

Start Times Advisory Committee Options Final Report

May 2017

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Start Times Advisory Committee

The Masconomet School Committee, Boxford School Committee, Middleton School Committee, and Topsfield School Committee have appointed member representatives to the School Start Times Advisory Committee (STAC). This Advisory Committee will investigate the feasibility of a later morning start time for Masconomet and consider options to effect a plan with that intention. More information about STAC can be found on the Masconomet web site at <http://www.masconomet.org/domain/173>

Masconomet School Committee Representatives (voting members)

William Hodges, Topsfield, Chair
Teresa Buono, Middleton
Carolyn Miller, Boxford
Hagan Rivers, Boxford

Boxford School Committee Representatives (1 voting member)

David Rivers

Middleton School Committee Representatives (1 voting member)

Tasha Cooper
Amy Karas, alternate

Topsfield School Committee Representatives (1 voting member)

Katrina Frere

Superintendents (non-voting)

Scott Morrison, Tri-Town Union
Kevin Lyons, Masconomet

Adjunct Members (non-voting)

Kim Bitto, Masco Parent
Diane Carreiro, Elementary Principal
Kathryn Castonguay, Elementary Principal
John Daileanes, Masco AD
Pete Delani, Acting MRHS Principal
Kristen DeMarco, SEPAC
Dorothy Flaherty, MRMS Principal
Steven Greenberg, Asst. Superintendent of Operations
Susan Givens, Masco Asst. Superintendent of Finance and Operations
Sarah O'Leary, Elementary Principal

Introduction

The Start Times Advisory Committee has agreed to recommend a start time change for the Masconomet Regional School district and associated start time adjustments for the Elementary School districts. The three options for consideration are (all times are approximate):

- Option X: Masco 8:00a-2:55p, Elementary 8:55-3:25, + up to 3 buses
- Option Y: Masco 8:30a-3:10p, Elementary 8:00-2:30, + up to 3 buses
- Option Z: Masco 8:20a-3:00p, Elementary Unchanged, Independent busing

Each of these options is detailed in this document. The current schools' schedules are also included in this report as a reference.

In a perfect world, we could follow the American Academy of Pediatrics' (AAP) recommendation and change the Masconomet start time to 8:30a at no cost, with no effect on elementary schedules, and with no effect on the lives and schedules of our families and staff. Because all of our schools share the same fleet of buses it is impossible to develop an option that does all of these things, and thus our guiding principle throughout this process has been to work to provide *the greatest benefit to the greatest number of students, while balancing that with the real-world financial constraints of our towns.*

The work of the Start Times Advisory Committee is complete. It will be up to the Masconomet School Committee, the Boxford Elementary School Committee, the Middleton Elementary School Committee, and the Topsfield Elementary School Committee to agree on one option (if any). The four school committees will meet on May 22 at 7 pm at Masconomet to discuss these options. The committees may conceptually agree on an option that will be discussed and voted on by each committee at their next meeting. An administrative implementation team of staff from Masconomet and Tri-Town schools would then be charged with developing the details (specific start and end times, bus schedules and times, actual budget implications, etc.) of the agreed-upon option for final approval by each School Committee. Any financial implications would require voter approval as part of the normal annual budget process. Any change in start time would be implemented in the fall of 2018, at the earliest.

All of these option proposals provide estimates for timetables and cost. However, the precise timetables and costs will not be known until the implementation team actually does the work of developing the implementation plan for the option. We expect the implementation team would work for many months to roll out a start time change and to prepare our schools, staff, families, and community.

Guiding Principles

These options are developed working under a number of principles and restrictions that we've had to consider.

- We want to provide the greatest good for the greatest number of students.
- We believe that our students come first: we prioritize the interests of all students, supporting student learning, and ensuring that every child achieves to their highest level.
- We want to support the natural sleep habits of all children, K-12.
- We want to avoid having any student board a bus before civil twilight begins (that is 6:43a).
- We want to avoid having any student get off a bus after civil twilight ends (that is 4:54p).
- We want to give families and staff time to make new arrangements for child care and activities.

- We recognize that changes in start time are part of a larger conversation about sleep habits, homework levels, the number of activities that students take on, and the whole child's health and wellbeing.
- We want to continue to have a strong and healthy athletic program. However, academics must come first.
- We want to avoid dismissing staff early for the purpose of coaching student activities.
- We want to avoid dismissing students early for athletics and other activities.
- Extra Help is a vital component of the Masconomet culture and community. While we are open to making changes, eliminating Extra Help is not an option.

