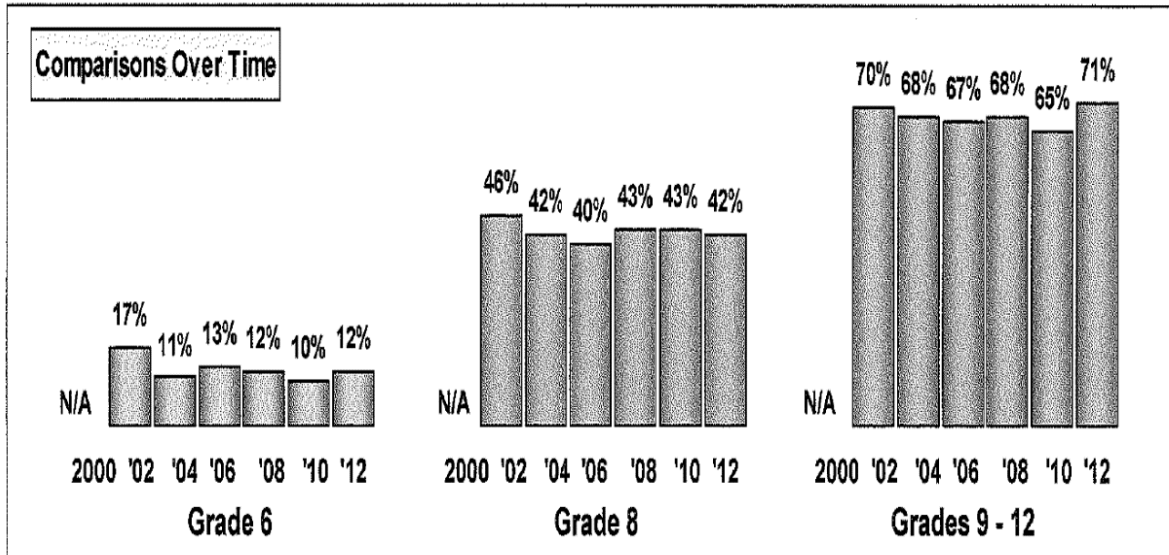


Figure 3: Emerson Hospital Youth Risk Behavior Survey data from 2000 to 2012 (Acton-Boxborough, Concord & Concord-Carlisle, Groton-Dunstable, Harvard, Littleton, Maynard, Nashoba Regional, and Westford). The aggregate pattern of sleep deprivation from 2002 to 2012 in grades 6, 8, and 9-12 is unchanged.

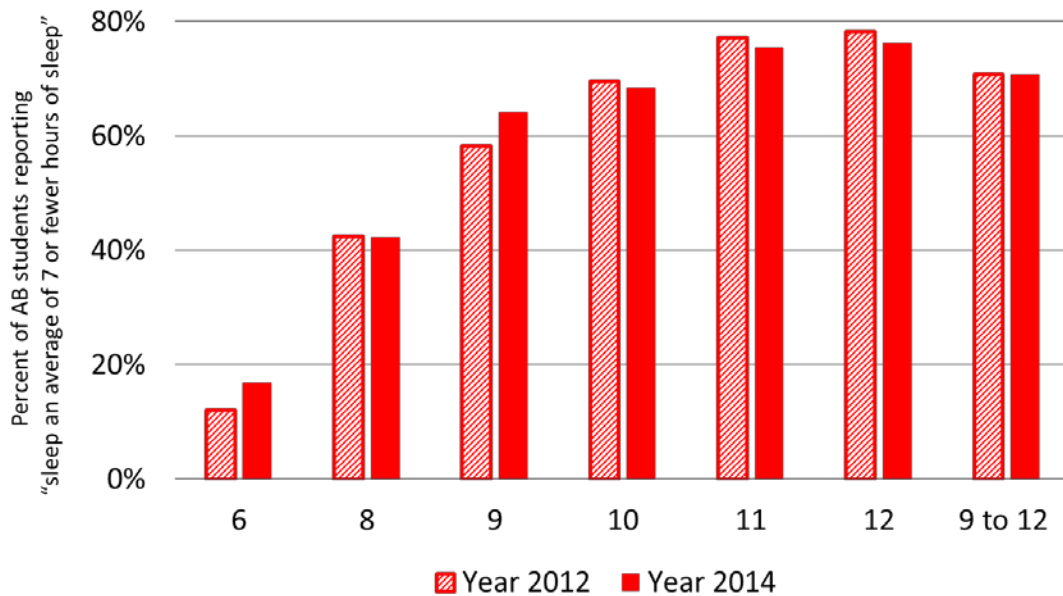


Figure 4: Emerson Hospital Youth Risk Behavior Survey: Percentage of AB students reporting 7 or fewer hours of sleep each night in 2012 and 2014.

The question on the EH-YRAS asks if students have “7 or fewer hours of sleep each night”. The ABRSD Wellness Committee investigated what “7 or less” actually meant to the students. A small cohort of 56 students answered questions about their sleep when they visited the Health Office in a 3 week period in 2016. One quarter of those students reported sleeping less than 5.5 hours per night (Figure 5).

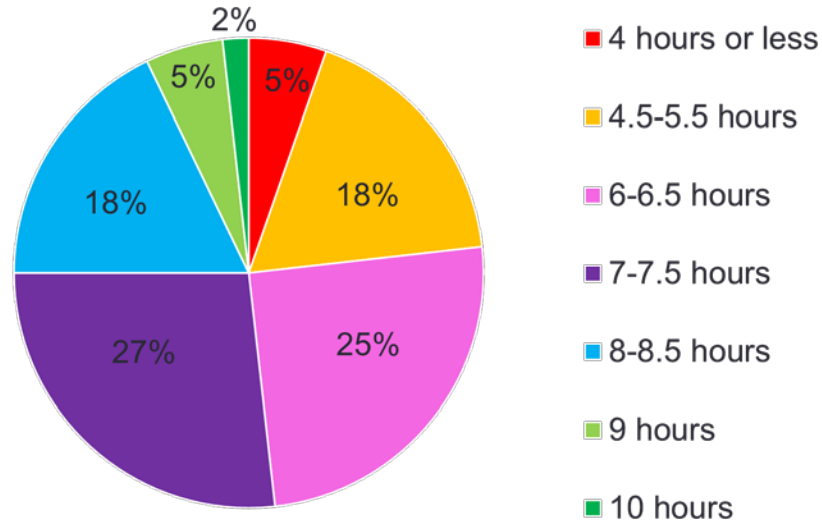


Figure 5: Survey of AB students visiting the Health Office for 3 week period in 2016. 7% of AB students reported obtaining the recommended 9 or more hours of sleep per night.

Information about the sleep of our AB High School students was also obtained from the ABRSD Wellness Committee Student Survey (Figure 6 - Figure 8).

- The average sleep onset time for AB High School students was 11:15pm.
- AB High School students reported falling asleep between 9pm and 3am (Figure 6).
- There were no significant differences in sleep onset time by grade (9 – 12).
- One quarter of AB High School students reported falling asleep after midnight.
- 2% of AB High School students reported obtaining the recommended 9 hours of sleep (Figure 7).
- 85% AB High School students reported 7 or less hours of sleep (Figure 7).
- 39% of AB High School students reported falling asleep in class 1 or more times a week (Figure 8).
- One in ten AB High School students falls asleep in class every day (Figure 8).

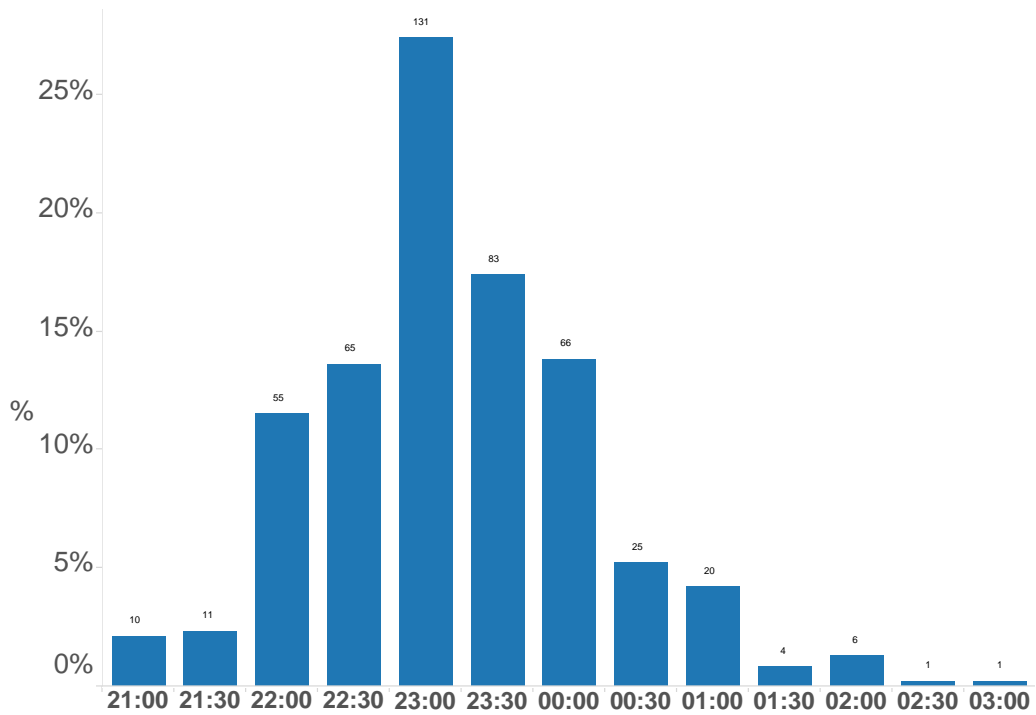


Figure 6: AB student survey data 2016 "What time do you fall asleep on a school night?" The average sleep onset time for AB High School students is 11:15pm.

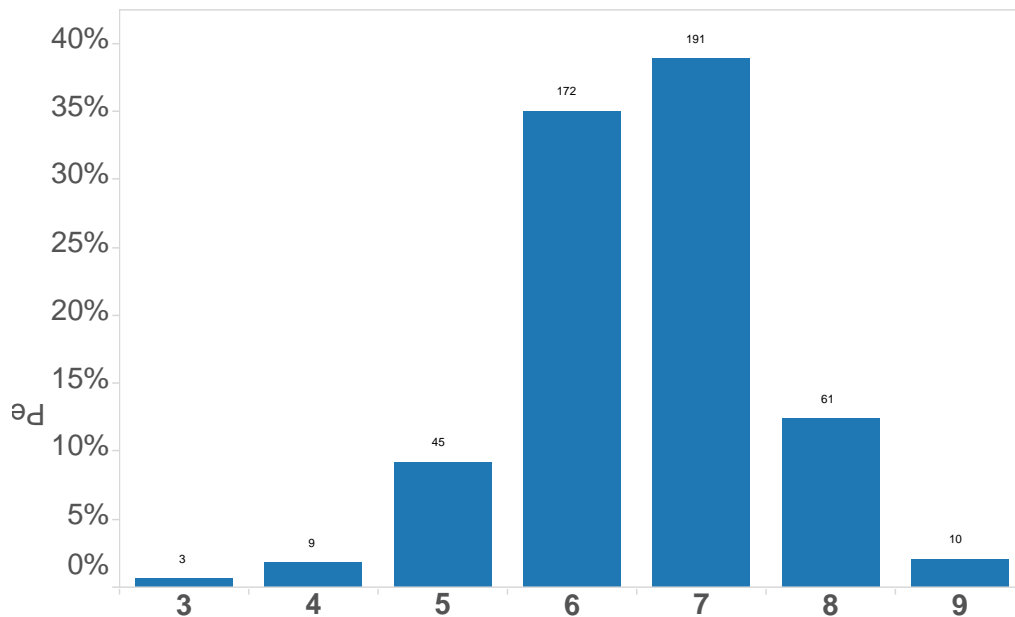


Figure 7: Average number of hours of sleep obtained by AB High School students on a school night. Only 2% of AB High School students reported obtaining 9 hours of sleep each night.

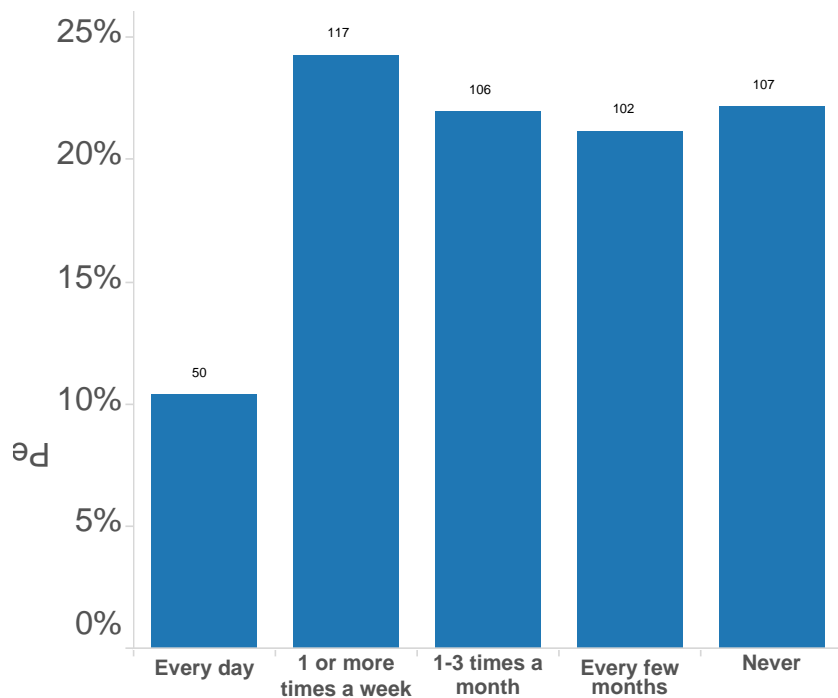


Figure 8: AB High School students were asked “How often do you doze off in class?”

Subcommittee 2: Landscape of School Start Times

Our focus for subcommittee 2 for the Wellness Advisory Committee was to review and summarize the current educational landscape as it relates to school start times. We looked at national, regional, and local school start times.

National & Regional School Start Times

The Centers for Disease Control and Prevention (CDC) analyzed data from the US Department of Education Schools and Staffing Survey (SASS) to determine the current landscape of school start times.^{ix} The most recent data available was from 2011-2012 & represented 39,700 public middle, high, and combined schools (26.3 million students). The average start time in the USA was 8:03am, with a wide geographic variation in start times (Hawaii had early start times, Alaska had later start times).

In Massachusetts, the average start time was 7:53am (collected from 700 public middle, high, and combined schools and representing 527,000 students). The distribution of start times for public middle, high, and combined schools in MA is shown in Figure 9. ABRSD starts in the earliest 8% of these schools.

