

**Teen Sleep and School Start Time:  
Summary Report**

**May 31, 2017**

**Presented to the LSRHS School Committee  
by  
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## Table of Contents

I. Summary of our task, process, and key findings. . . . .	2
II. Survey methodology and overview of participation . . . . .	2
III. Is getting adequate sleep a problem for our students? . . . . .	3
IV. Factors interfering with student sleep on school nights . . . . .	5
V. Anticipated benefits from a later start time . . . . .	7
VI. Concerns about a later start time . . . . .	8
VII. Should LSRHS shift start and end times later? . . . . .	9
VIII. Responses to two specific start time scenarios . . . . .	11
IX. How important is this issue? . . . . .	13
X. Proposed next steps . . . . .	13
XI. Addenda. . . . .	15

## **I. Overview of our task, process, and key findings**

In mid-March 2017, the LSRHS School Committee tasked Superintendent/Principal Bella Wong with forming an advisory committee to gather input about a possible change in school start time for LSRHS. This request dovetailed with preliminary work that the LSRHS administrative team, and the LSRHS School Council, had already begun. The Teen Sleep and School Start Time Committee administered surveys to parents, students and school staff; analyzed the results; and created this report which summarizes our key findings.

Based on the survey data we collected, our key findings are as follows:

- 90% of our students are not getting the amount of sleep recommended by the American Pediatric Association.
- Students juggle many competing demands for their after school time.
- There is strong, shared concern that making LSRHS end time much later would have many negative impacts on after school commitments.
- There is strong agreement between parents, staff, and students that a later start time, though not a panacea, would benefit student health and well-being.
- There is shared support for making the LSRHS start time later, both through shifting the current schedule and by at least exploring a new schedule.
- Students and faculty highly value discretionary time in the school day ( ACA ).
- There is a sentiment among many students and parents that the morning busses in Lincoln and Sudbury currently pick up too early.
- Any consideration of changes (to bus schedules and/or school start and end time) must factor in financial costs.

## **II. Survey methodology and overview of participation**

Our surveys, and the information sheets provided with them, were drafted and edited by members of the administrative team and the LSRHS School Council. (*See Addendum A: Surveys and Information* )

**The Parent Survey:** The parent/guardian information and surveys were distributed via an email from Superintendent/Principal Wong, who also explained their context and purpose. A follow-up email from the Committee, urging more participation, went out the week before the survey closed. In total, 587 parents/guardians responded to the survey, a response rate of roughly 30%. Of the parents filling out the survey, 83% reside in Sudbury, 13% reside in Lincoln, and 4% reside in Boston. This closely mirrors the

population of LSRHS as a whole. As with any voluntary response survey, it is possible that the respondents have stronger opinions on this issue than exist in the parent population as a whole.

**The Staff Surveys:** LSRHS faculty and staff received their information and surveys via email after a faculty meeting about sleep and school start time. 142 LSRHS employees responded to the survey: 116 faculty members, 19 support staff, and 7 administrators. These numbers represent 73% of all faculty, 78% of the administration, and less than 50% of the support staff. (Many support staff work shifts which do not correspond with school start and stop times. This may account for their relatively low response rate.)

**The Student Survey:** Students in grades 9-11 received the information and surveys in their Wellness classes. (12th graders were not included in the survey.) 483 students responded to the surveys, a response rate of slightly less than 50%. Of the students who responded, 80.1% live in Sudbury, 12.4% live in Lincoln, and 7.5% live in Boston. These percentages closely reflect the school as a whole. 43.8% of the students who responded are in 9th grade, 26.8% in 10th, and 29.5% in 11th. This could skew survey results, since national surveys consistently show that the number of hours slept on school nights declines as students progress through high school.

Finally, the parent respondents are a group which is distinct from the student respondents; the parent respondents may or may not be the parents of the students who took the survey. This is important to keep in mind when reading any comparisons below.

**III. Is getting adequate sleep a problem for our students?**

The clear answer, according to both students and parents, is yes. While the American Pediatric Association recommends that teens get 8.5-9.5 hours per night of sleep per night, only 8.6% of the parent respondents, and 6.2% of the student respondents report that students get this much sleep on a regular basis. More than 90% of our students do not get the APA recommended amount of sleep on school nights.