Restrictions and Requirements

- Massachusetts requires a minimum of 180 days of school per year.
- Massachusetts requires a minimum of 990 hours of instruction for high school students each year and a minimum of 900 hours of instruction for elementary students each year.
- Massachusetts requires a regional school like Masconomet to provide busing for its students free of charge.
- Massachusetts requires all elementary schools to provide busing free of charge for students living more than 2 miles away from the school they attend.

Research on Sleep and Start Time

Later start times support adolescent academic success, their social and emotional needs, their physical health, and their success in athletics. The Centers for Disease Control has warned that 2 out of 3 adolescents in America are getting 7 hours of sleep or less, leading to chronic sleep deprivation and to serious short-term and long-term effects, including:

- Lower executive function, poorer ability to organize and prioritize.
- Poorer academic performance, particularly for students who are struggling.
- Decreased ability to learn and remember new material.
- Moodiness, anxiety, and depression - there are now over 60 studies linking sleep deprivation and depression.
- Students arrive at school tired, fall asleep in class or have trouble focusing.
- An early start time contributes to tardiness and absenteeism.
- Increased use of drugs and alcohol.
- High rates of caffeine use, and students medicating both to fall asleep and to wake up.
- Increased rates of obesity and lower rates of physical activity.
- Increased risk taking: not wearing seat belts, not wearing helmets, drinking while driving, riding with drunk drivers.
- Increased risk of automobile and pedestrian accidents.
- Increased rate of injury in athletics and poorer athletic performance.
- The FBI reports that most adolescent crime occurs in the hours between the end of school and when parents return home from work. Some districts have changed start time specifically to address juvenile crime, and have seen a sharp drop in incidents.

The [American Academy of Pediatrics](#), the [Centers for Disease Control](#), the [American Medical Association](#), the [American Academy of Sleep Medicine](#), the [American Academy of Child & Adolescent Psychiatry](#), the [American Psychological Association](#), and the [Massachusetts Medical Society](#) have all examined the research and have recommend that middle and high schools start no earlier than 8:30a, writing that the evidence strongly suggests that a too-early start to the school day is a critical contributor to chronic sleep deprivation among American adolescents.

The Start Times Advisory Committee does not dispute the expertise of these organizations, nor their recommendations. There is not an abundance of research on appropriate start times for younger children, however. The available studies suggest that an 8a start time for *elementary students* will not adversely affect their health, although the number of studies remains small. Our work has been dedicated to determining whether the 8:30a start time for adolescents recommendation is right for our community and how we might be able to follow it.

Up until 1998, the start time in the Boxford schools was 8:05a, and 8:10a in the Topsfield schools. Until 2004, the start time in Middleton was 8:00a. The Tri Town Union administration has been able to learn the start times of 60 other elementary school districts in Massachusetts, and learned that these schools start as early as 7:20a and as late as 9:15a, with the most common times in the 8:00a - 8:30a range. There are no AAP recommendations regarding start time for elementary students.

CURRENT SCHEDULE

Description

The first tier of buses pick up Masconomet students in the morning and deliver them to school. Those buses then turn around and pick up the elementary students in each town and drop them off at each of the two elementary schools. In the afternoon, Masconomet students go home first, then elementary.

	Boxford	Middleton	Topsfield	Masconomet
First Bus Start	7:45a	7:30a	7:40a	6:27a
School Start	8:40a	8:30a	8:45a	7:35a
School End	3:10p	3:00p	3:10p	2:14p
Competitions Begin	n/a	n/a	n/a	After 2:50p
Last Bus End	4:11p	4:00p	4:06p	3:05p

Masconomet Extra Help begins at 2:20p and ends at 2:50p. Extra- and Co-Curricular activities, including athletics, begins after 2:50p.

General Pros

- This is the schedule that everyone already follows and will require no changes to the existing before- and after-school schedules for elementary or Masconomet families.
- No changes to existing before- and after-school programs at Masconomet and at all elementary schools.
- No changes to Masconomet athletic programs.
- No changes to Masconomet after school help.
- Masconomet students get off the bus before their elementary siblings in the afternoon, and are available for afternoon child care.
- No teacher contract considerations.

General Cons

- We do not address the sleep deficits that our Masconomet students are experiencing. As other towns in our area address this problem, we may be forced to revisit our school hours in the future.
- Does not follow recommendations of the American Academy of Pediatrics and many physicians, and current health effects will continue (effects are listed in *Research on Sleep and Start Time*).
- Ignores impacts of early start time on Masconomet students: social and emotional health, including physical and mental health risk factors that affect students and the community, and academic impacts.
- Masconomet students get on the bus before their elementary siblings, and are unavailable for morning child care.
- Existing elementary school hours potentially miss the optimal learning time for most elementary students.
- Parents may continue to drive Masconomet students to school to give them a chance to sleep later.
- Masconomet students wait for buses in the dark (before earliest civil twilight, which occurs in January at 6:43a).