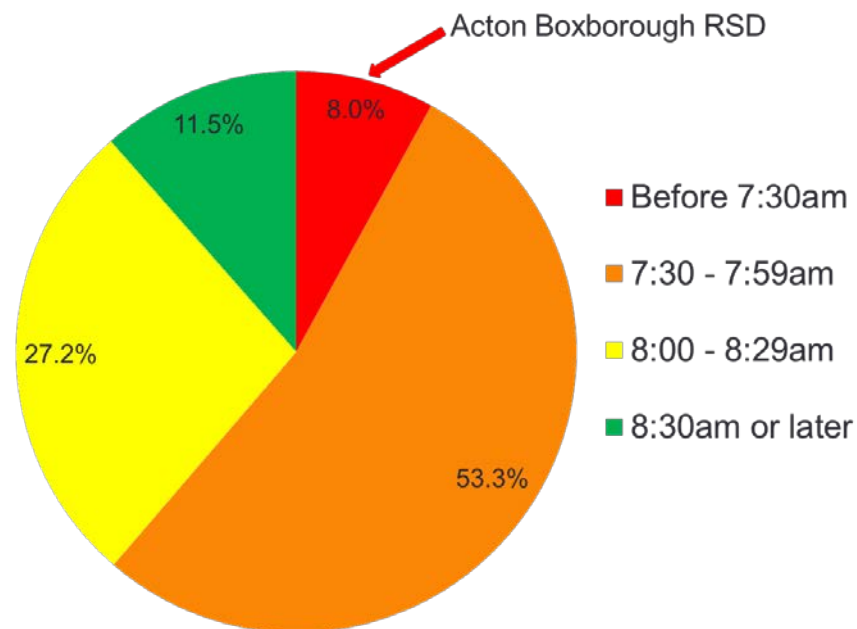


Figure 9: CDC analysis of the distribution of school start times in MA (collected from 700 public middle, high, and combined schools and representing 527,000 students). The average school start time in MA was 7:53am. ABRSD starts in the earliest 8% of public schools in MA

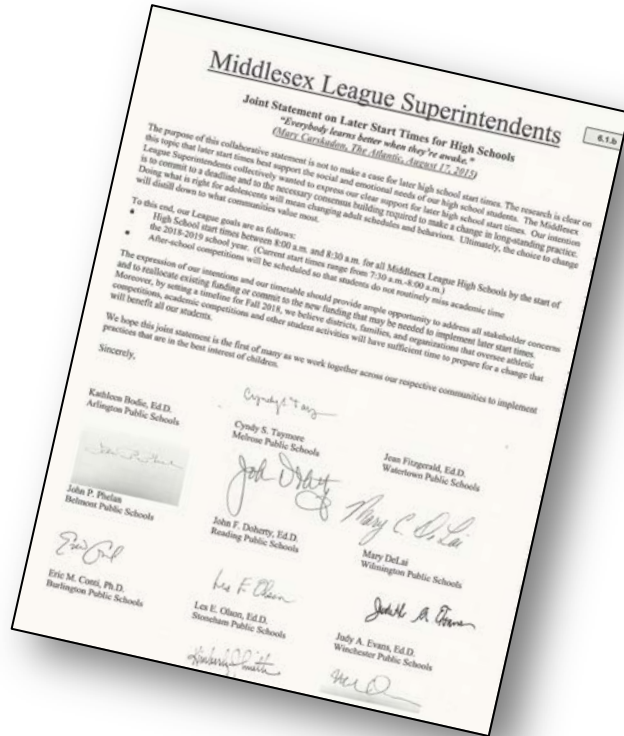
The Middlesex League of Superintendents recently announced their intention to move their school start times between 8:00am and 8:30am by the start of the 2018-2019 school year. The group includes the school districts of Arlington, Belmont, Burlington, Lexington, Melrose, Reading, Stoneham, Wakefield, Watertown, Wilmington, Winchester, & Woburn.

The Superintendents agree that later start times best support the social emotional needs of our high school students. They acknowledge that doing what is right for adolescents will mean changing adult schedules and behaviors. We found this in our research as well. All of the community has to change their mindset to allow high school students to sleep in. Just moving the school day later, and putting the extra curriculars in the morning, will not allow the students to sleep the 8 hours they need. These superintendents wanted to collectively express clear support for changing school start times. They have made a commitment to a deadline and to the necessary consensus building required.

The MLS Joint Statement reads:

The purpose of this collaborative statement is not to make a case for later high school start times. The research is clear on this topic that later start times best support the social and emotional needs of our high school students. The MLS collectively want to express our clear support for later school start times. Our intention is to commit to a deadline and to the necessary consensus-building required to make a change in longstanding practice. Doing what is right for adolescents will mean changing adult schedules and behaviors. Ultimately, the choice to change will distill down to what communities value most. To this end, our League goals are as follows:

- *High school start times between 8:00am and 8:30am for all Middlesex League High Schools by the start of the 2018-2019 school year. (Current start times range from 7:30am – 8:00am)*
- *After-school competitions will be scheduled so that students do not routinely miss academic time.*



In addition to the districts included in the Middlesex League of Superintendents, multiple districts in MA are in the process of assessing their school start times. Ashland Public Schools has created a “School Start Time Resources [Page](#)” for their community.^x Local School District announcements include:



JUNE 20 2016:
 “Define the necessary changes to make a later high school start time happen”



MARCH 9 2016:
 Ashland pushes back start time for grades 7-12 for 2017-2018 school year (High school 8:30am)



APRIL 8 2016: School Start Time Flip Announced - Elementary will start 8:00am, High School at 8:55am



Masconomet Regional School District

“Thinking critically in a global environment”

Serving Boxford, Middleton and Topsfield

APRIL 9 2016: School Start Time Advisory Committee named

Local School Start Times

Our work for local school start times can be summarized with three action items. Our first step was to identify the schools we wanted to research. Then, we focused on the schools in the Dual County League (DCL) and created a chart with all of their start times for all levels. Our last step was to interview a select few schools in order to learn more of the challenges/considerations of changing school start times.

The first action item was to identify schools whose start times we wanted to summarize. We talked as a group about looking at various schools based on fellow participants in the Dual County League, school committee suggested comparable towns, knowledge of schools who have changed their start time, and information from the web sites such as, schoolstartlater.net. We considered local, comparable school districts, school districts for whom a change in our start/stop time might be affected, (such as towns with whom we compete with in athletics), and looked at other districts in Massachusetts who have considered a change.

Our second action item was to create a chart summarizing the start times of schools in the Dual County League (DCL). We decided that the chart should include the name of the School District, and start times broken out for different levels of education (elementary, high school). We focused on the districts with whom we compete in the Dual County League for athletics as a starting point. Athletics could be one obstacle that will need to be considered if we change the high school start time, so we thought it was important to have some information about the start times for these schools. We were surprised to learn that Acton-Boxborough has the second earliest start time in the 27 districts that are part of the DCL. The average start times of the DCL schools is 7:41 a.m.

Data for the 27 school districts surrounding and including ABRSD and the districts in the Dual County League (sports league for ABRSD) (Figure 10) included Andover, Arlington, Bedford, Belmont, Boston-Latin, Chelmsford, Concord, Dedham, Duxbury, Harvard, Hingham, Holliston, Lincoln-Sudbury, Marblehead, Milton, Natick, Needham, Newton South, Reading, Sharon, Wayland, Wellesley, Westford, Weston, Westwood, Wilmington, Winchester.

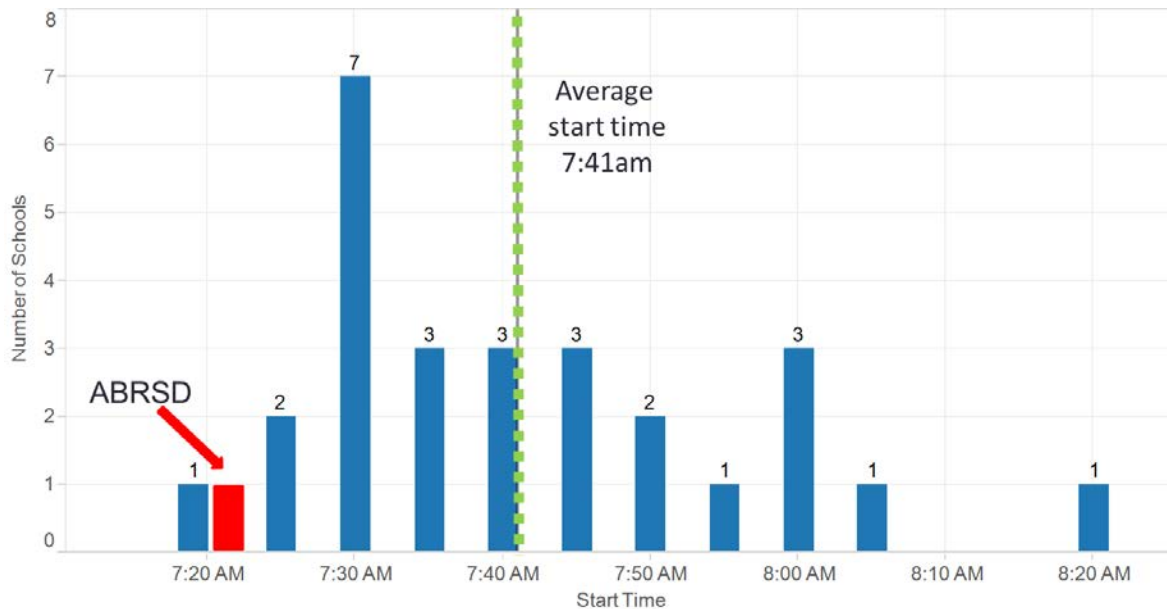


Figure 10: ABRSD Wellness Committee school start time data for the 27 school districts surrounding and including ABRSD and the districts in the Dual County League (sports league for ABRSD): Andover, Arlington, Bedford, Belmont, Boston-Latin, Chelmsford, Concord, Dedham, Duxbury, Harvard, Hingham, Holliston, Lincoln-Sudbury, Marblehead, Milton, Natick, Needham, Newton South, Reading, Sharon, Wayland, Wellesley, Westford, Weston, Westwood, Wilmington, Winchester.

The third action item was to create a survey for the above mentioned school districts. We wanted to collect information about the process schools went through when considering a change their schools start times. We wanted to know if the district had recently considered changing their school start time, and what had made them decide to change or not change their times. We also were interested to get a sense of what the obstacles they faced or areas of particular importance when making their decision. After meeting with the wellness committee we decided not to send out a survey as so many surveys were being sent out by this committee. We also were unsure of who to send the survey out to. We thought it would be helpful to have a phone conversation with these districts to gain insight from someone in the district who had lived through the change and hoped that would give us more information. We had a lot of information about challenges faced by changing start times and ideas presented from the committee, so we didn't need to gather information that we already knew. So rather than continuing to develop survey questions, we developed a list of interview questions. The questions were targeted at schools with later start times rather than collecting all the information from all the schools.

The schools selected to be interviewed were, Arlington, Duxbury, Hingham, Needham, Newton and Sharon. All of these schools had later start times than AB, so we contacted them for more information.

We assumed that schools with later start times had been changed, but we were surprised to learn some had not changed their start times. We talked to one person in the district to gather information from them on the advantages and disadvantages of changing schools start time. There was no research available at the time of the interview. One suggestion was to think about waking times, not just start times. We felt this was an interesting idea to consider especially since the first high schooler is picked up at 6:23 a.m. It was interesting to learn most schools did not collect data after the change was made. We had assumed that schools would have looked at how the change affected students. This will be an important step. A group within the Wellness Advisory Committee surveyed the students, so we have a lot of pre- data. If the district decides to change the start time, we would recommend that we provide a follow up survey to assess how students health has changed.

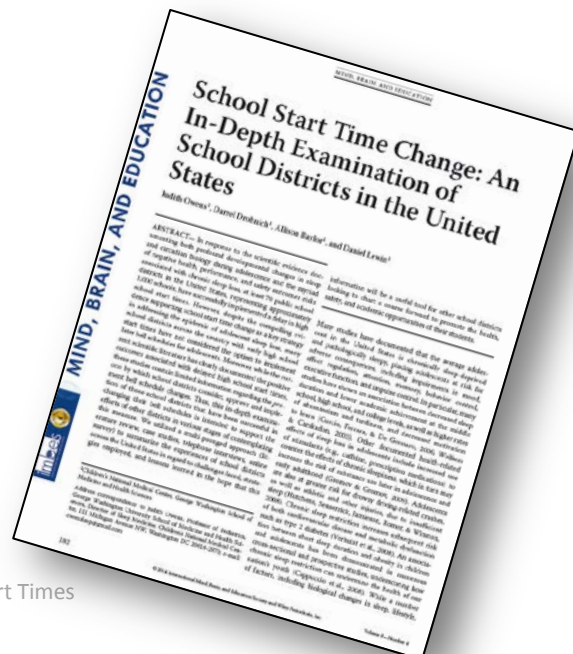
There are many areas that will need further research or commitment by the district. It will be important to educate the community on the effects of not enough sleep at the high school level. We will also need to educate all staff, students, families and people in the community about allowing students to get the sleep they need rather than putting extracurricular activities before school. It will be important to strive for consensus with all stakeholders. Although there may not be 100% agreement, having the majority of stakeholders on board will allow a change in start time to have the best chance to be successful. We will need to look closely at transportation and our current bussing structure. We will need to stay in close contact with our DCL teams to plan carefully for athletics. We need to allow ourselves adequate time to research the above areas and think critically and creatively as there may be many creative solutions to the obstacles put before us.

Published Resources on ‘School Start Time Change’

In December 2014, an article was published by the Children’s National Medical Center at George Washington School of Medicine which provided an in-depth examination of school districts in the United States that had successfully delayed their school start times. Advice was provided to future school districts that may be considering a change to the school start time:

Maintain strong administrative leadership

- Educate the community
- Consensus building
 - Administration
 - Staff
 - Parents
 - Students
- Analyze Transportation
- Review athletics & recreation schedules



- One size does not fit all
- Prioritizing sleep health
- Allowing adequate time

In conclusion for subcommittee 2, Acton-Boxborough Regional School District (ABRSD) starts in the earliest 8% of public schools in Massachusetts. ABRSD has the second earliest start time out of the 27 schools studied in the Dual County League. Many other school districts are in the process of delaying their school start time for students and many more are talking about the importance of sleep and high school start times. Most of these districts are focusing on grades 9 – 12. Strategies and successes from other districts are published and should be researched.

Subcommittee 3: Community Stakeholder Impact Surveys

Goal of Subcommittee #3: Identification of opportunities and challenges that our school community would face if school start times were to be changed.

- 1) Identify an unbiased script that each of our committee interviewers can use for consistency of information delivery and gathering.
- 2) Identify and interview stakeholders.
- 3) Create, implement, and survey larger groups of stakeholders example: parents, teachers, students.

Interview: Principals and Marie Altieri – 11/23/2015

Marie’s interview yielded the following key points:

- If school start times were altered, the teacher’s contract does allow for this, but the length of the school day must remain as is. (Marie provided a copy of the relevant contract page);
- If a decision were to be made to alter start times, we should avail ourselves of our historically positive communication with Union reps. and begin discussions early in the process.

The effects of moving High School and Middle School start times was of particular interest to Marie a couple of years ago and she provided us with the PowerPoint presentation and research paper she’d written to assist us in our efforts. (These were emailed to our subcommittee members and to the co-chair of the committee and are attached to this report.) Marie wanted to point out that because of the research she’d done on the topic, the ideal way to do this would be to have enough buses and drivers so

that 2 tiers of bus transport could happen, but her research showed (2 years ago) that it could cost about \$700,000 NET to arrange this.

Supt. Glenn Brand has already clarified for our committee that whatever options we could offer had to work within the three tier time schedule of bus transport currently used. If our group was to pursue implications of switching times between the elementary schools and older students, we could refer to the scenarios she outlined in her presentation. She suggested we speak with JD Head to find out exactly how much time drivers need to finish one run and to be ready to complete the next if we are to consider shifting start times between the 3 tiers as compared to just swapping existing times.

Current times

- HS: 7:23-2:18 (6 hr. 55 min day)
- Jr HS: 7:30-2:06 (6 hrs. 36 min)
- Early Elem.: 8:40-2:50 (6 hrs 10 min)
- Late elem.: 9:20-3:30 (6 hrs. 10 min)

SWAP scenarios:	CURRENT	SWAPPING
• HS	7:23-2:18	8:40-3:35
• JR High	7:30-2:06	8:50-3:26
• Elem. #1	8:40-2:50	7:23-1:43
• Elem. #2	9:20-3:30	remain as is?

Example of a concern Marie offered: If one tier of elementary students began at 7:30, then dismissal would be around 1:40 and they'd be home before their older siblings; (daycare implications) Pick up in the morning for these little ones could be as early as 6:45 am.

Key points from the elementary, junior high, and high school principal's interviews

They were asked the following questions, "The Wellness Committee has been asked for potential implications of changing school start time. In a 3 tier system younger students could potentially go to school first. What are the advantages and challenges to this idea?"

Elementary Principals - Advantages:

- Students are already up early in the morning.
- Students are more receptive/ready to learning in the morning.
- Teachers would be more inclined to attend professional development opportunities in the afternoon with an earlier start time. Currently, professional development with schools on the late schedule begins at 4:00 pm.

Elementary Principals - Disadvantages:

- Possible day care issues - High School siblings would not be home to take care of elementary siblings after school.
- The early start time might be too early for some students.

- Lunches would be super early, perhaps we would need to serve brunch?
- Students would be boarding the bus in the dark in the winter mornings.
- Concerns for extended day. Currently extended day runs from 7:00 am - 6:00 pm. If school gets out at 2:00 that would mean 4 hours of extended after school care.

Junior High & High School Principals - Advantages:

- A later start time would align with adolescent sleep patterns.
- It is developmentally much more appropriate to give older students more sleep.