<b>Hours of sleep per night</b>	<b>Parent Response</b>	<b>Student Response</b>
8.5 or more	8.6%	6.2%
7.5-8.5	36.5%	27.9%
6.5-7.5	44.3%	40.5%

Less than 6.5	10.4%	24.4%
Unsure	0%	1.0%

Students consistently report getting less sleep than their parents think they do. The numbers reported by L-S students more closely resemble the numbers reported by students across the country than do those of their parents. For example, in a 2013 CDC survey of 12,000 teens, roughly 30% reported sleeping 6 hours or less on school nights. (Owens, Judith, M.D. “The ABC’s of ZZZ’s: The Impact of Sleep on Student Health.” *School Start Time Community Forum*, 12 January, 2017, Sudbury MA).

Further caution is needed, however, in interpreting the L-S student data above. 70% of the L-S student responses are from 9th and 10th graders, and 30% are from 11th graders. 12th graders were not included in the survey. CDC longitudinal data on teens and sleep reveals that sleeping eight hours or more per school night declines as students move through high school. In the five years of data reported by the CDC survey, roughly 60% of 9th graders reported getting less than 8 hours of sleep on school nights, vs. 77% of 12th graders (Owens). This nationwide data closely aligns with the results of the 2014 MetroWest Adolescent Health Survey, which reported the following results about student sleep on school nights:

**% of L-S Students Sleeping 8+ hours on School Nights: 2014**

Grade 9	44%
Grade 10	35%
Grade 11	23%
Grade 12	22%

Source: 2014 MetroWest Adolescent Health Survey  
 See Addendum B: Selections from 2014 MetroWest Adolescent Health Survey

Thus we conclude that it is possible that our survey data skews upward the amount of sleep our students are getting on school nights.

**IV. Factors interfering with student sleep on school nights**

Our surveys asked students and parents about the factors which prevent adequate sleep on school nights. The survey presented six possible reasons and asked respondents to rank these reasons on a five point scale from “most impact” (1) to “least impact” (5). Both students and parents rank homework, followed by extracurricular activities

(including athletics, clubs, lessons, community service), and then screen/social media time as the main three factors which prevent students from getting enough sleep on school nights. The table below summarizes the responses by adding the number of respondents who ranked each factor as a (1) or a (2).

**Factors Negatively Impacting Student Sleep**

<i>Activity</i>	<i>Parent Responses</i>	<i>Student Responses</i>
Homework	70%	70%
Extracurriculars	40%	43%
Screen Time	39%	33%
Difficulty Falling Asleep	29%	33%
Social activities	9%	17%
Employment	5%	14%

These percentages are in line with the 2014 MetroWest survey data in which:

- 64% of all girls and 35% of all boys reported spending 3+ hours/day on homework
- 26% of all girls and 25% of all boys reported spending 3+ hours/day on extracurricular activities outside the school day
- 33% of all girls and 35% of all boys reported spending 3+ hours/day on screen time not related to homework

*Source: 2014 MetroWest Adolescent Health Survey*

*See Addendum B: Selections from 2014 MetroWest Adolescent Health Survey*

The theme of homework figures prominently in the optional survey comments. For students, it is the most frequently mentioned issue. Students state that a reduction in the amount of work they are expected to complete outside of school would aid in their ability to get more sleep. The reduction (not elimination) of homework is a theme prevalent throughout the student commentary. Some representative comments include, “It is extremely hard to go bed early due to homework and studying, even with no breaks, as I get home from sports at 5:30 pm.” “Start time would not be an issue if workloads were reduced and kids were able to get to sleep at an easier time. It is an issue right now, as we’re staying up until 12:00 trying to get work done and I personally don’t

finish everything.” “Having less homework would have a more positive impact on my amount of sleep than a later start, as ending school later would mean ending after-school commitments later which would mean less time for homework.” Parents also comment on the ways homework impacts families, seldom positively. Some representative comments include, “The amount of homework has a terrible effect on my daughter and our home life.” “Homework needs to be reduced for this to work! Sleep is more important than additional homework.” “Checks on the amount of time spent on homework would be better for overall well being of students, and better than starting 20 minutes later.”

Parents and students both comment on after school activities and their impacts on sleep. These comments are nuanced and varied. Parent comments range from, “There is nothing more important than our kids’ health, safety, productivity in school. Not money, not money, not inconvenience, not sports,” to “Athletics are as important to my kids as sleep. I would prioritize all areas of kids’ health, and not choose between after-school activities and sleep.” Another parent states, “My freshman son feels strongly that start/end times should not be changed and prefers to keep schedule same next year, as later afternoon activities would create a difficulty balancing homework and extracurriculars.” Students also comment on extracurriculars, but through the lens of balancing activities and homework. One faculty member comments on the competing demands of activities and homework in this way, “I also don’t know how we try and coordinate as a body to prioritize academics over athletic commitments.”