Survey Data

- **Parents:** 50% of Masconomet parents supported *No change*, and 50% opposed it. Those who opposed it cited student health and safety as their primary worries.
- **Staff:** 84% of staff supported *No change*. Those who did not cited student health and safety as their primary worries.
- **Masconomet students** supported *No change* with 63% support. The 7:50a start time was a close second, with 61% support. These students also reported that under the current schedule they are getting an average of 6.6h of sleep per night, and that they feel awake and ready to learn at 8:19a. Those students who did not support this option cited worried about their sleep and health as their primary worries.
- **Elementary students** in Grades 5-6 supported *No Change* with 59% support,. However less, it was second to which was less support than their preferred option: an 8a-2:30p elementary school day, which garnered (69% support).

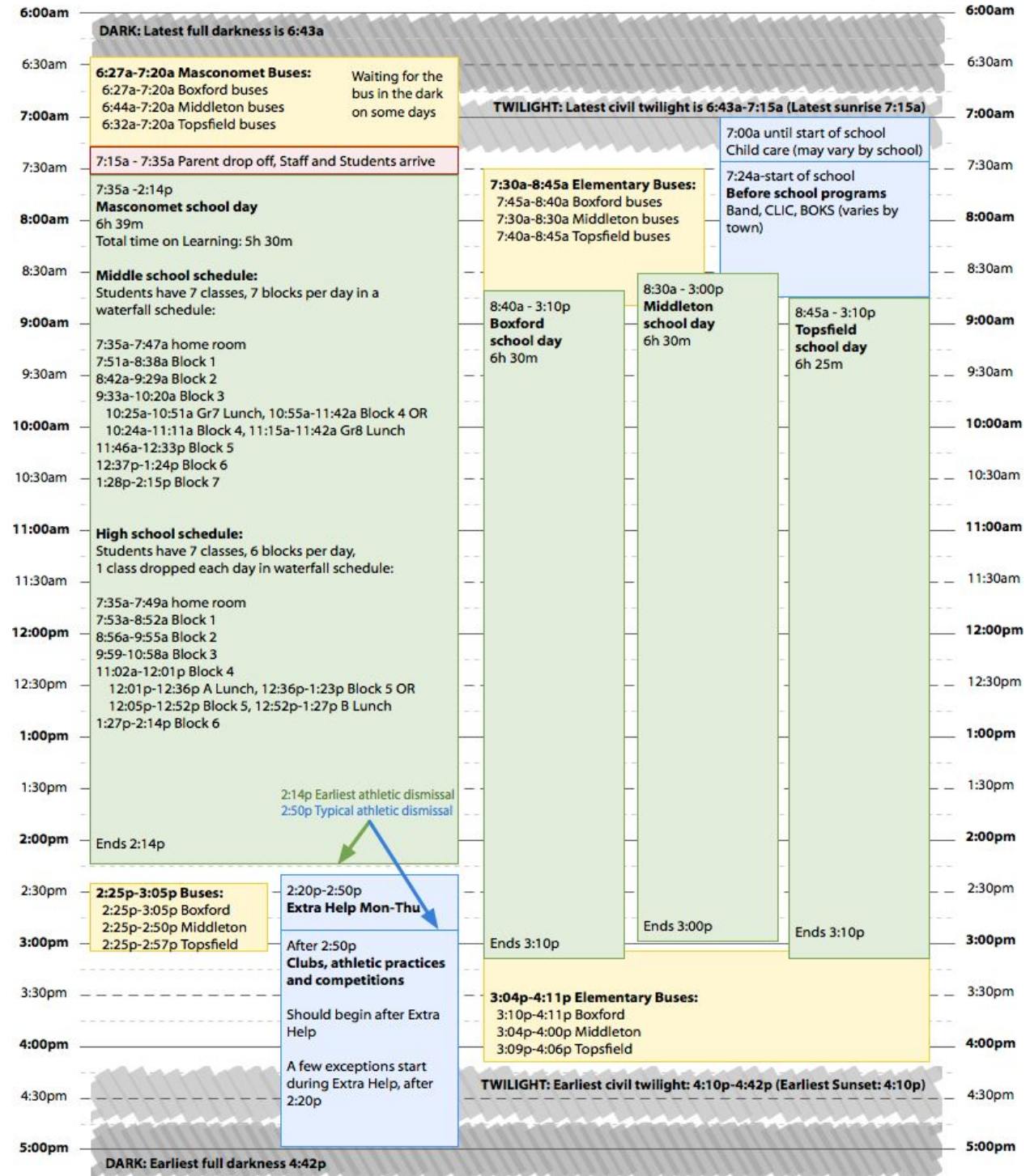
Budget Implications

None.