Junior High & High School Principals - Disadvantages:

- Athletic / activities schedule
- Daylight in the afternoons would impact outdoor sports
- Teachers personal schedules
- Cost - the system would need to be a 2 tiered system rather than a 3 tiered system to be a consideration.
- Concern that sports practices & activities would be moved to before school, which would impact the goal of having extra sleep.
- Dismissing students early for athletics/activities would impact the last period of the day (midyear exam schedule, required # of school hours/year)

Interview: Before and After School Program

- Chris Whitbeck, Douglas School Principal,
- Ed Kaufman, Merriam School Principal,
- Dana Labb, Blanchard School Principal

7am – 6pm are hours of care.

When there is a late start we see more children in the morning. When there is an early start we see more children in the afternoon. The general consensus is that an earlier start time could offer more creative program options. Parents adjust their work based on schedule changes. They would prefer same start every year.

Current issues at school: When they are on the late schedule, teachers have trouble scheduling academic studies after lunch. Principals have found younger kids struggle with learning after 12-1pm. Most teachers request specials (art, music, gym) to be in the afternoon during the late start year. An earlier school start time is better for planning and student demands at the elementary level.

Parents do not necessarily rely on older children being home to watch younger siblings since they do not get home from activities until around 4:00 or later. Enrollment of K-3rd grade students is greater than 4th through 6th grade students.

- Erin Bettez, Director of Community Education

Programs are modified each year as their time changes. Community Ed doesn't currently do a lot of enrichment, but could evolve the program if after school programs had more time. Community Ed uses the High School and Junior High rooms for after school programs. Community Ed employs High School aides for various activities like academic tutoring and working in some Community Ed programs. Community Ed notices many families are already getting their younger children up early and bringing them into Comm Ed.

Field Issues: Lower field rentals begin at 6pm. A later start/end time would impact the end time of High School field usage.

Interview: JD Head, Director of Facilities

We need to find out what the parameters are and build around the parameters in order to build our busing schedules. Approximately 75% of the elementary students take the bus for transportation to and from school; The numbers decline as the students get older.

A few years ago before regionalization, JD put together options for busing schedules for a three tier system. We have the current structure, we could flip the elementary schools with the High and Junior High, or we could put an elementary school on either side of the High/Junior High. There are financial impacts of changing from a three tier busing to a two tier busing system. There would be a need for more drivers and additional busses.

Interview: Andrew Shen, Principal of RJ Grey Junior High - 12/4/2015

Andrew discussed the impact on clubs and extra-curricular activities. He recognized many of the benefits to the student populations starting school at a later hour. Andrew was able to provide some pros and cons to the scenarios of the secondary school operating on a later schedule.

Benefits:

- Later end to student activities may enable parents to pick up students easier as parents leave work.
- may minimize lapse between school and parent pick-up for kids hanging out after school (relatively unsupervised).
- Clubs that currently meet before school won't be painfully early for participants.

Concerns:

- Access to building for clubs after 5:00 pm. Comm Ed has oversight of facilities after this time and all usage must be scheduled through them.
- A more compressed after school situation will impact an already tight shuffle for field time and space.
- Fields access is closed after 6pm for both Leary and Lower Fields, other fields are also scheduled for community activities.
- Daylight - fall and spring teams will run into darkness impacting competition (games, meets).
- Coaches and club advisors - later schedule may be self-limiting due to competing.
- Commitments- (picking up children, family obligations, jobs, etc.)

Final note: Andrew suggested we look into a school district in Baltimore where the change has been made and lessons learned are available. He mentioned that the district discovered in the first year that there were a number of questions they now wish they had asked and considerations they may have overlooked. We should find this post-mortem.

Interview: Steven Martin, Director of Athletics - 12/4/2015

Many of Steven's thoughts were similar to Andrew Shen's comments. Interestingly, he wasn't too concerned about reaction from other schools in our sports leagues. He mentioned that other schools are fairly accommodating and does not anticipate any sort of rejection or opposition. There aren't major benefits to a modified start time for the athletes themselves or for the programs overall.

Pros

- Teams could practice before school, taking advantage of open fields (runs contrary to the reason to start school later and allow students the opportunity for more sleep.
- Potentially could use AB busses for transportation to event; thereby saving \$ (if on the latest of any tiered busing schedule).

Concerns:

- Already competing for fields in limited availability.
- Leary contractually bound (Friends of Leary Field, Band Contract) and passed to Pop Warner, AB Band, and LAX on weeknights in fall and spring at 6pm. Weekends are closed to AB sports until 5:30 pm.
- Lower Fields are also contractually obligated under Friends of Lower Fields. 6pm is cutoff and schools have no weekend access.
- Baseball fields are used by Babe Ruth, ABYB at 5pm.
- Ice time continues to be a concern, already hard to schedule practice.
- Greater need to rent space in spring due to waning daylight and piles of snow. Getting in practice for many teams on few open fields is a major challenge.
- Travel games - many away fields do not have lights. Later start times for games eliminates some opportunity for away games which may force more home games on already tight availability of field space.

Final comment: Steve also mentioned the potential for fewer coaches if the school schedule runs on the latest of the considered schedules (i.e. 9:20 start) due to family commitments as well as availability of coaches who are employed at our elementary schools (they would not be dismissed in time to make departing team busses). Conversely, he would not anticipate any impact in the levels of student participation.

Overview of Community Survey Results

We used Survey Monkey to survey the community. Below is an overview of our surveys:

- Parent Survey for Elementary Students (599 Responses)
- Parent Survey for Junior High and High School Students (662 Responses)
- Administrator, Faculty and Staff survey for Elementary Staff (140 Responses)
- Administrator, Faculty and Staff survey for Junior High and High School Staff (190 Responses)
- Student Survey for Junior High and High School Students (495 Responses)

Summary: Parent and Student sleep time

For complete survey questions and all responses received see Appendices

PARENTS: What time are your High School and Junior High School children asleep on School Nights?							
GRADE:	7	8	9	10	11	12	Grand Total
Response	179	156	172	144	118	107	876
Average	9:45 PM	10:09 PM	10:34 PM	10:34 PM	10:55 PM	11:06 PM	10:26 PM

STUDENTS: Asleep on School Nights?							
GRADE:	7	8	9	10	11	12	Grand Total
Response	1	None	98	122	132	140	493
Average	11:00 PM	-	11:05 PM	11:07 PM	11:20 PM	11:17 PM	11:13 PM

We found that 25% of students filled out the survey between midnight and 4:53am on Monday through Friday when we assessed the time-stamp created by the SurveyMonkey system.

DAY	RESPONSES
Sunday	0
Monday	1
Tuesday	69
Wednesday	26
Thursday	10
Friday	11
Saturday	0
TOTAL	117

PARENTS: What time are your High School and Junior High School children asleep on Weekend Nights?							
GRADE:	7	8	9	10	11	12	Grand Total
Response	180	156	172	144	118	108	878
Average	10:22 PM	10:47 PM	11:06 PM	11:11 PM	11:33 PM	11:55 PM	11:04 PM

STUDENTS: Asleep on Weekend Nights?							
GRADE:	7	8	9	10	11	12	Grand Total
Response	1	None	98	122	132	140	493
Average	12:00 AM	-	11:33 PM	11:36 PM	11:44 PM	12:00 AM	11:44 PM

PARENTS: What time are your High School and Junior High School children awake on School Mornings?							
GRADE:	7	8	9	10	11	12	Grand Total
Response	176	156	170	143	117	108	870
Average	6:09 AM	6:09 AM	6:06 AM	6:08 AM	6:10 AM	6:13 AM	6:09 AM

PARENTS: What time are your High School and Junior High School children awake on Weekend Mornings?							
GRADE:	7	8	9	10	11	12	Grand Total
Response	177	156	170	144	118	106	871
Average	8:33 AM	9:02 AM	9:35 AM	9:34 AM	9:48 AM	9:43 AM	9:19 AM

ELEMENTARY PARENTS: What time do your children fall asleep on School Nights?								
GRADE:	K	1	2	3	4	5	6	Grand Total
Response	97	103	123	144	133	137	142	879
Average	8:19 PM	8:33 PM	8:33 PM	9:01 PM	9:08 PM	9:18 PM	9:37 PM	8:59 PM

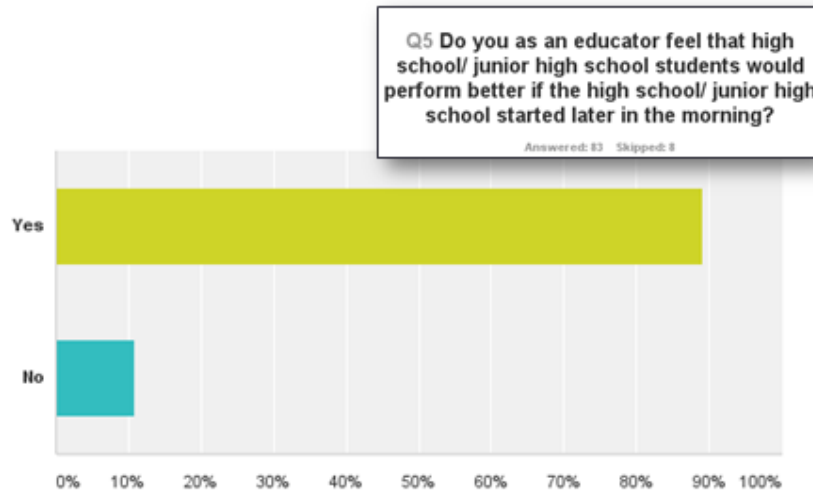
ELEMENTARY PARENTS: What time do your children fall asleep on Weekend Nights?								
GRADE:	K	1	2	3	4	5	6	Grand Total
Response	96	104	122	143	133	137	142	877
Average	8:30 PM	8:50 PM	8:55 PM	9:15 PM	9:11 PM	9:33 PM	9:42 PM	9:11 PM

ELEMENTARY PARENTS: What time do your children wake up on school days?								
GRADE:	K	1	2	3	4	5	6	Grand Total
Response	97	104	123	143	132	135	141	875
Average	7:00 AM	6:53 AM	6:55 AM	7:09 AM	7:05 AM	7:06 AM	7:12 AM	7:04 AM

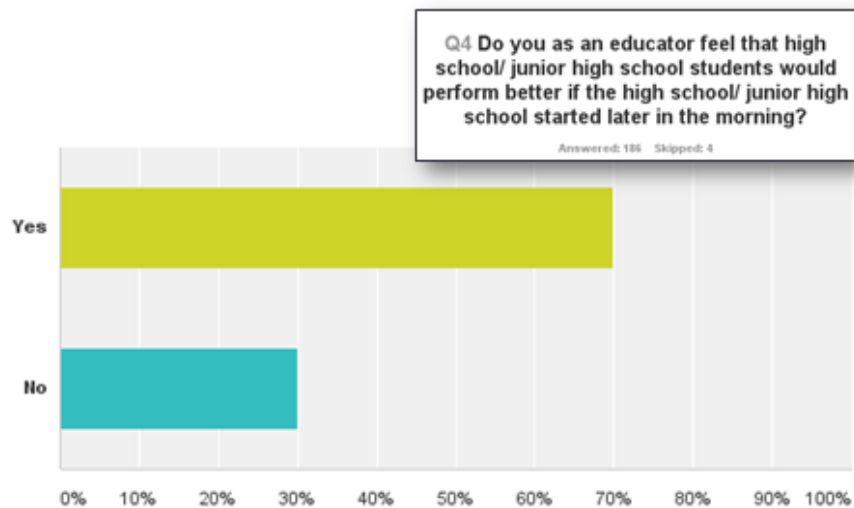
ELEMENTARY PARENTS: What time do your children wake up on Weekends?								
GRADE:	K	1	2	3	4	5	6	Grand Total
Response	97	104	123	144	132	135	141	876
Average	7:18 AM	7:23 AM	7:27 AM	7:40 AM	7:42 AM	7:53 AM	8:16 AM	7:42 AM

Questions regarding: Would the Junior High and High School benefit from a later start time?

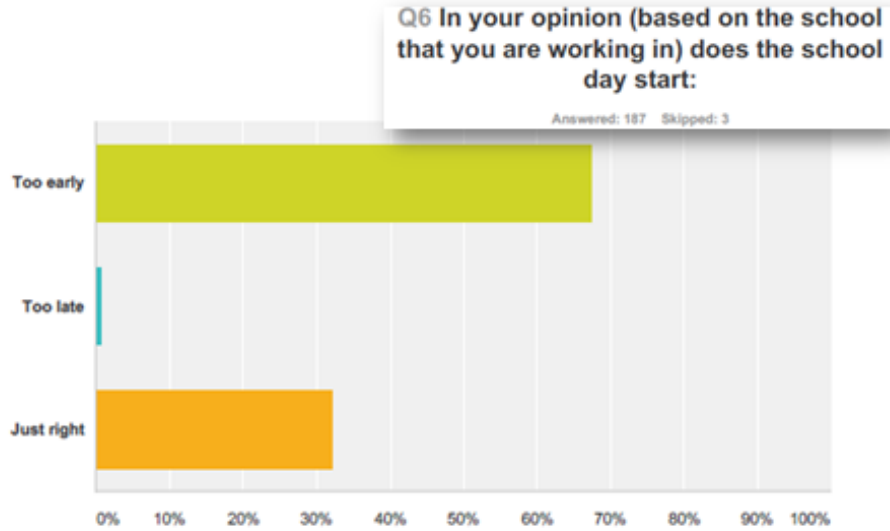
Elementary Staff



Jr. High & High School Staff

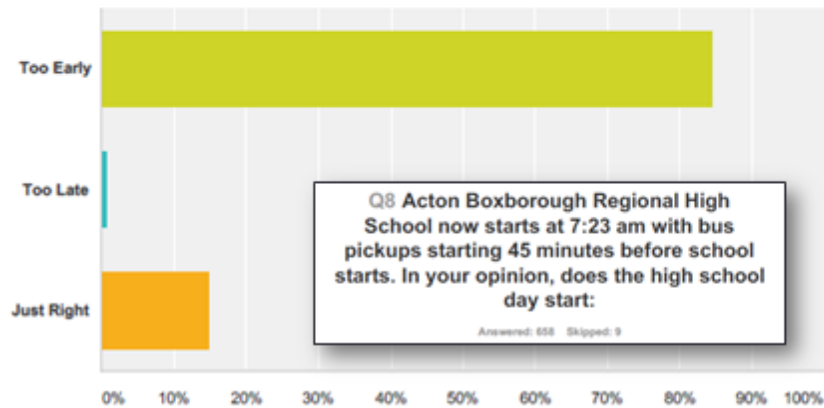


Staff - Jr. High & High



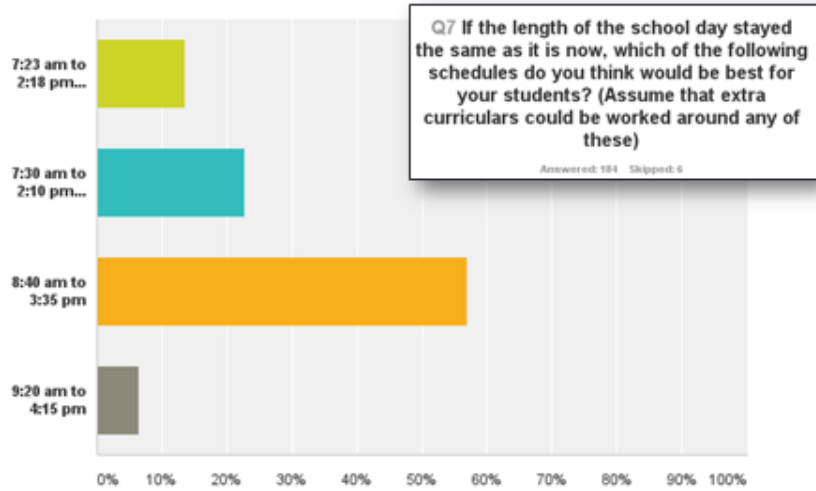
49

Parents - Jr. High & High



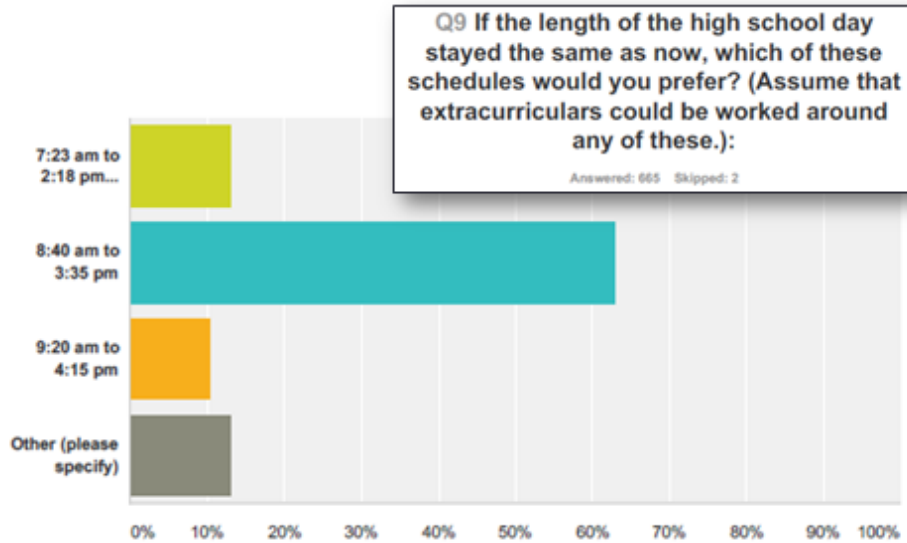
Questions regarding: What time should the Junior High and High School Day Start?