No students comment on social media use/screen time and its impact on their sleep. Some parents do think that screen time impacts student sleep and parents could do more to address it. One parent states, “There would be no issue if parents would act like parents and remove electronic devices from children after school and at bedtime. . . Get kids to bed and off their phones!”

As the committee discussed this data, and the competing demands on our students’ after school time, we noted the push/pull effect of all of the activities our students are juggling. While homework is the major reason cited for lack of adequate sleep on school nights, some of this may be the result of *when*, by necessity, homework happens for many students (after school, after activities, after some “down time” and dinner- i.e. in the hours before bed). We also wondered if homework, because it tends to be a less enjoyable activity than some of the others on the list, was more likely to be recognized by students and parents as interfering with sleep. Finally, we also wondered about the effect of social media use on homework productivity. All of this points to the need for further exploration of these issues.

A third of the students in our survey cite “difficulty falling asleep” as one of the major reasons why they might not get all of the sleep they need. This aligns with research on teen sleep cycles (Owens).

Interestingly, while we did not ask about the morning bus schedule in our survey, many respondents bring this up in their comments. Many parents remark that, for bus riders, the bus schedule impacts the “felt” start time more than the actual start time. Some notable parent comments on this theme include, “The main problem is buses that drop students at school 45 minutes before school starts. Students could easily get an extra ½ hour sleep without changing start time at all if the school could just rearrange bus times.” “The bus comes at 6:40am. That is absurd.” Students echo these sentiments with comments such as, “Fix the busses and you might fix the problem.” “Wake-up times are even earlier than they should be. With current scheduling, buses get to school at 7:00 am even though school starts at 7:50 am.” One Lincoln student states, “A later start time will be useless if the bus situation is not fixed, as my sleep is *most* impacted by waking up at 5:50 am to get on 6:20 am bus. If the bus picked me up at 7:00 am for the current 7:50 am start time it would be fine . . .” Some faculty members also note the concerns about the early busses, but caution against fixing this issue in a way that raises operating costs, stating, “Budgetary concerns can’t be overlooked, as when budgets get tight other towns have cut programs or teachers have lost jobs. Wait and do it right with schedule & budget (coordinating buses, etc) so we don’t have to do it again.” “Hidden costs (especially for transportation) need to be surfaced and emphasized. . . gouging funds from other parts of budget for this effort should not be an option.”

## **V. Anticipated benefits from a later start time**

70% of student and staff respondents, and 80% of all parent respondents, agree that a later start time would positively impact overall student health. This is a strong consensus which aligns with the recommendations of the APA. Additionally, 73% of all students, but only 51% of all parents, think that a later start time could make morning routines easier. LSRHS faculty also predict that a later start time could positively impact student alertness (66%) student attention (49%) and student achievement (51%).

These themes are reflected in the optional comment sections at the end of our surveys. Parents share that starting school early and teenage sleep patterns are a health issue, and remark that “Evidence, is extremely strong that school should start no earlier than 8:30am for student health & well being.” Most student commentators also equate the ability to sleep more with a healthier life, and understand the connections between sleep time, sleep quality, and overall health and well being. Students state things like,



“Starting school later would alleviate morning stress, let me eat a healthy breakfast before school . . . and help me get more sleep during vital growth and development period.” “An extra hour of sleep leads to my feeling better physically and mentally, as sleep plays big part in my mental health.” “Early school start time is not healthy, as most students are falling asleep in class which disrupts our learning and education.” The comments of the faculty members also reveal positive attitudes about both the intent of the survey and the substance of the APA recommendations. Faculty respondents see the connection between sleep, performance, and wellbeing. Some representative faculty comments include, “Our charge as faculty and adults is doing best for students. . . we should adopt APA guideline. . .” “Positive changes to student well-being are well-worth the initial adjustment, as our primary duty is serving academic interests of students as best we can.”

Our survey also asked LSRHS staff to comment on how a later start time might impact them personally, as well as professionally. 53% of all respondents think that a later start time would positively impact their own morning routines and sleep/overall health.