Extra- and Co-Curricular Activities Implications

- No changes to the athletic or academic programs or participation, because start time does not change.
- No changes would be needed to Extra Help, Extra- and Co-curricular activities, including athletics, at Masconomet.
- No changes would be needed to before- and after-school programs at the elementary schools.

Current Schedule Diagram



OPTION X: MASCO 8:00a-2:55p, ELEMENTARY 8:55a-3:25p (+ up to 3 buses)

Description

This option keeps Masconomet as Tier 1 in the busing, but moves start time as late as possible, ensuring that elementary start times are before 9a. To accomplish this there are adjustments to the bell schedule for Masconomet, changes to bus routes, and three additional buses (one for each town). This option has been developed to address concerns identified in the community surveys regarding student health and safety and time for extracurricular activities. The changes include:

- **Add up to three extra buses and tighten up the bus schedule.** Key goal: improve turnaround time between Masconomet and elementary schools. When Masconomet goes first, the elementary start time is 57m after the Masconomet start time. We estimate that three additional buses could reduce the turnaround time to 55m.
- **Adjust the Masconomet Bell Schedule.** Key goal: create an Arrow Block at the end of the school day that incorporates what is now Extra Help, and may include other academic opportunities that do not detract from Extra Help but could be counted as Time on Learning. Another key goal: add 30 minutes of common preparation time for staff at Masconomet before school from 7:30a to 8:00a. This time would allow teachers an opportunity to collaborate with one another.

Approximate schedule for this option (details would be worked out in implementation phase).

	Boxford	Middleton	Topsfield	Masconomet
First Bus Start	7:57a <i>(was 7:45a)</i>	7:55a <i>(was 7:30a)</i>	7:58a <i>(was 7:40a)</i>	7:12a <i>(was 6:25a)</i>
School Start	8:55a <i>(was 8:40a)</i>	8:55a <i>(was 8:30a)</i>	8:55a <i>(was 8:45a)</i>	8:00a <i>(was 7:35a)</i>
School End	3:25p <i>(was 3:10p)</i>	3:25p <i>(was 3:00p)</i>	3:20p <i>(was 3:10p)</i>	2:52p <i>(was 2:15p)</i>
Competitions Begin	n/a	n/a	n/a	2:52p <i>(was 2:50p)</i>
Last Bus End	4:20p <i>(was 4:11p)</i>	4:06p <i>(was 4:00p)</i>	4:14p <i>(was 4:06p)</i>	3:28p <i>(was 3:05p)</i>

At Masconomet:

- Extra Help is now part of the school day, in Arrow block, e.g. from 2:22p to 2:55p (was 2:20p to 2:50p).
- Athletics, extracurricular, and co-curricular activities would begin after Arrow block, e.g. 2:52p (was 2:50p). **This is 2m later than the current time.**
- Students and faculty coaches could be dismissed as Arrow block begins, e.g. 2:22p (missing Arrow block) for competitions that cannot be rescheduled (was 2:14p).

At Elementary Schools:

- Elementary child care programs in the morning would be extended.
- Elementary before- and after- school programs would follow their current schedule, though with more time in the morning these programs might start a little later or run a little longer.

Implementation Notes

A bus consultant may be able to find further efficiencies in the routes to help move the elementary start times a few minutes earlier. The elementary schools would not be able to start much earlier as long as Masconomet starts first, because the Masconomet school day is longer than the elementary school day. For example, we could add buses to start school in Middleton 15 minutes earlier at 8:40a, ending at 3:10p. However, the Masconomet buses wouldn't be able to start loading at those Middleton elementary schools until 3:25p simply because the Masconomet school day is longer.

A Masconomet bell schedule team would need to work to create the new Masconomet bell schedule for both the Middle and High Schools.