Staff - Jr. High & High

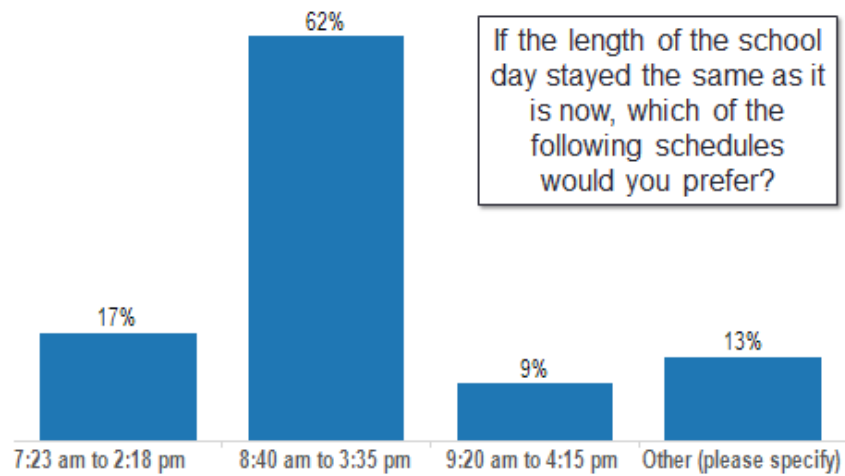


53

Parents - Jr. High & High



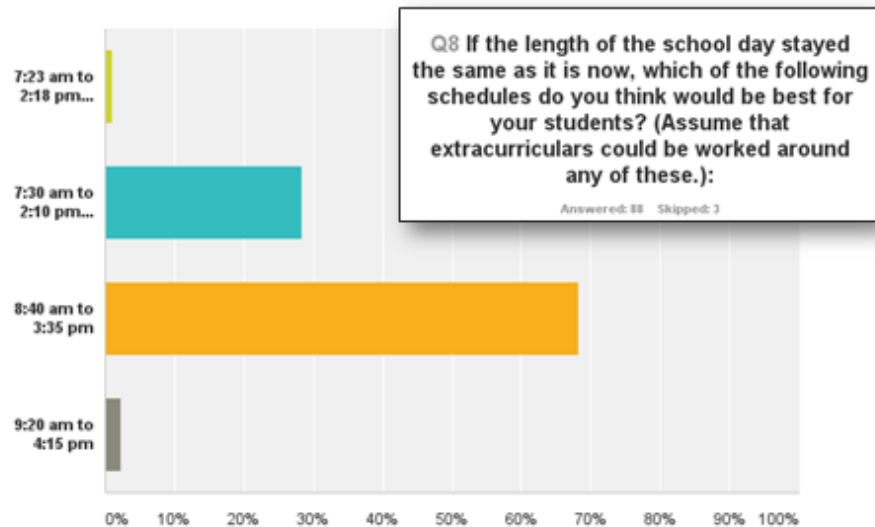
Students - Jr. High & High



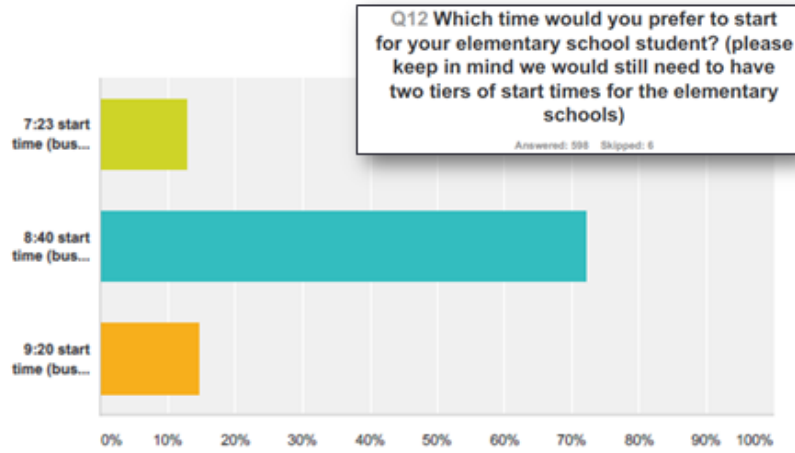
Questions regarding: What time should the Elementary School Day Start?

64

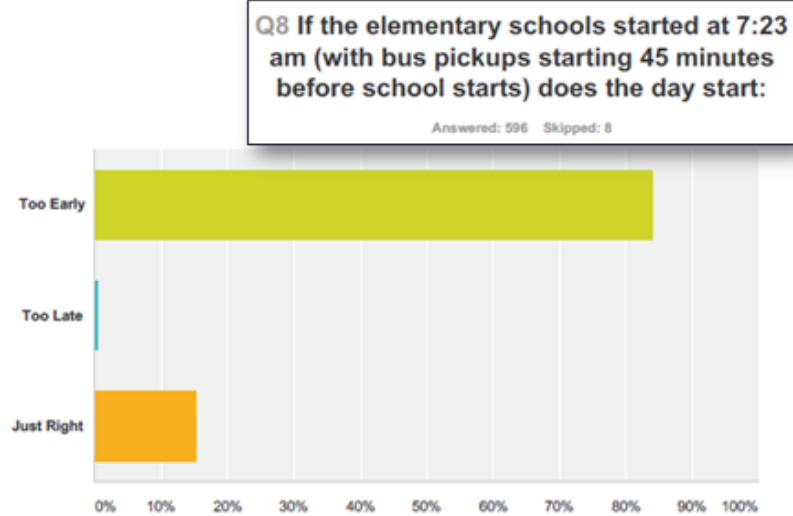
Elementary Staff



Elementary Parents



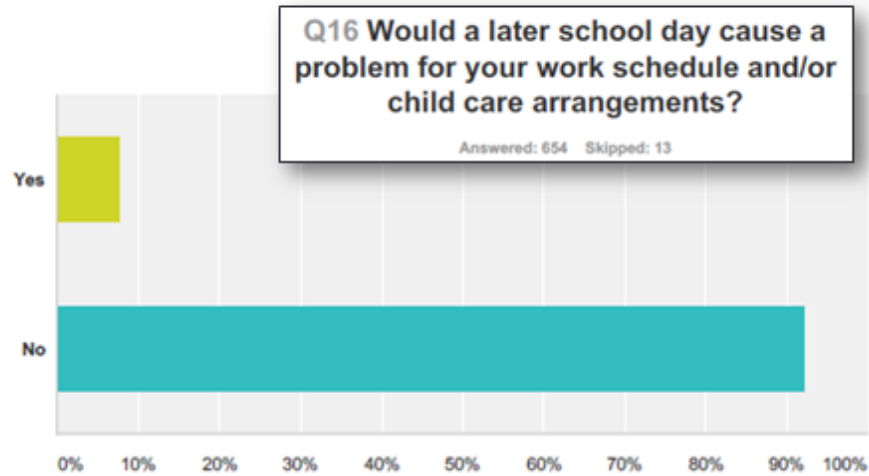
Elementary Parents



Questions regarding: How would a later start time at the Jr High/ High School impact AB families?

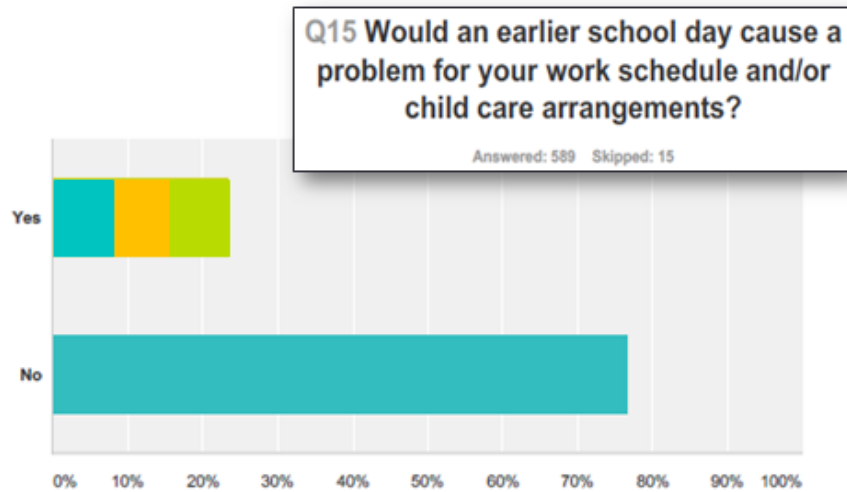
58

Parents - Jr. High & High



59

Elementary Parents



Of those Elementary school parents who answered “yes, an earlier school day would cause a problem for work schedule and/or childcare arrangements”, one third responded it would be ‘hard’ to make a change (blue), one third responded that it would be “easy” to make a change (green), and one third said they “don’t know” when asked if it would be easy or hard to make a change (orange).

Report Summary

- Timing of teenage sleep is naturally phase-delayed.
- Lack of sleep is harmful to teenage health, safety, and academic performance.
- Delaying the school start time does not result in later bedtimes in teens.
- School districts around the country, including our local cohorts, are undergoing the same process of review.
- Faculty and Parents overwhelmingly requested an 8:40am start time for all schools (High School, RJ Grey Jr High, and elementary).
- Childcare difficulties were identified by 7% of elementary families who responded to the survey.
- The impact on after school activities is still unclear and warrants further discussion.
- Adjusting the school start time to compensate for teen physiology would be beneficial to our students.

Recommendations

- Solidify our commitment to students' mental health and wellbeing as part of our district goals.
- Move forward with a timeline for actionable steps and recommendations to the School Committee from the Superintendent.

Appendices

Subcommittee Members

Diane Spring
Diana McNicholas
Karen Argento
Kathy Daniel
Robert Guilmette
Kirsty Kerin
Maurin O’Grady
Deb Rimpas
Jessica Rubinstein
Gail Welch
Laura Ducharme
Pam Fleming
David James
Cindy McCarthy
Kirsten Nelson
Lynne Newman
Hilary Bonnell
Ann Doble
Eileen Flannery
Amy Krishnamurthy
Parindar Miller
Deanne O’Sullivan
Jennifer Smith

References

ⁱ Organizations who listed 8.5 – 9 hours of sleep as the necessary amount for adolescents includes: The American Academy of Pediatrics, CDC (Centers for Disease Control & Prevention), Department of Education (Institute of Education Sciences), American Academy Sleep Medicine, National Sleep Foundation, National Association of School Nurses, Society of Pediatric Nurses, and National Association of Pediatric Nurse Practitioners.

ⁱⁱ <http://healthysleep.med.harvard.edu/healthy/science/how/internal-clock>

ⁱⁱⁱ <https://sleepfoundation.org/sleep-news/background-earlier-school-start-times>
<http://www.cdc.gov/features/school-start-times/>
<http://discover.umn.edu/news/teaching-education/students-grades-and-health-improve-earlier-high-school-start-times>

^{iv} Wahlstrom K. Changing times: findings from the first longitudinal study of later high school start times. NASSP Bull. 2002;286(633):3–21; 2. Wahlstrom K. Accommodating the sleep patterns of adolescents within current educational structures: an uncharted path. In: Carskadon M, ed. Adolescent Sleep Patterns: Biological, Social, and Psychological Influences. New York, NY, and Cambridge, England: Cambridge University Press; 2002:72–197; Danner F, Phillips B. Adolescent sleep, school start times, and teen motor vehicle crashes. J Clin Sleep Med.

2008;4(6):533–535; Owens JA, Belon K, Moss P. Impact of delaying school start time on adolescent sleep, mood, and behavior. Arch Pediatr Adolesc Med. 2010;164(7):608–614; Wahlstrom K, Dretzke B, Gordon M, Peterson K, Edwards K, Gdula J. Examining the Impact of Later School Start Times on the Health and Academic Performance of High School Students: A Multi-Site Study. Center for Applied Research and Educational Improvement. St Paul, MN: University of Minnesota; 2014

^v American Academy of Sleep Medicine: <http://www.aasmnet.org/articles.aspx?id=6326>

^{vi} American Academy of Pediatrics:
<http://pediatrics.aappublications.org/content/pediatrics/early/2014/08/19/peds.2014-1697.full.pdf>

^{vii} <http://ashlandhs.libguides.com/content.php?pid=637431&sid=5274570>

^{viii} American Academy of Pediatrics Policy Statement:
<http://pediatrics.aappublications.org/content/pediatrics/early/2014/08/19/peds.2014-1697.full.pdf>

^{ix} Morbidity & Mortality Weekly Report (MMWR) 2015; 64(30); 809-813.
<http://www.cdc.gov/mmwr/pdf/wk/mm6430.pdf>

^x <http://ashlandhs.libguides.com/content.php?pid=637431&sid=5274570>



ACTON-BOXBOROUGH REGIONAL SCHOOL DISTRICT

AB Wellness Advisory Committee
School Start Times
Presentation to School Committee 6/9/16

Introduction

- Goals
- Subcommittees
 - 1: Medical & Scientific Literature
 - 2: Surrounding School Communities
 - 3: AB Community Stakeholders

3

Committee Members

Group 1:

Karen Argento
 Kathy Daniel
 Robert Guilmette
Kirsty Kerin
 Maurin O'Grady
Deb Rimpas
 Jessica Rubinstein
 Gail Welch

Group 2:

Hilary Bonnell
 Ann Doble
 Eileen Flannery
 Amy Krishnamurthy
 Diana McNicholas
 Parindar Miller
 Deanne O'Sullivan
 Jennifer Smith

Group 3:

Laura Ducharme
 Pam Fleming
 David James
 Cindy McCarthy
Kirsten Nelson
 Lynne Newman
Diane Spring

4

1: Medical Literature Review

- How much sleep do our students need?
- How much sleep are they getting?