## **VI. Concerns about a later start time**

50% of the parent respondents anticipate no negative impacts from a schedule that starts after 8 am, and ends no later than 3 pm. Only 20% of students feel this way. Anticipated faculty impact are more nuanced: 32% of the faculty anticipate no negative professional impacts from a shift in school start and end times. Slightly fewer 28% feel this way about their personal lives. The gap between parents and students on this question is one of the largest differences between groups in our survey data.

The largest shared concern of all groups about a later school *start* time is its seemingly inevitable result: a later school *end* time. 71% of the student respondents, 59% of the faculty respondents, and 37% of the parent respondents worry that a later school end time would negatively impact afternoon activities. As one representative student states, “Ending school later would mean students having even less time for homework and extracurriculars.” Parents who are concerned about later end times note that “Making the day end too late creates issues for high school students, as many have jobs, sports, and family responsibilities.” Faculty members express concerns about the potential negative impacts of a later school end time on sports and other extracurricular activities. Some faculty also express concerns that a later end time could increase early releases from school for athletes, noting that “Attendance of student athletes during last block is my biggest concern, as many student athletes already leave early to travel to games or competitions and moving schedule back could result in athletes and those participating in activities missing last block completely.” “Keeping our schedule but shifting it later

could result in blocks 6 & 7 being hit even harder by student dismissals for athletics, as we're already one of the later school days. What other schools in DCL are doing is important.”

The second largest shared concern about later start and end times is increased traffic/commuting time at both ends of the day. This negative impact is anticipated by 45% of the faculty, 34% of the students, and 21% of the parents. This concern may dovetail with the concerns about afternoon time, as many activities students engage in also involve travel time. There is no consensus in parent comments about whether a later start and end time would make traffic issues worse or better, but there are strong concerns from students and faculty on this issue, especially regarding our Boston students. One parent urges that we, “Pay special attention to opinions of METCO kids, as they already have long day with transportation. Look at whether changes to school day significantly change their ability to be included at LS.” Others fear that, “Traffic will be heavier if we start later.” 60% of the Boston parents view increased traffic as a problem with later start and end times. One faculty member notes, “Later start would result in METCO students, and many of us, spending more time in the car or bus, even in local traffic. This is an environmental concern for the future of our children and a time concern too.”

## **VII. Should LSRHS shift start and end times later?**

All groups in our survey were asked the following question:

Assume that it would be possible to shift LSRHS start and end times later, with the end of the school day around 3 pm. Do you anticipate that the impact of such a shift on you (or your child) would be: highly positive, somewhat positive, neutral, highly negative, somewhat negative, unsure? We found that:

- 71 % of the parents think such a shift would be highly positive or somewhat positive
- 49% of the students think such a shift would be highly positive or somewhat positive
- 35 % of the faculty think such a shift would be highly positive or somewhat positive to them professionally (27% of the faculty think the shift would be highly positive or somewhat positive to them personally)

Parents are twice as likely as faculty to believe that such a shift would have positive impacts. Students are somewhere in the middle. This is not to say that faculty believe that such a change would have negative effects. Instead, faculty were the *least* likely of any group to predict negative impacts from a shift to later school start times:

- 12% of the faculty think such a shift would be highly negative or somewhat negative to them professionally

- 14% of the parents think such a shift would be highly negative or somewhat negative
- 24% of the students think such a shift would be highly negative or somewhat negative

Faculty were more than twice as likely to answer “neutral” than the other groups surveyed. (43% of the faculty were neutral vs. 15% of parents and 20% of students).

Overall, our survey found more support than not for a later start time from all groups we surveyed. Parents and guardians are overwhelmingly supportive of this change, with more than 70% of them in favor, and less than 15% opposed. Students are more divided, with half in favor, a quarter opposed, and the remaining quarter neutral or unsure. A third of the faculty are supportive of starting school later, while almost half the faculty are neutral.

The comments from all groups reflect the complexity of the juggling acts all of us engage in as we attempt to balance the demands of our busy lives. While the data above shows strong support for shifting school start time later, some respondents' comments reflect a concern about disrupting their already too full lives with such a change. One student shares this sentiment by stating, “ I do not support this idea overall, as people are settled in and used to current schedule. Changing start time would be negatively messing with students', parents', and teachers' routines.” Some parents express this as well, stating “I like the schedule the way it is and would not like to change start time. I have a full-time job and later times would conflict with my schedule.” One parent notes, “Changing start/end times needs to be coordinated with other schools to achieve best outcome overall, as all need to be on same page.”