General Pros

- By incorporating Extra Help into the school day, along with other academic opportunities, we ensure equitable access to Extra Help for all our students.
- This is close to the schedule everyone is accustomed to and will require few changes in existing before- and after-school schedules for elementary or Masconomet families: a minimal disruption of routines for Masconomet families.
- Few changes to existing before- and after-school programs at Masconomet and at all elementary schools.
- Masconomet students get off the bus before their elementary siblings in the afternoon, and are available for afternoon child care.
- NO Masconomet students will wait for buses in the dark (before earliest civil twilight, in January at 6:43a).
- Elementary schools have an opportunity to extend or add before-school programs, if they so desire.

General Cons

- Does not follow recommendations of the American Academy of Pediatrics and many physicians, and current health effects will continue (effects are listed in Research on Sleep and Start Time).
- We do not fully address the sleep deficits that our Masconomet students are experiencing. As other towns in our area address this problem, we may be forced to revisit it in the future.
- Some parents will continue to drive children to school to give them a chance to sleep later.
- Children dropped off before start time create a safety issue.
- Masconomet students get on the bus before their elementary siblings, and are unavailable for morning child care.
- Some elementary students will be getting off the bus during civil twilight.
- It is likely that two teachers' contracts would need to be considered (Masconomet and Middleton), but the total work week for Masconomet teachers has very little or no change.

Survey Data

Respondents weighed in on Option B (Add buses, tighten schedule) and C (Neighborhood Masconomet bus stops), which both offered an 7:50a-2:25p Masconomet school day, with Extra Help ending at 2:55p, and elementary school days starting between 8:45a and 8:55a. Option B accomplished this by adding 3 buses, and Option C accomplished this with neighborhood bus stops for Masconomet students.

- **All Parents:** Option B had only 30% support among parents, however the parents who did not support it cited student health as the primary reason for their opposition (65%). Option C had the lowest support of any option, with only 20% of parents supporting the option: the low support was mostly related to neighborhood bus stops and not the start/end times.
- **Elementary Parents:** Among elementary parents, Option B had 34% support and Option C had 24% support. The primary reason cited for not supporting them was student health.
- **Staff:** Staff disliked Option B (67% oppose), citing concerns for their own schedules, child care, and commute. Option X addresses the scheduling concerns of Masconomet teachers, but not elementary teachers, when compared to Option B. This option does add common prep time for Masconomet teachers, which is a benefit not previously included. As with the parents, some staff were also concerned that the option did not do enough to address student health.
- **Students:** Masconomet students gave Option B 59% support (it was second to No change at 63%). Masconomet student preference was mostly driven by end times, and they showed at least 50% support for options ending before 3:15p. Those who opposed it cited “my other activities outside of school” as their primary reason for opposition (55%). **Elementary students:** Elementary students disliked a later start the most, with only 44% supporting a 15m later start. In the survey they said that they would rather start school (and end school) earlier.

Budget Implications

- The addition of up to 3 buses may improve our turnaround times for the bus routes. Adding three buses to the combined Elementary and Masconomet fleet would increase the annual bus budget by approximately \$180,000. The additional cost to the average-priced household in each town: **\$22 in Boxford, \$17 in Middleton, and \$22 in Topsfield.**
- To fully implement this option, we would need a bus consultant to analyze our bus routes, and there would be a cost associated with this consultant. However, such a consultant is also likely to find savings in the cost of busing.

Extra- and Co-Curricular Activities Implications

The net result is little effect on these activities for Masconomet. The Athletic Director has said that it causes little or no disruption with the current schedule. AD writes: If we are going to make a change, I see this as the most ideal for after-school activities.

- 2:22p dismissal for athletics would allow student-athletes to arrive at away athletic events without any change to the current schedule.
- Home athletic events would remain unchanged.
- Masconomet teacher-coaches (two thirds of our coaching staff) would be able to start practice as close to 3:00p as possible, as we do now.