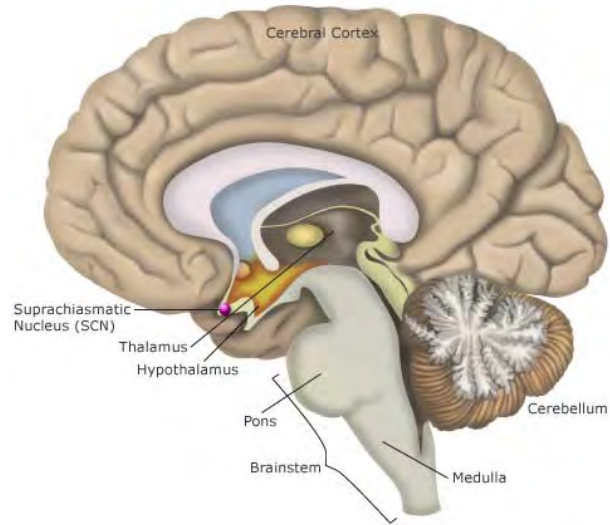
Goal & Approach

- Review the medical and scientific literature to:
 - Determine the causes of sleep deprivation
 - List the adverse impact on health & wellbeing
- Searched for data from our own AB student population:
 - Youth Risk Behavior Survey
 - Questions in Health Office visits
 - Wellness Committee Survey

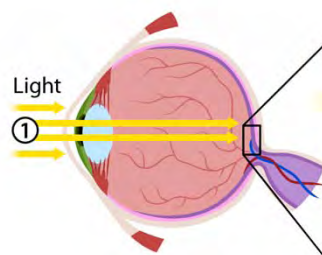
Sleep

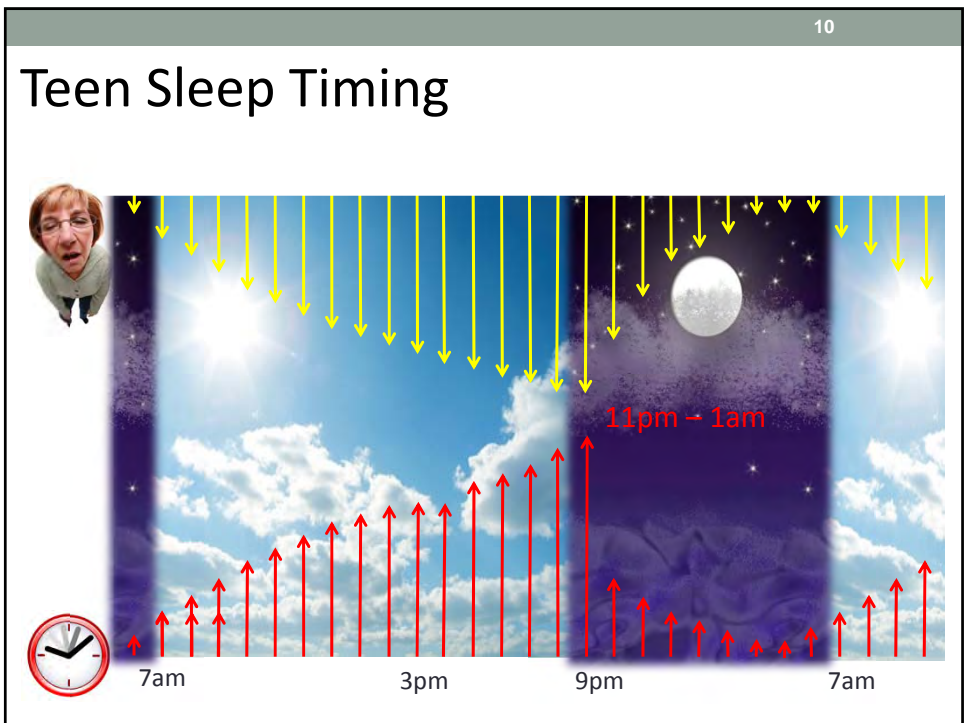
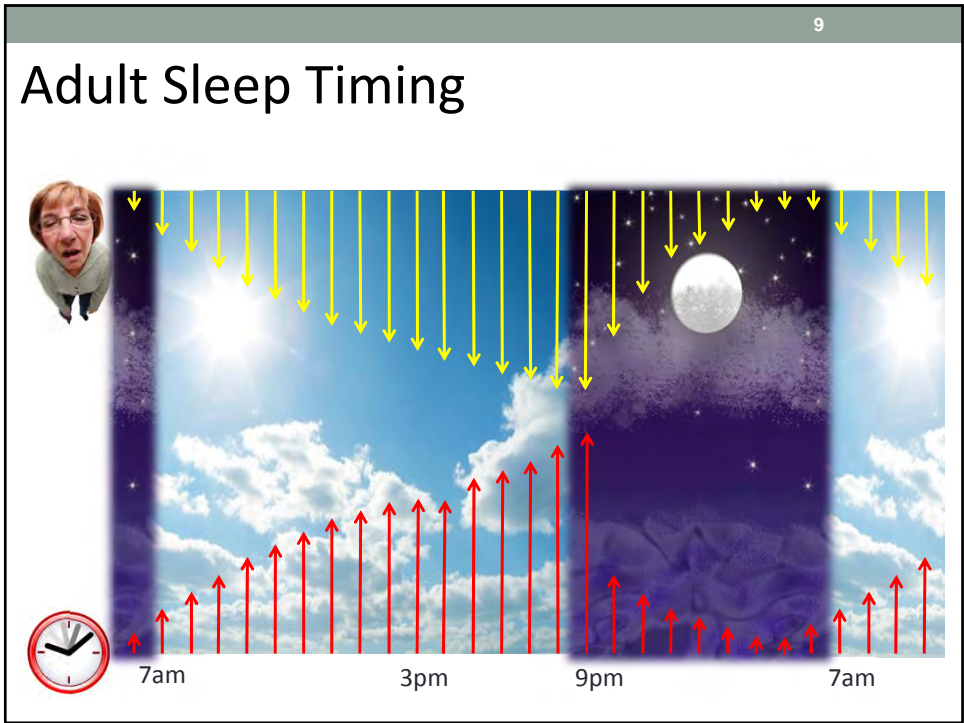


The timing of sleep



Timing of the biological clock





Teens need 8.5 – 9.5 hours of sleep

- CDC (Centers for Disease Control & Prevention)
- Department of Education (Institute of Education Sciences)
- American Academy Sleep Medicine
- National Sleep Foundation
- American Academy of Pediatrics
- National Association of School Nurses
- Society of Pediatric Nurses
- National Association of Pediatric Nurse Practitioners

Behavioral vs Physiological?

- Bedtime can be delayed by some behaviors
 - Educate the students
 - Parental oversight
- Sleep onset is physiologically driven
- Students do not stay up later when school start times are delayed ^{1, 2, 3, 4, 5}

1. Wahlstrom K. Changing times: findings from the first longitudinal study of later high school start times. *NASSP Bull.* 2002;286(633):3-21
 2. Wahlstrom K. Accommodating the sleep patterns of adolescents within current educational structures: an uncharted path. In: Carskadon M, ed. *Adolescent Sleep Patterns: Biological, Social, and Psychological Influences*. New York, NY, and Cambridge, England: Cambridge University Press; 2002:72-197
 3. Danner F, Phillips B. Adolescent sleep, school start times, and teen motor vehicle crashes. *J Clin Sleep Med.* 2008;4(6):533-535
 4. Owens JA, Belon K, Moss P. Impact of delaying school start time on adolescent sleep, mood, and behavior. *Arch Pediatr Adolesc Med.* 2010;164(7):608-614
 5. Wahlstrom K, Dretzke B, Gordon M, Peterson K, Edwards K, Gidula J. Examining the Impact of Later School Start Times on the Health and Academic Performance of High School Students: A Multi-Site Study. Center for Applied Research and Educational Improvement. St Paul, MN: University of Minnesota; 2014

Teens do not get 9 hours of sleep

- National Sleep Foundation:
 - 59% of grades 6 through 8 less than 9 hours
 - 87% of high school students less than 9 hours
 - Average sleep for high school seniors was less than 7 hours
 - 71% of parents thought their child had enough sleep

- US Dept. Health & Human Services:
 - 69.3% high school students report less than 8 hours sleep
 - “Sufficient sleep” reported by
 - 39.9% of 9th graders
 - 28.5% of 11th graders
 - 23.3% of 12th graders

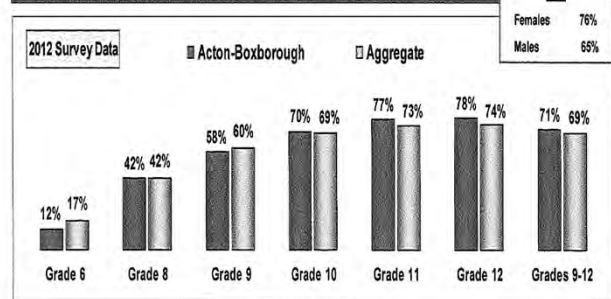
<https://www.healthypeople.gov/2020/topics-objectives/national-snapshot/sufficient-sleep-adolescents-2013>
 Youth Risk Behavior Surveillance System (YRBSS)

Local Data 2002 - 2012

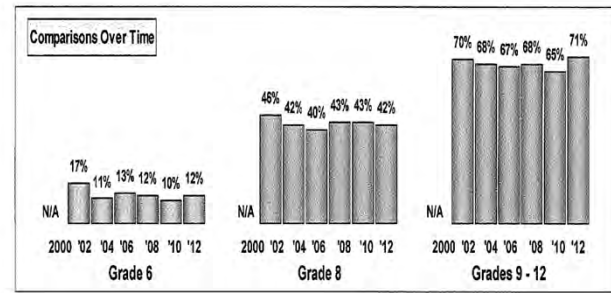
Emerson Hospital
Youth Risk Survey Data

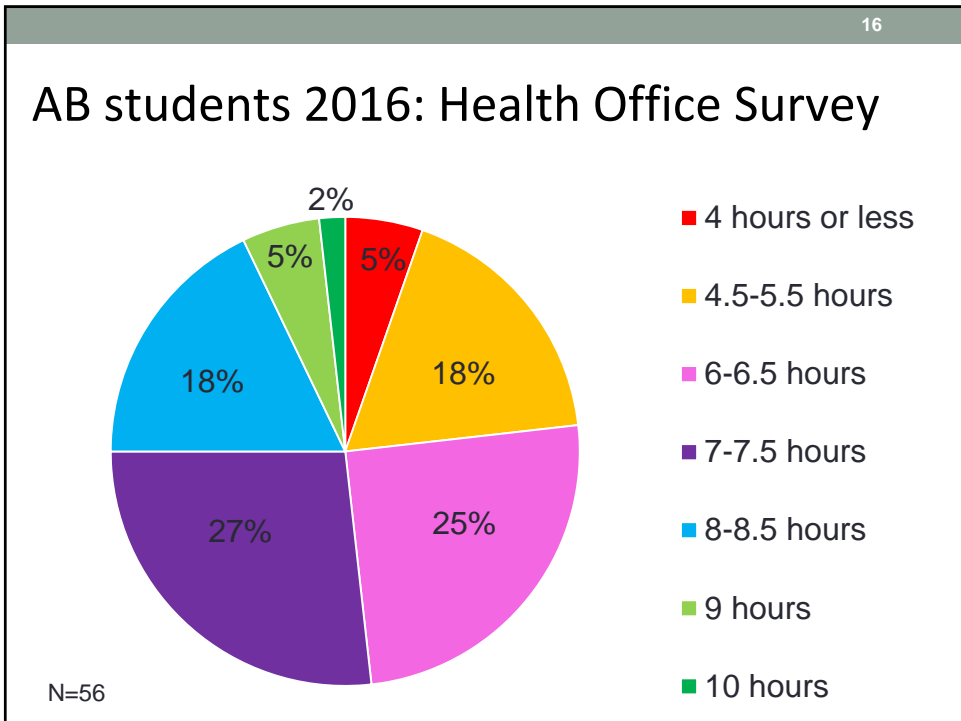
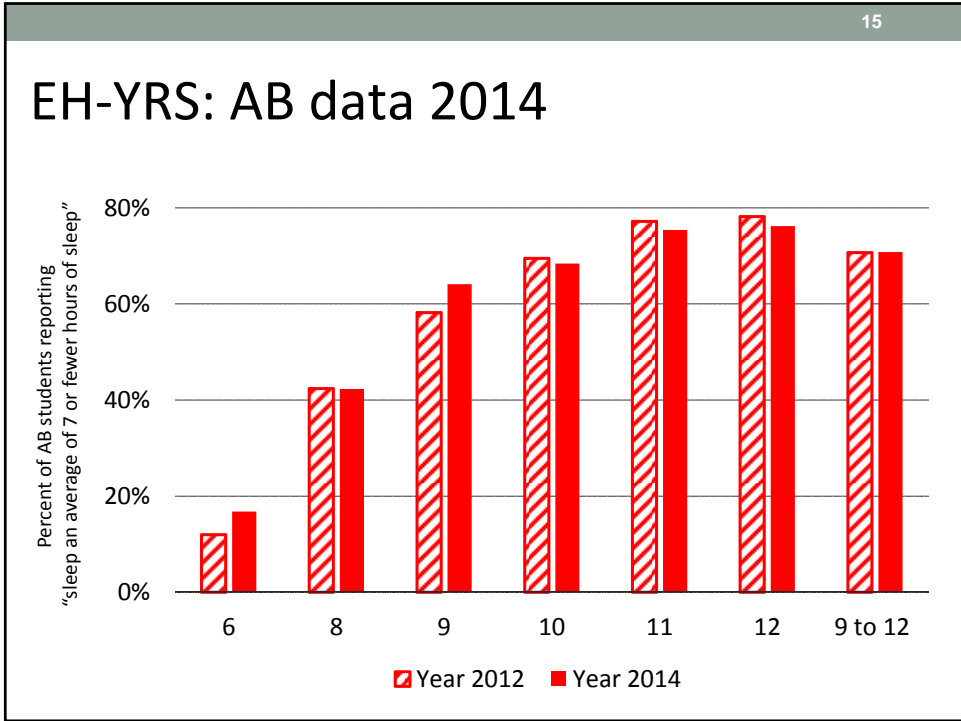
Aggregate towns:
 Acton-Boxborough
 Concord & Concord-Carl.
 Groton-Dunstable
 Harvard
 Littleton
 Maynard
 Nashoba Regional
 Westford

Sleep an average of 7 or fewer hours each night

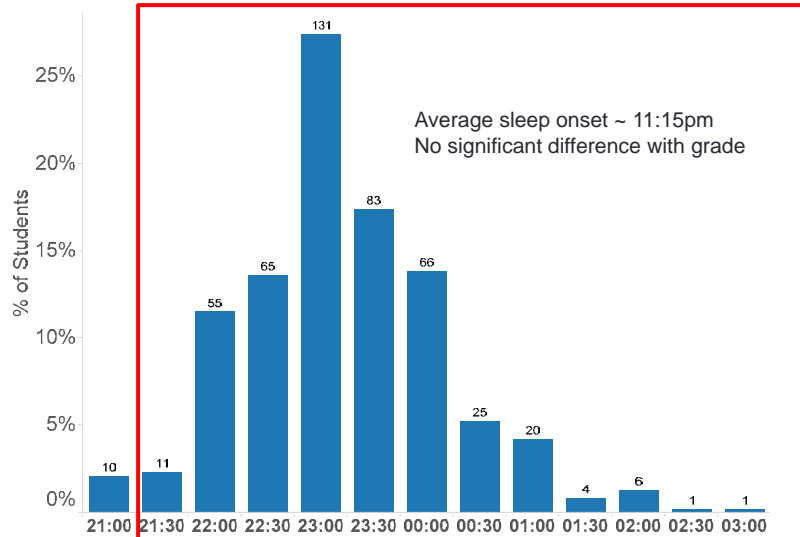


Grades 9-12 Combined	
2012	
Females	76%
Males	65%

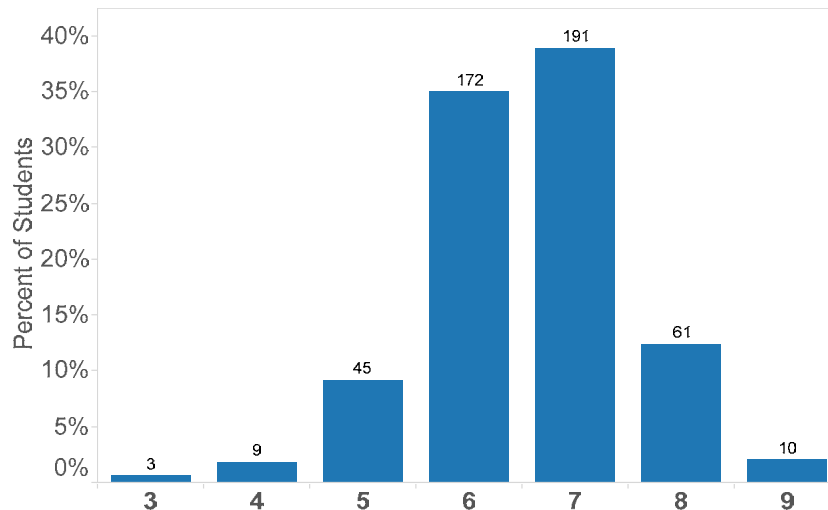




What time do you fall asleep on a school night?



Number of hours sleep on a school night?