Student respondents are very clear in their request that any schedule change not get rid of ACA block. Most student respondents are in favor of keeping the ACA period due to the potential loss of clubs, and/or catch-up time for school work. They share that, “Eliminating ACA block would make many LS clubs may disappear, as students would not have time for club meetings at other times.” “Cutting ACA would create a hardship on music dept, as acapella groups would not be able to meet. A later end time would make show rehearsals end even later than now in the week prior to performances.”

Another student made a plea for keeping early release Wednesdays, “Please don't make Wednesdays longer, as that's only island of free time in sea of nonsense.” While faculty respondents are open to moving around the time for ACA and professional development, they also see their value. One staff member urges, “ACA & professional development time are extremely important and shouldn't be considered expendable

when reconfiguring the schedule.” Parents who mention early release days are mixed about them. One parent remarks, “½ days are useless and burden on families,” while another states, “Lot of appointments are made on early release Wednesdays so it would be hard to lose those.”

**VIII. Responses to Two Specific Start Time Scenarios**

As part of our surveys we asked all respondents on about their views on two different start time scenarios. The first scenario was worded as follows:

*The latest start time LSRHS could have, without changing the current schedule, or getting out later than 3:00 pm, would be 8:10 am. How would you feel about starting school at 8:10 and getting out at 3:00?*

<i>response</i>	Parents	Students	Faculty	Admin/ Support Staff
I would support this change.	36%	32%	41%	75% / 47%
I would support this change as a first step toward starting even later.	33%	21%	22%	0% / 6%
I would not support this change. Keep our current 7:50-2:39 times	17%	25%	20%	0% / 29%
I would not support this change. 8:10 is still too early.	8%	8%	NA	NA
Unsure	5%	14%	16%	25% / 18%

The second scenario asked, with varying degrees of elaboration:

*Starting school at 8:30 and getting out no later than 3:00 would require creating a new schedule, and most likely end early release Wednesdays. . . Should LSRHS look into making a new schedule so that school could start close to 8:30 and end close to 3:00?*

<i>response</i>	Parents	Students	Faculty	Admin/ Support Staff
Yes: This is worth exploring	51%	23%	50%	50% /41%
No	30%	48%	31%	38% /35%
Not Sure	19%	28%	19%	12% /24%

This data indicates that even with concerns about afternoon activities and traffic there is support for shifting the existing schedule later. Additionally, half of the adult respondents think that exploring possible new schedules is a worthwhile use of district time and resources.

The comments from parents, students and faculty reflect the full range of views on this issue. One parent states, “Not worth time or money to change schedule to start at 8:30 am, but 8:10 am —3:00 pm option would give lot of good impact to family scheduling and student’s health.” This contrasts with the comments of respondents who wonder whether 20 minutes is a significant enough amount of time to outweigh the potential negative impact on after school activities and responsibilities. As two students put it, “Small amount of time change is not worth the greater difficulties of changing schedule.” “I would obviously want to sleep more but don’t think starting 20 minutes later would help that much, as waking up will still be just as annoying.”

**IX. How important is this issue?**

Any change in school start/end times requires time and resources. To help us understand whether or not the district should devote resources to such a project, we asked all respondents the following question:

*Based on the research on adolescent sleep and school start time provided, how important do you consider the issue of moving school start time later to be?*

<i>response</i>	Parents	Students	Faculty	Admin/ Support Staff
Very important. We should try to follow the American Association of Pediatrics recommendation and start at 8:30 am even if it is somewhat disruptive and expensive.	51%	38%	27%	13% / 12 %
This is worth doing if it is not too disruptive or expensive	34%	44%	60%	88% / 59%
Not important. Don't bother.	15%	17%	13%	0 % / 29%

Given these results, a new schedule may be worth exploring.

**X. Summary and Proposal for next steps**

After collecting and analyzing this data, our committee came to unanimous agreement that the following are worth further study:

- While school start time is a school issue- the issue of teen sleep is not a “school problem.” Keeping our students healthy requires an ongoing three-way discussion and commitment, with students parents and the school working in partnership to promote healthy habits. Finding ways to continue and deepen these discussions is an important next step.
- Changes in the morning bus schedules should be investigated. This could give more students more sleep without changing school start time. If this could be achieved without additional costs to the district, it should be done.
- Operationally speaking, any shift in school start and end times, or building a new schedule, requires deep planning, consultation, and negotiation between the school and all of the entities with which we cooperate. We support creating a school-based committee to investigate these operational issues.