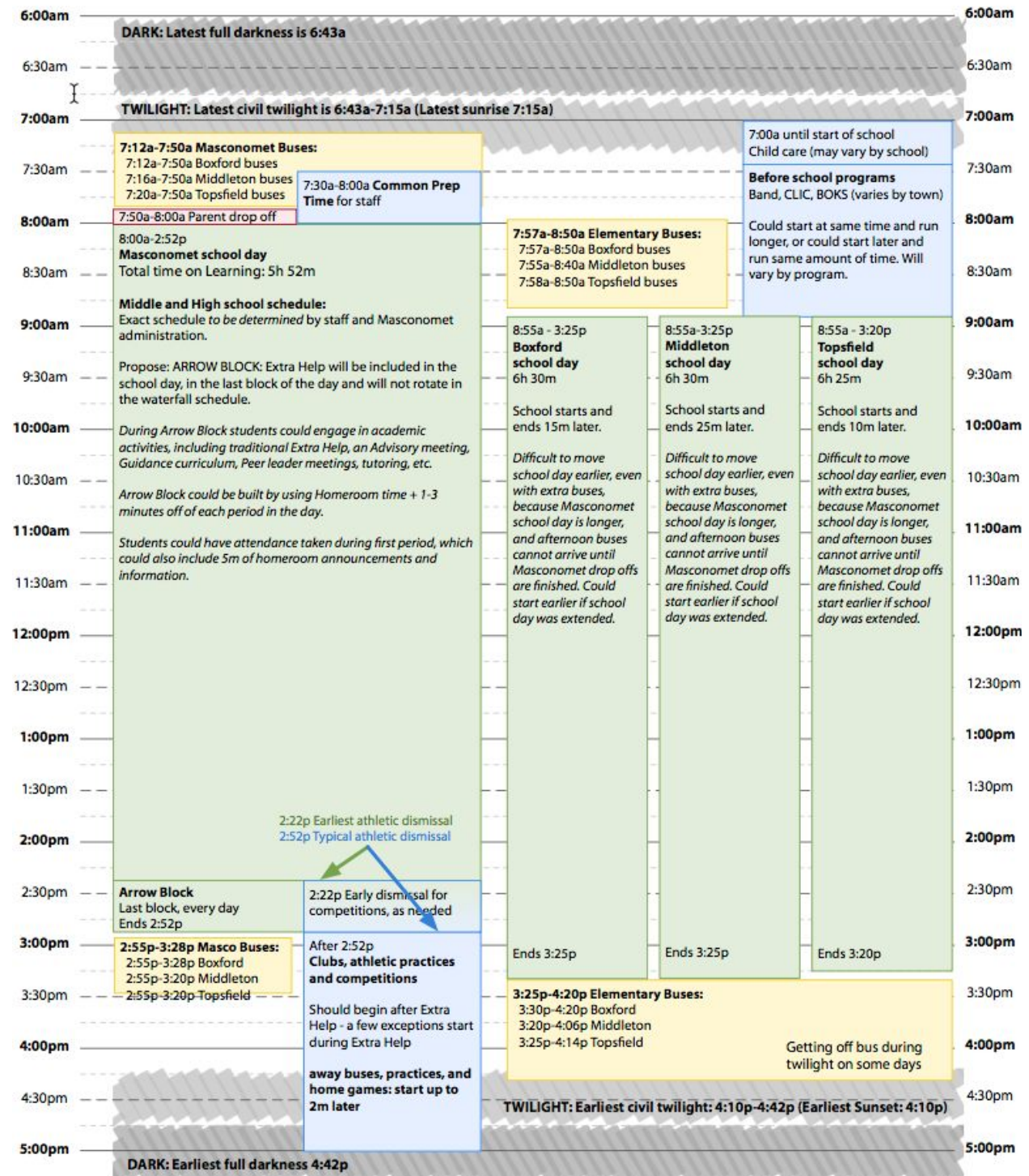
For Elementary Schools:

Elementary before-school programs (other than child care) and afterschool programs could begin 10-15m later. Before-school programs could begin at the existing time, and be extended until the new start time.

Option X Schedule Diagram

OPTION X: Masco 8:00a-2:52p, Elementary 8:55a-3:25p + up to 3 buses

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OPTION Y: MASCO 8:30a-3:10p, ELEMENTARY 8:00a-2:30p (+ up to 3 buses)

Description

This option proposes moving Elementary schools into Tier 1 of busing, while ensuring that Masconomet's end time does not move past 3:15p (our student support 50% cutoff). To accomplish this there are adjustments to the bell schedule for Masconomet, changes to bus routes, and three additional buses (one for each town). The changes include:

- **Add up to three extra buses and tighten up the bus schedule.** Key Goal: to improve turnaround time between Masconomet and elementary schools. When Elementary schools go first, the Masconomet start time is 40m after the elementary start time, based on bus turnarounds. Three additional buses could be used for the elementary schools to make first bus morning pickup later.
- **Adjust the Masconomet Bell Schedule.** Key goal: create an Arrow Block at the end of the school day that incorporates what is now Extra Help, and may include other academic opportunities that do not detract from Extra Help but could be counted as Time on Learning. Another key goal: add 30 minutes of common preparation time for staff at Masconomet before school from 8:00a to 8:30a. This time would allow teachers an opportunity to collaborate with one another.

Approximate schedule for this option (details would be worked out in implementation phase).