Adverse Effects

- Summary
 - Health
 - Safety
 - Performance
- Overviews
 - CDC
 - American Academy Pediatrics
 - Natl. Assoc. School Nurses & Society of Ped. Nurses



Adverse effects: Health

- Increased anxiety
- Increased depression & suicidal ideation
- Increased vulnerability to stress
- Emotional dysregulation; decreased positive affect
- Impaired interpretation of social/emotional cues in self and others
- Decreased motivation
- Increased obesity risk
- Increased Metabolic dysfunction (hypercholesterolemia, type 2 diabetes mellitus)
- Increased cardiovascular morbidity (hypertension, increased risk of stroke)
- Lower levels of physical activity

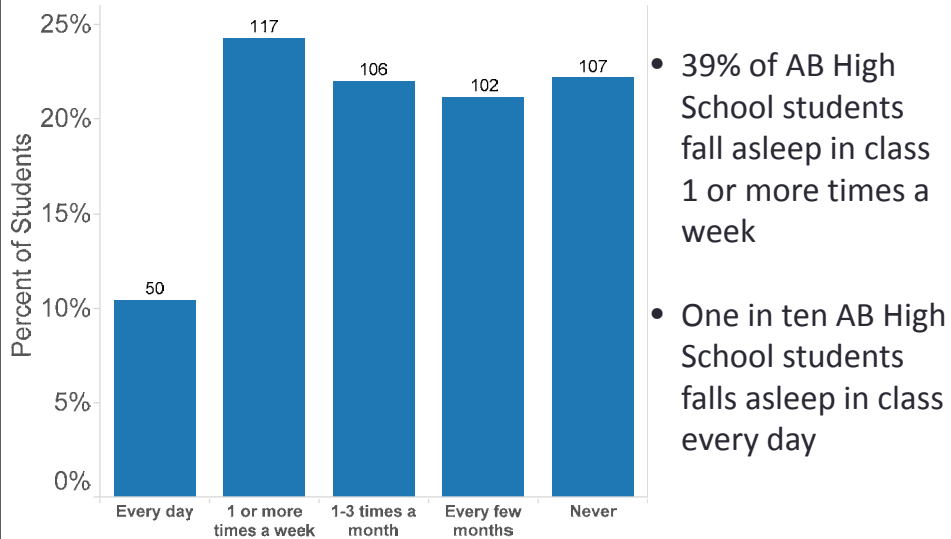
Adverse effects: Safety

- Increased rates of motor vehicle crashes (“drowsy driving”)
- Poor impulse control and self-regulation
- Increased risk-taking behaviors
- Increased rates of caffeine consumption including toxicity/overdose
- Increased nonmedical use of stimulant medications

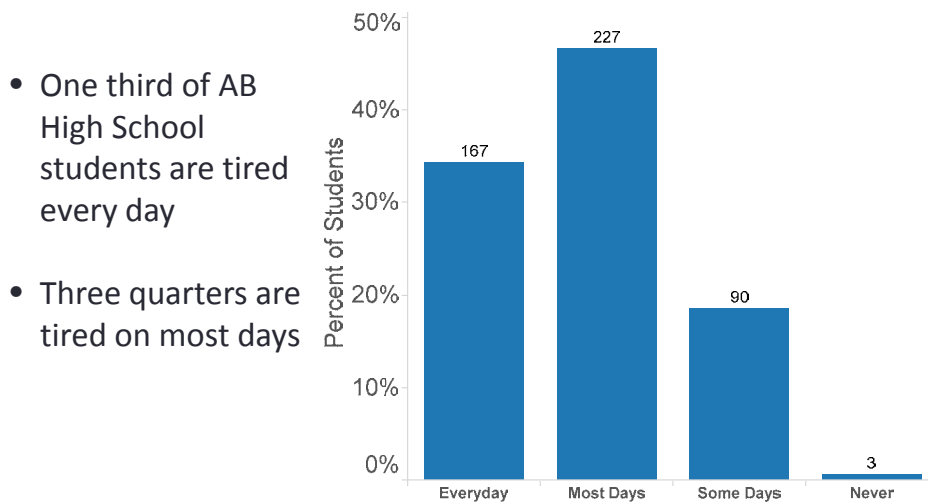
Adverse effects: Performance

- Lower academic achievement
- Cognitive deficits, especially with more complex tasks
- Impairments in executive function:
 - working memory
 - organization
 - time management
 - sustained effort
- Impairments in attention and memory
- Deficits in abstract thinking
- Decreased verbal creativity
- Decreased performance efficiency and output
- Poor school attendance & increased tardiness
- Increased dropout rates

How often do you doze off in class?



How often are you tired/sleepy at school?



Subcommittee 1 Summary

- Timing of teenage sleep is phase-delayed
- AB high school sleep data is similar to national high school sleep data in the medical literature
 - Average AB sleep onset = 11:15pm
 - 85% AB students get “7 hours or less” sleep on a school night
- Lack of sleep causes negative health, safety, and performance
- Delaying the school start time does not result in later bedtimes in teens

2

2: Other School Systems?

- **Identify comparable school systems**
- **Investigate their start times**

Goal & Approach

GOAL: Review and summarize the current education landscape as it relates to school start times

APPROACH: Collected national and local start time & school day design (literature review, media search, and interviews)

Andover	Chelmsford	Needham	Hingham	Westford
Arlington	Concord	Newton	Holliston	Weston
Bedford	Dedham	South	Lincoln-Sudbury	Westwood
Belmont	Duxbury	Reading	Marblehead	Wilmington
Boston-Latin	Milton	Sharon	Wayland	Winchester
	Natick	Harvard	Wellesley	

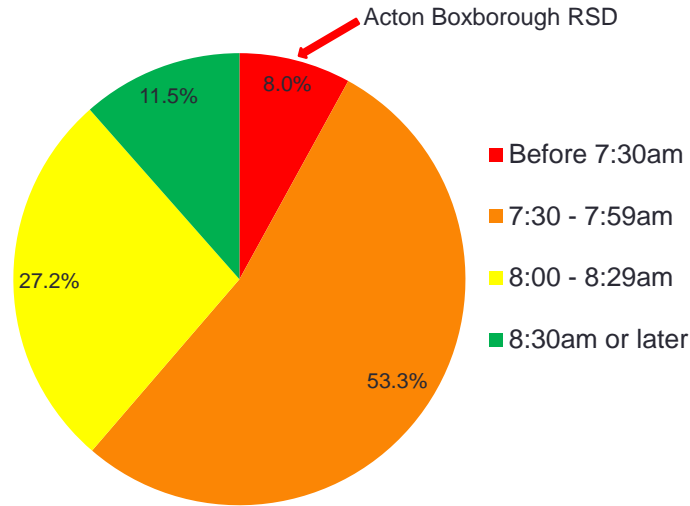
4

National Start Times



- CDC responded to the Am. Acad. Pediatrics recommendations for 8:30am or later start time
- CDC analyzed data from US Dept Education: SASS (Schools and Staffing Survey)
- Most recent data available: 2011-2012
- Data covers:
 - 39,700 public middle, high, and combined schools
 - 26.3 million students
- Average start time was 8:03am
- Wide geographic variation in start times

MA Middle & High School Start Times (US Dept. Ed: 700 schools, 527,000 students)



Morbidity & Mortality Weekly Report (MMWR) 2015; 64(30): 809-813

CDC Conclusions

Most U.S. middle and high schools start the school day too early

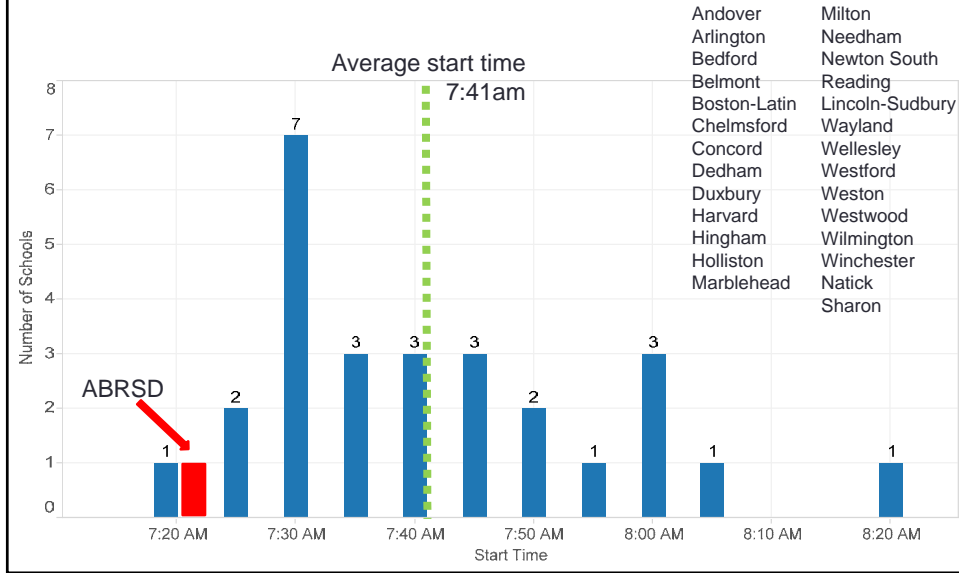
- 5 out of 6 U.S. middle and high schools start the school day before 8:30am
- Teens need at least 8 hours of sleep per night.
- 2 out of 3 U.S. high school students sleep less than 8 hours on school nights
- Younger students need at least 9 hours.

Adolescents who do not get enough sleep are more likely to:

- be overweight
- not get enough physical activity
- suffer from depression symptoms
- engage in unhealthy and risky behaviors such as drinking alcohol, smoking substances, using drugs
- perform poorly in school

For more information: www.cdc.gov

Local High School Start Times



Local School Districts



- Later start times best support the social emotional needs of our high school students
- Collectively wanted to express clear support
- Commit to a deadline and to the necessary consensus building required
- Doing what is right for adolescents will mean changing adult schedules and behaviors
- Goals are high school start times between 8:00am and 8:30am by the start of the 2018-2019 school year

MA School Districts



JUNE 20 2016:
"Define the necessary changes to make a later high school start time happen"



MARCH 9 2016:
Ashland pushes back start time for grades 7-12 for 2017-2018 school year (High school 8:30am)



APRIL 8 2016: School Start Time Flip Announced - Elementary will start 8:00am, High School at 8:55am



Masconomet Regional School District

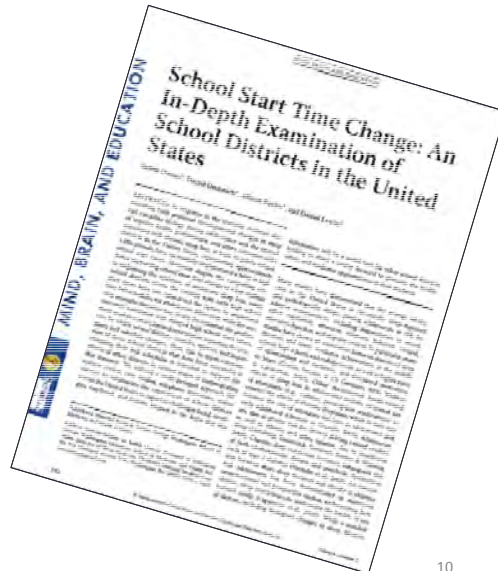
"Thinking critically in a global environment"

Serving Boxford, Middleton and Topsfield

APRIL 9 2016: School Start Time Advisory Committee named

School District Examples

- Strong leadership
- Educate the community
- Consensus building
 - Administration
 - Staff
 - Parents
 - Students
- Transportation
- Athletics & recreation
- One size does not fit all
- Prioritizing sleep health
- Allowing adequate time



Subcommittee 2 Summary

- ABRSD starts in the earliest 8% of public schools in MA
- ABRSD has the second earliest start time out of the 27 schools studied (local and dual county league)
- Many other school districts are in the process of delaying the school start time for students
 - Planning
 - Implementing
 - Already delayed start times
- Most of these districts are focusing on grades 9 – 12
- Strategies and successes from other districts are published

12

3: Opportunities & Obstacles for our School District

- **Identify ABRSD stakeholders**
- **Interviews & Surveys**

Goal & Approach

GOAL: Identify opportunities and challenges for the school community if school start times are modified

APPROACH: Identify stakeholders and collect responses through surveys and interviews



14

Stakeholders

- Community members:

- Administration
- Educators
- Parents
- Students

Age breakdown:

- Elementary
- Junior High School / High School

Administration Interviews

Staffing

- Teacher's contract permits change in start times
- If a change were to occur, starting discussions with Union reps early would be beneficial

Extra Curricular Activities:

- Clubs that currently meet before school will not meet as early.
- Coaches and Club Advisors limited in what they can commit to after school due to later dismissal

Athletics

- Students could take advantage of earlier practices
- Can utilize existing buses to transport students for games versus renting buses
- Limited availability on the fields - everyone competes for practice time
- Not all fields have lights - may force more home games on already tight availability

Transportation

- Identify transportation parameters and build bus schedule around them
- ~ 75% of elementary students take the bus. Numbers decline as the students get older
- Before regionalization, options for 3 tier bus system were assessed

Interviews: High & Jr. High Principals

Advantages

- Later start time aligns with adolescent sleep patterns
- More sleep is developmentally appropriate for older students

Disadvantages

- Athletic / activities schedule
- Early dismissal for athletics/activities impacts the last period (midyear exam schedule, required # of school hours/year)
- Teachers' personal schedules
- Cost - the system would need to be 2 tiered versus 3 tiered?

Interviews: Elementary Principals

Advantages

- Students are early risers
- Students more receptive/ready to learn in the morning. (on late start years the teachers request specials in the pm)
- Greater opportunities to schedule professional development opportunities earlier in the afternoon

Disadvantages

- Possible day care issues – if parents rely on older siblings to supervise younger siblings
- Early start time might be too early for some students
- Students would be boarding the bus in the dark in winter

Before/After School

Elementary School based care


- 7 am to 6 pm hours of care
- Late start = Less tardiness
- Earlier start time could offer more creative program options
- Parents adjust their work based on schedule changes and would prefer same start every year
- When there is an early start there are more children attending extended day in the afternoon

Community Ed based care

- Programs are modified each year as time changes
- Could add enrichment activities if after school programs had more time
- Complicates use of the HS/JH for after school programs
- Complicates employment of HS aides for various activities
- Field Access is closed after 6:00 - contractual

1

Surveys

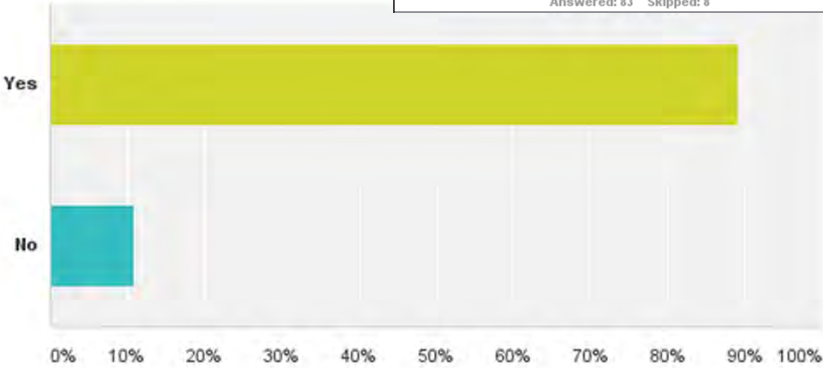
- 1
- ## Overview of Surveys
- 
- **Administrator, Faculty and Staff Surveys**
 - Elementary (140 responses)
 - Jr High & High (190 responses)
 - **Parent Surveys**
 - Elementary (599 responses)
 - Jr High & High (662 responses)
 - **Student Survey**
 - High School (495 responses)

Would the students at the Junior High & High School benefit from a later start time?



Elementary Staff

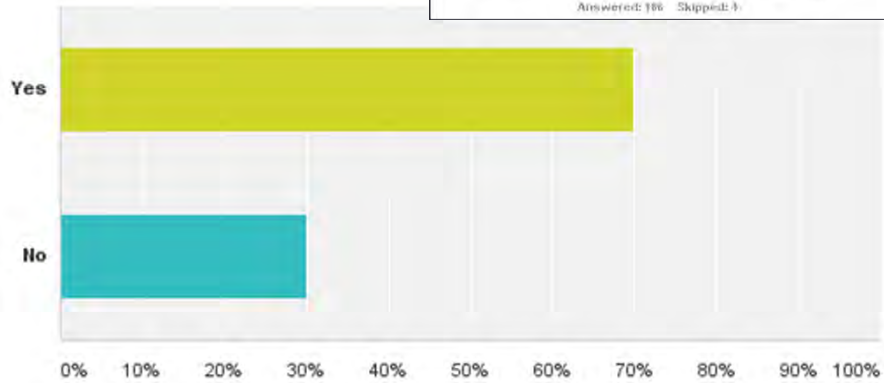
Q5 Do you as an educator feel that high school/ junior high school students would perform better if the high school/ junior high school started later in the morning?
Answered: 83 Skipped: 8



Jr. High & High School Staff

Q4 Do you as an educator feel that high school/ junior high school students would perform better if the high school/ junior high school started later in the morning?