	Boxford	Middleton	Topsfield	Masconomet
First Bus Start	6:50a <i>(was 7:45a)</i>	7:03a <i>(was 7:30a)</i>	6:50a <i>(was 7:40a)</i>	7:50a <i>(was 6:25a)</i>
School Start	8:00a <i>(was 8:40a)</i>	8:00a <i>(was 8:30a)</i>	8:00a <i>(was 8:45a)</i>	8:30a <i>(was 7:35a)</i>
School End	2:30p <i>(was 3:10p)</i>	2:30p <i>(was 3:00p)</i>	2:25p <i>(was 3:10p)</i>	3:05p <i>(was 2:15p)</i>
Competitions Begin	n/a	n/a	n/a	3:05p <i>(was 2:50p)</i>
Last Bus End	3:25p <i>(was 4:11p)</i>	3:20p <i>(was 4:00p)</i>	3:23p <i>(was 4:06p)</i>	4:05p <i>(was 3:05p)</i>

At Masconomet:

- Extra Help is now part of the school day, in Arrow block, e.g. from 2:35p to 3:05p (was 2:20p to 2:50p).
- Athletics, extracurricular, and co-curricular activities would begin after Arrow block, e.g. 3:10p (was 2:50p). **This is 15m later than the current time.**
- Students and faculty coaches could be dismissed as Arrow block begins, e.g 2:35p (missing Arrow block) for competitions that cannot be rescheduled (was 2:14p).

At Elementary Schools:

- While elementary school starts at 8a, bus drop offs would begin as early as 7:40a, with most buses finishing drop off by 7:50a. Students would have a longer outdoor recess before school. Parents who wish to can drop their children off at 7:55a for an 8a start.
- Most elementary before-school activities would likely move to after school (resulting in minimal end-of-school time changes) as a result of start time change. The BOKS program,

which was designed to occur before school, would either move earlier or come to an end. The elementary schools would have an opportunity to add after school homework help, clubs, activities, and/or childcare for those families with such needs.

- The elementary schools could add after school programs if there is demand.

Implementation Notes

A bus consultant may be able to find ways to make the bus routes more efficient and allow Masconomet to start (and end) a few minutes earlier, which would improve the impact on athletics. Any added efficiencies in Masconomet bus route lengths would need to be accompanied by similar efficiencies in Elementary bus route lengths in order for the schedules to align, however.

A Masconomet bell schedule team would need to work to create the new Masconomet bell schedule for both the Middle and High Schools.

Because elementary students would arrive home before older siblings who attend Masconomet, some families may need additional childcare support. The elementary schools may want to evaluate the addition of paid after-school programs for children of these families. Programs could include homework help and after-school clubs, for example.

General Pros

- By incorporating Extra Help into the school day, along with other academic opportunities, we ensure equitable access to Extra Help for all our students.
- A Masconomet start time that is in keeping with recommendations of the American Academy of Pediatrics and many physicians, and will provide students with the opportunity for a good night's sleep.
- The research suggests that the 8:00a start time will not result in a change of total sleep for elementary students.
- This would be a return to the start times that the elementary schools had for years. Up until the 1990s, the start time in the Boxford schools was 8:05a, and 8:10a in the Topsfield schools. Until the 2000s, the start time in Middleton was 8:00a.
- The earlier finish for elementary students gives them more time to play outdoors, engage in after-school activities, and complete homework before they become overtired.
- Survey data suggests that more Masconomet students will likely ride the bus, with fewer parents driving them to school just to help them sleep later.
- NO child will wait for buses in the dark (before earliest civil twilight, in January at 6:43a).

General Cons

- This would represent a different schedule for elementary students: an earlier start and an earlier finish.
- This would represent a very different schedule for Masconomet students: a later start and a later finish.
- This would have an impact on elementary before-school programs, such as band, chorus, foreign language, BOKS, and CLIC. Elementary schools may opt to move some programs to occur after school. There is potential for an enrollment decline in some of these programs at the elementary level if the schools move start time earlier.
- This option would have an impact on all after-school activities for Masconomet students, whether school-sponsored or not, including volunteering and jobs. All would need to begin 15-20m later than they currently do. In some cases, this change will be small enough that it

will not matter. In other cases, students would not be able to engage in some activities the way they do now.