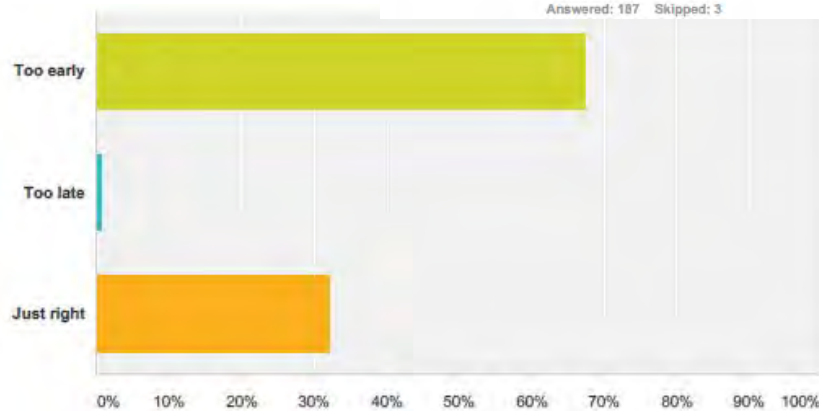
Answered: 186 Skipped: 1

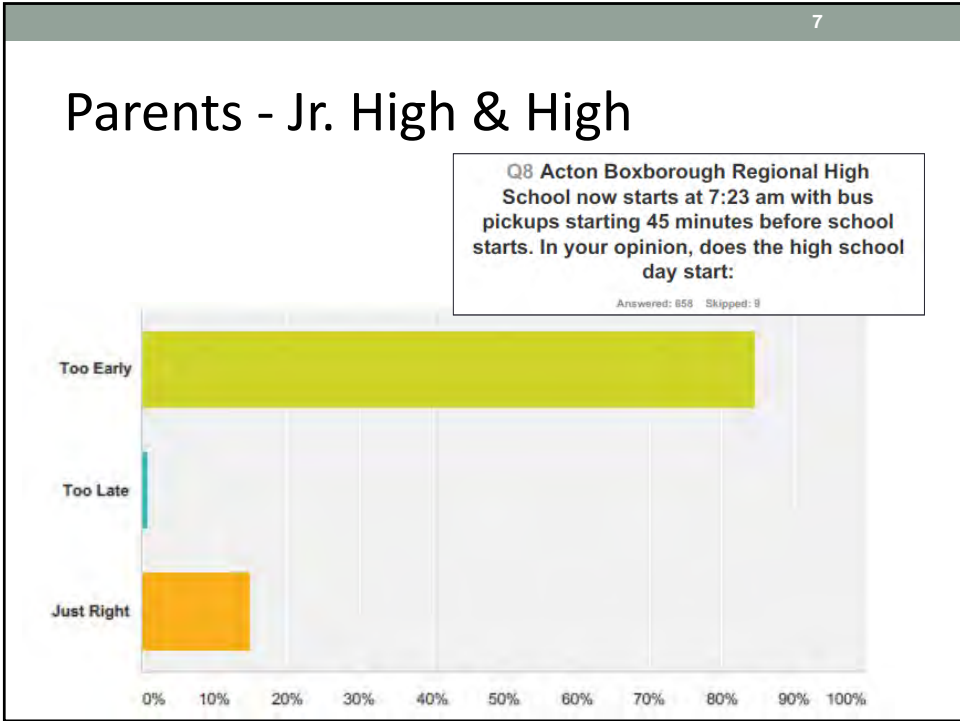


Staff - Jr. High & High

Q6 In your opinion (based on the school that you are working in) does the school day start:

Answered: 187 Skipped: 3

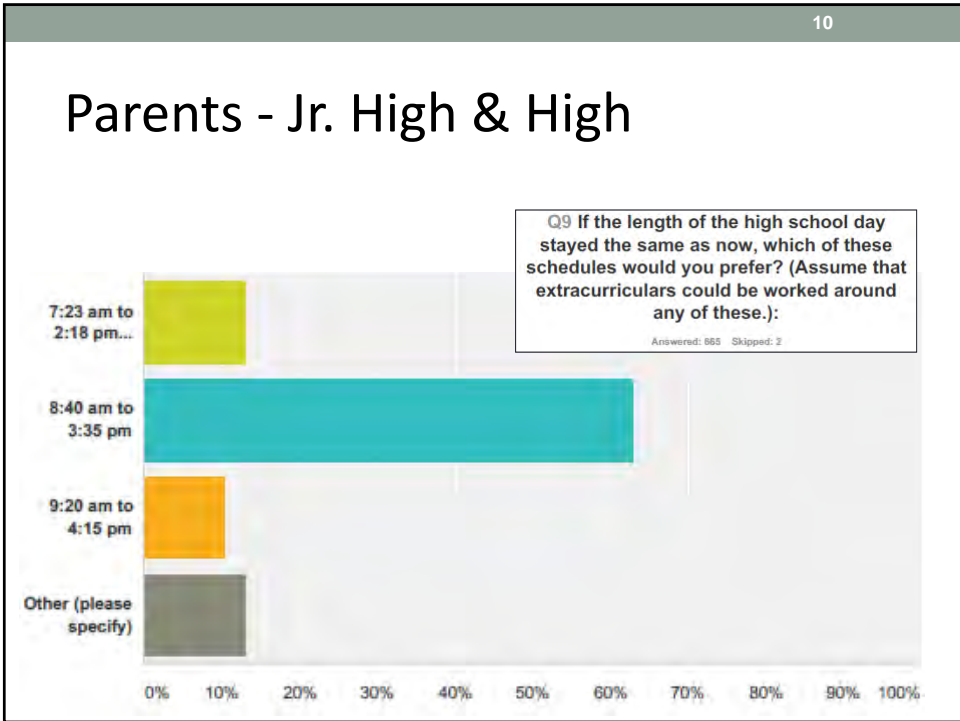
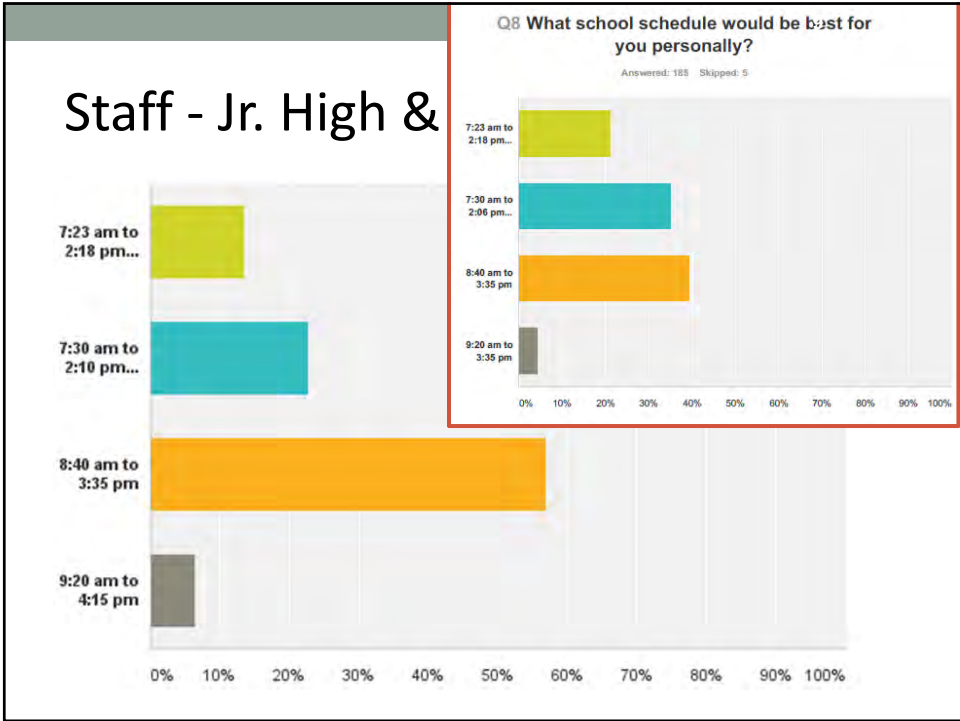


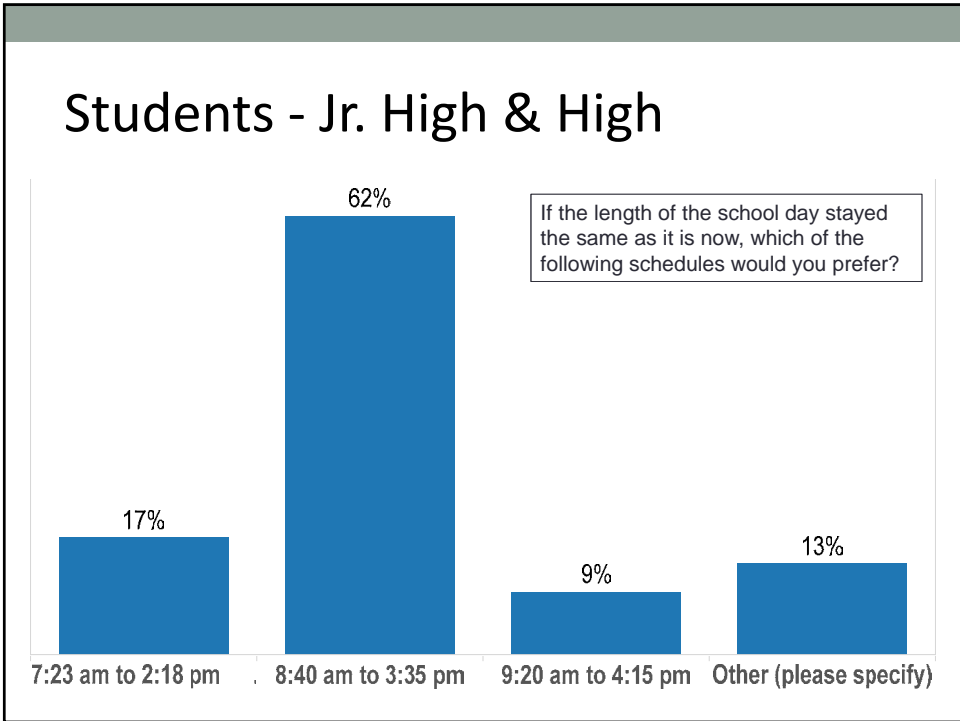
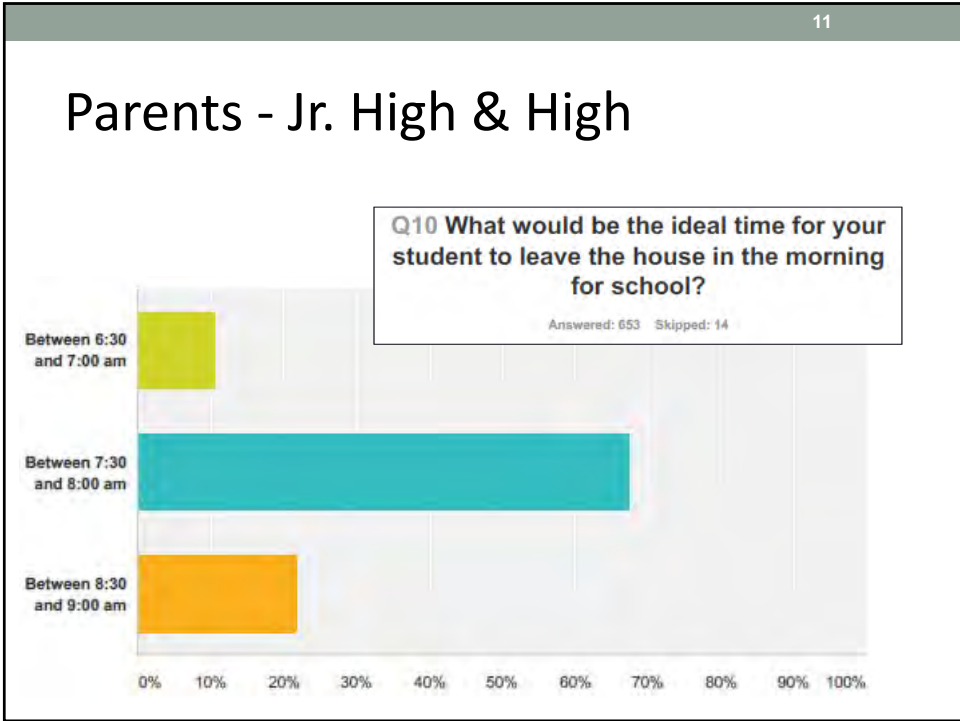


8

What time should the Jr. High & High School day start?

A yellow clipboard with a blue clip at the top, a pencil, and a red 'X' mark on a white sheet of paper. The word 'Survey' is written on the clipboard.





13

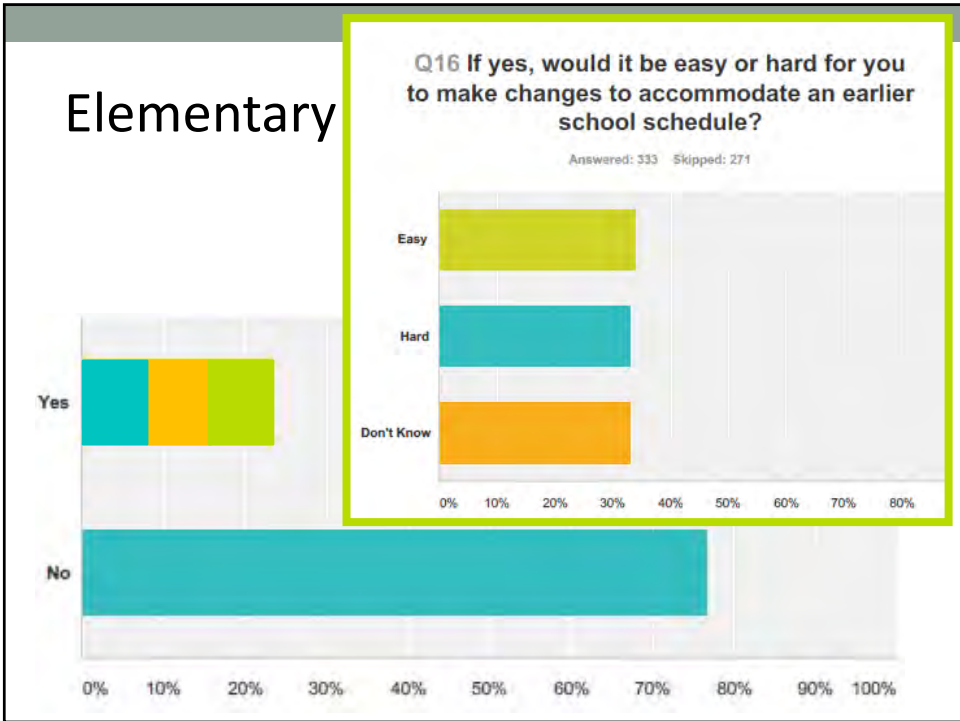
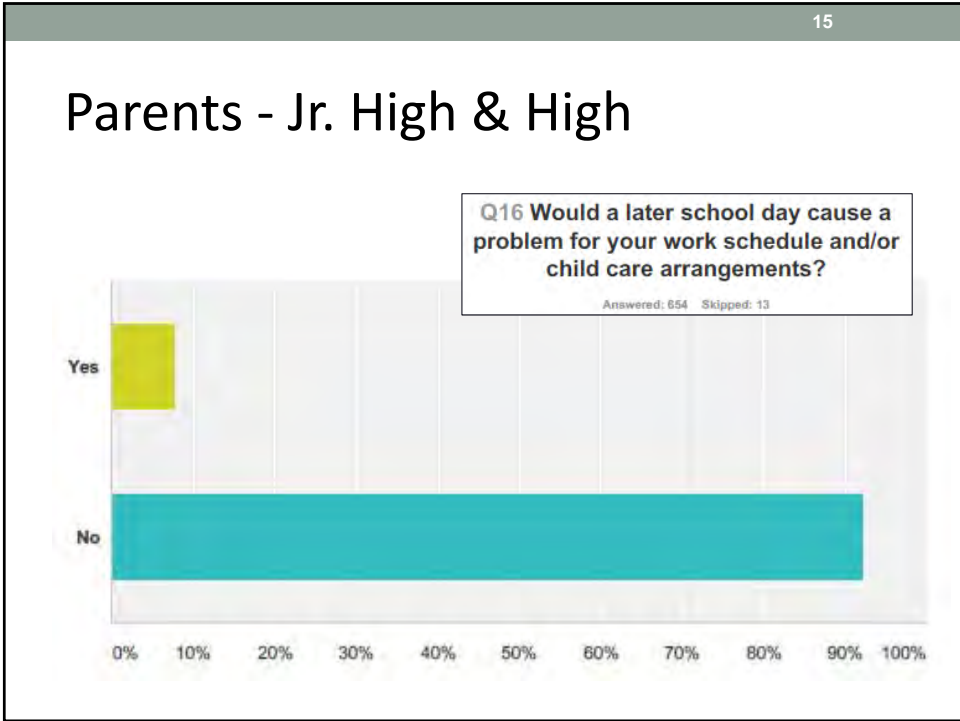
25% of students filled out the survey
between midnight and 4:53am

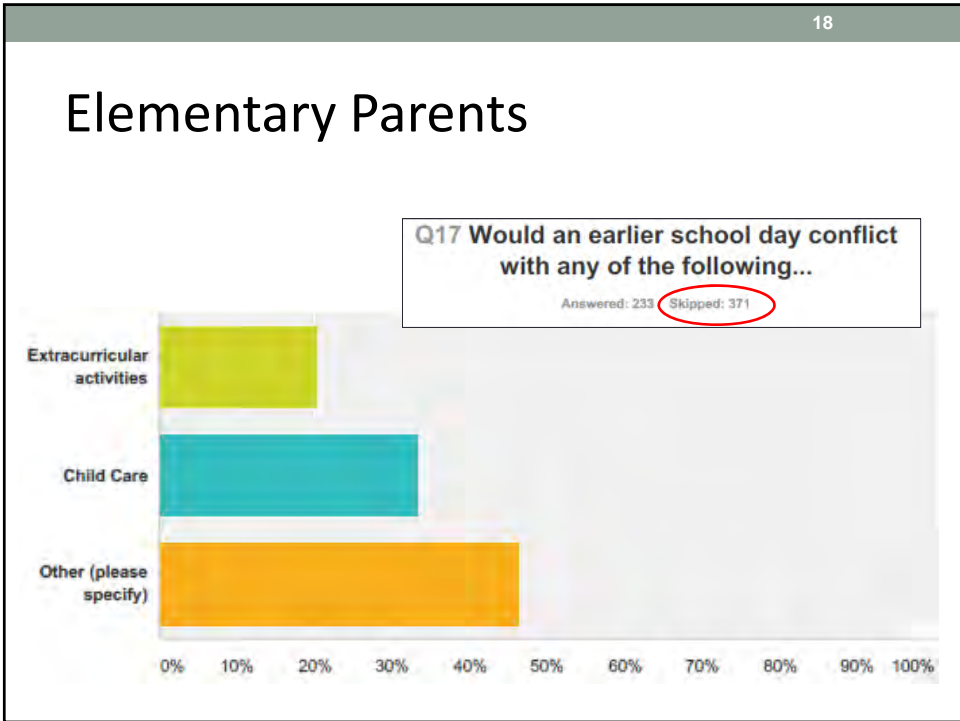
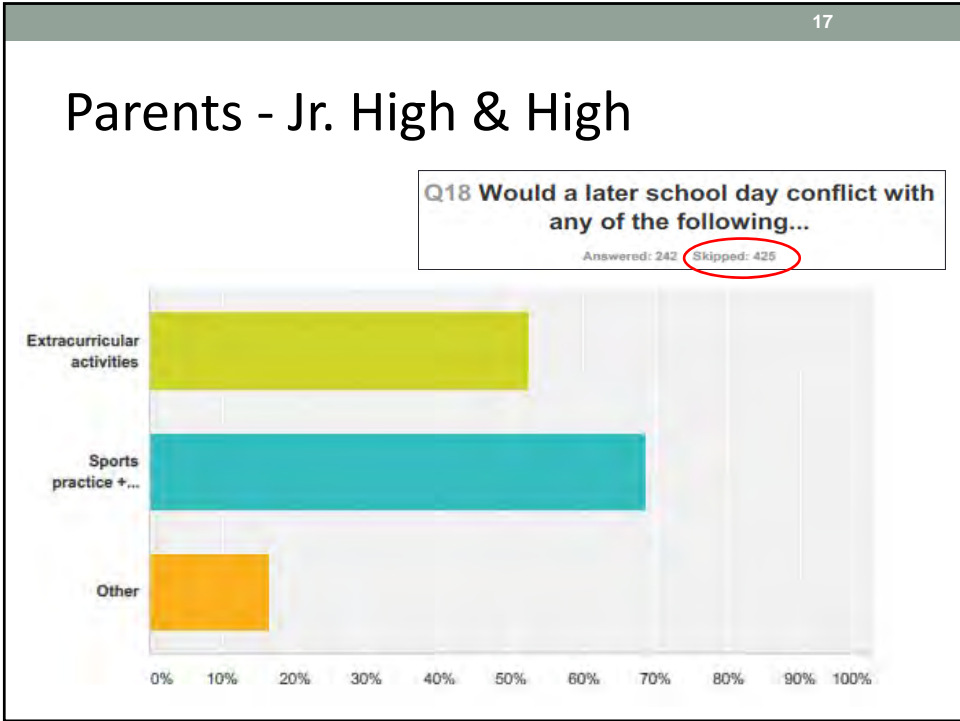
Sunday	0
Monday	1
Tuesday	69
Wednesday	26
Thursday	10
Friday	11
Saturday	0
	117

14

How would a later start time at the Jr High
& High School impact AB families?



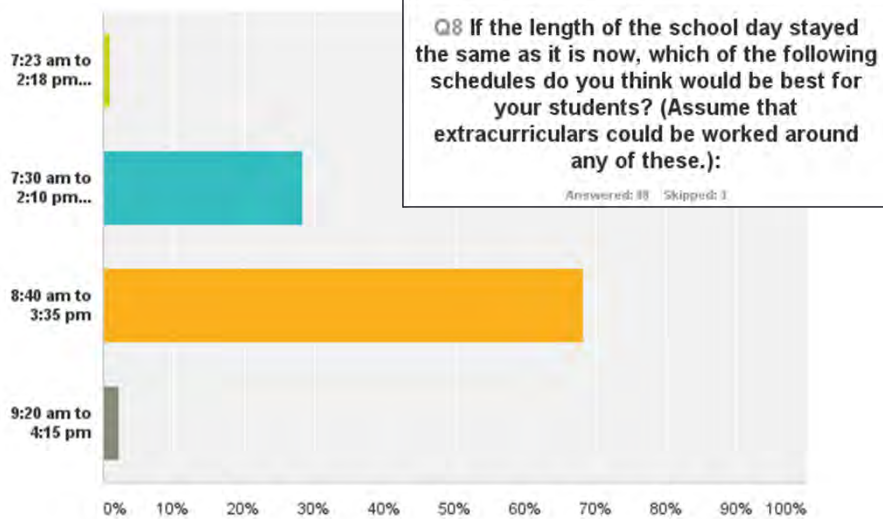


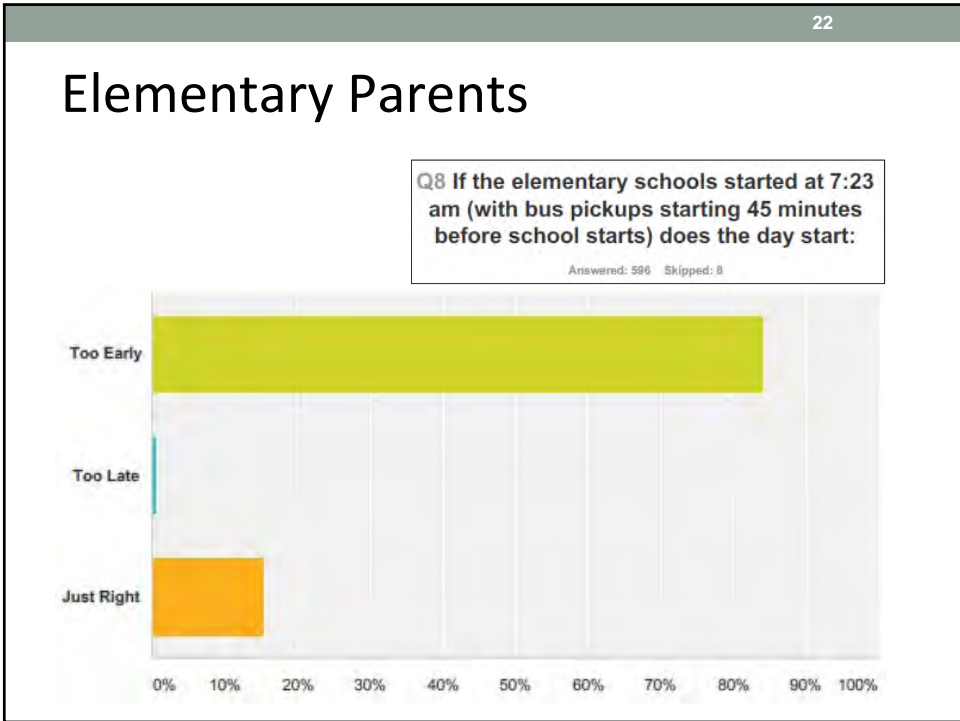
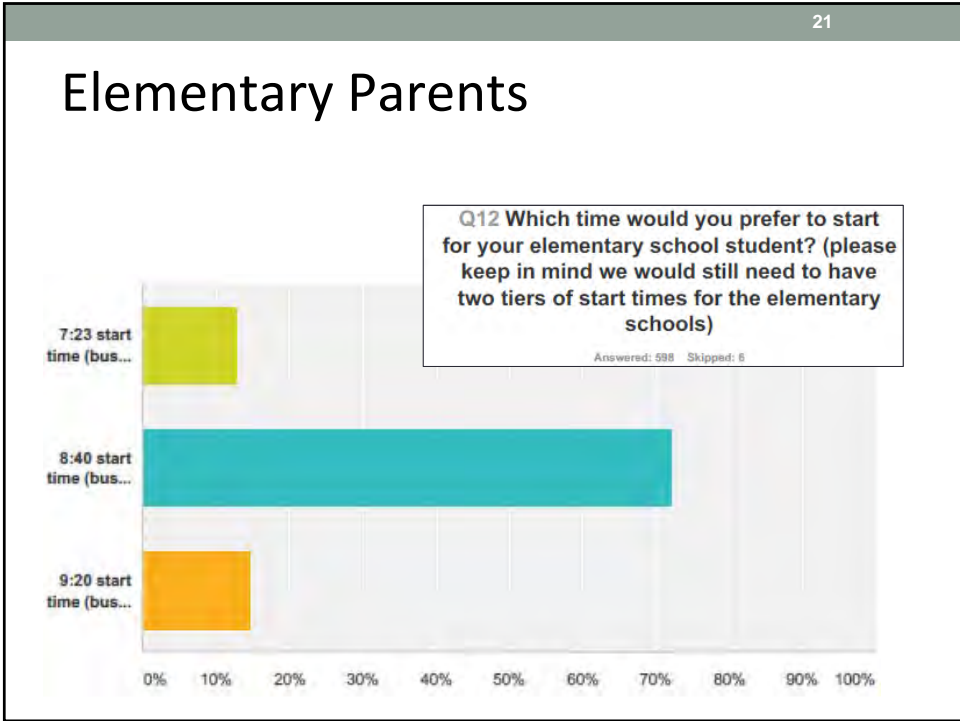


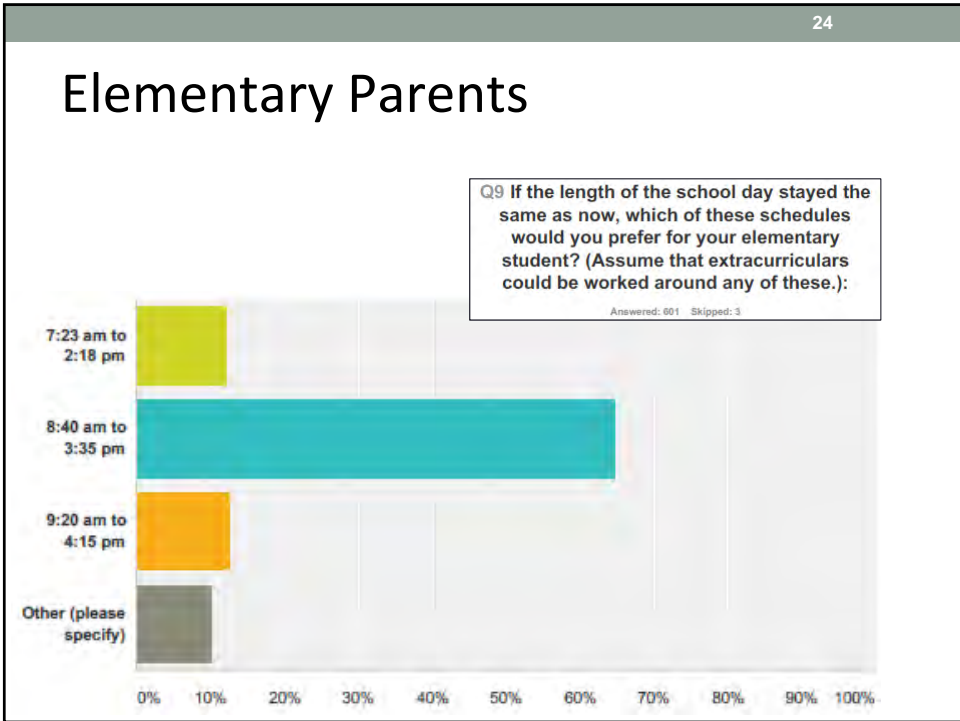
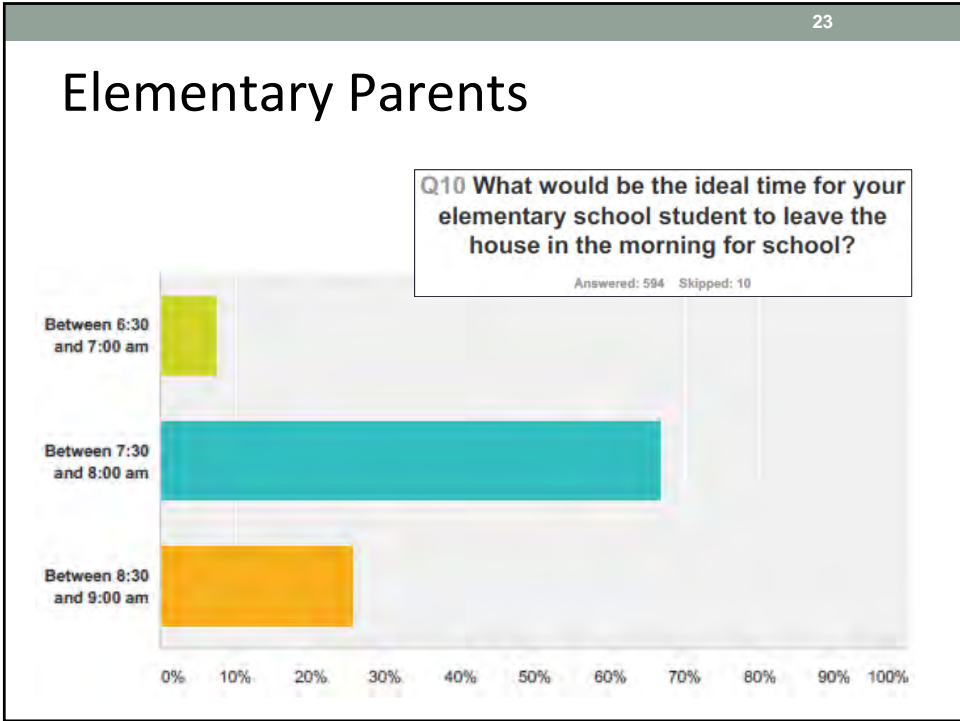
What time should the Elementary School day start?



Elementary Staff







SUMMARY

- Timing of teenage sleep is naturally phase-delayed
- Lack of sleep is harmful to teenage health, safety, and academic performance
- Delaying the school start time does not result in later bedtimes in teens
- School districts around the country, including our local cohorts, are undergoing the same process of review
- Faculty and Parents overwhelmingly requested an 8:40am start time for all schools (High School, RJ Grey Jr High, and elementary)
- Childcare difficulties were identified by 7% of elementary families who responded to the survey
- The impact on after school activities is still unclear and warrants further discussion
- Adjusting the school start time to compensate for teen physiology would be beneficial to our students

Recommendations

- Solidify our commitment to students' mental health and wellbeing as part of our district goals
- Move forward with a timeline for actionable steps and recommendations to the School Committee from the Superintendent



**ACTON-BOXBOROUGH
REGIONAL SCHOOL DISTRICT**

THANK YOU