- The later Masconomet end time would require athletic practices and after-school co-curricular activities to start 15-20m later.
- Some students would need to be dismissed early, as Arrow Block begins, to attend competitions. This would mean that they do not have access to help on days when they have a competition.
- Some families would need to find additional after school childcare for their elementary children, since Masconomet students would not arrive home before their siblings. Additional childcare could be provided through the Elementary schools, through programs at each Town Library, and/or private offerings.
- Some elementary students will be waiting for the bus during civil twilight.
- It is likely that two Teachers' contracts would need to be considered (Masconomet and Middleton), but the total work week for Masconomet teachers has very little or no change.

Survey Data

Respondents weighed in on Option D and F, which were similar in timing to Option Y. Option D offered an 8:40a-3:20p Masconomet school day, with Extra Help ending at 4:10p. The elementary school day was listed at 8:00a-2:30p for Option D. Option F used double busing to achieve a Masconomet day of 8:20a-3:00p, with Extra Help ending at 3:30p. The elementary school day was listed as unchanged. Option Y was developed by considering survey responses to Options D and F.

- **Elementary Parents:** Option D with a similarly early start time had 41% support. (Note that the highest supported option among elementary parents was 49%, Option F and 46%, Option A).
- **Masconomet Parents:** Option A had 53% support but the next favored option was Option D, with 44% support. The primary cause for worry was after school activities. It's likely that adjusting the end time will improve support for this option, but it's difficult to know by how much.
- **Staff:** were split equally on whether they supported or did not support Option D. Masconomet staff overwhelmingly did not support it. The primary reasons they cited for not supporting it were Masconomet athletics and academic clubs, Masconomet Extra Help, and Excels.
- **Students at Masconomet:** opposed Option D by 69%. The primary reasons cited: my other activities outside of school, my schedule, Masconomet athletics, and Extra Help. Option Y is intended to mitigate some of these concerns. These students also reported that they felt awake and ready to learn at 8:19am. Masconomet student preference was mostly driven by end times, and they showed at least 50% support for options ending before 3:15p.
- **Elementary students:** overwhelmingly supported Option D, with 69% of the students in favor of the earlier start (and commensurate early end). Given the option, they would rather start school (and end school) earlier. The elementary students in Grades 5 and 6 reported that they felt awake and ready to learn at 8:14a.

Budget Implications

- The addition of up to 3 buses may improve our turnaround times for the bus routes. Adding three buses to the combined Elementary and Masconomet fleet would increase the annual bus budget by approximately \$180,000. The additional cost to the average-priced household in each town: **\$22 in Boxford, \$17 in Middleton, and \$22 in Topsfield.**

- To fully implement this option, we would need a bus consultant to fully analyze our bus routes, and there would be a cost associated with this consultant. However, such a consultant is also likely to find savings in the cost of busing.

Extra- and Co-Curricular Activities Implications

All Masconomet Extra- and Co-Curricular activities (including athletics) would begin approximately 15-20m later than they do now, but students could be dismissed as early as 2:35p for competitions.

The net result is that nearly every practice and game will need to shift 15m later, and more students and coaches would need to be dismissed during Arrow Block to attend competitions. The Athletic director writes: *[Option Y] is workable but presents more challenges.*

- 2:35p dismissal would pose a challenge to golf for matches (home and away) as we are limited by course availability to 3:30p start times. I see this as something that could be worked out if students could be dismissed about 15m earlier (2:20).
- The start of cross country meets (home and away) could be impacted. We had 7 weekday meets this season that started at 3:30p. This could be worked out if students could be dismissed about 15m earlier (2:20p).
- Realistically we would have to make a request from all schools in the Cape Ann League (as well as our non-league opponents) that all of our away afternoon athletic contests (freshman football, away soccer, away field hockey, away baseball, away softball, away tennis) start at least 15m later (from 3:45p to 4:00p). Tennis would move from 3:30p to 4:00p.
- JV Indoor Track meets at 3:30p would be challenging to arrive to on time. We would need to make a request that the league JV meets start later, or we would need to be dismissed from school early (2:20p).
- Ski races would be challenging to arrive to on time but could be managed if students could be dismissed a few minutes early.
- Swim practice times may have to be adjusted. We practice at Gordon College twice a week in the winter at 3:30p. Pool time is difficult to secure and we would have to negotiate with the aquatics manager.
- Girls/Boys hockey practices (currently) start at 3:30p at Haverhill Valley Forum (Mondays, Tuesdays, Thursdays, Fridays).
- We would request from schools in the CAL that our away basketball games start at 4:00p/5:30p/7:00p instead of 3:30p/5:00p/6:30p (FR, JV, V games three in a row).
- Masconomet teacher-coaches would need to adjust practice start times after school from 3:00p (current schedule) to 3:20p.

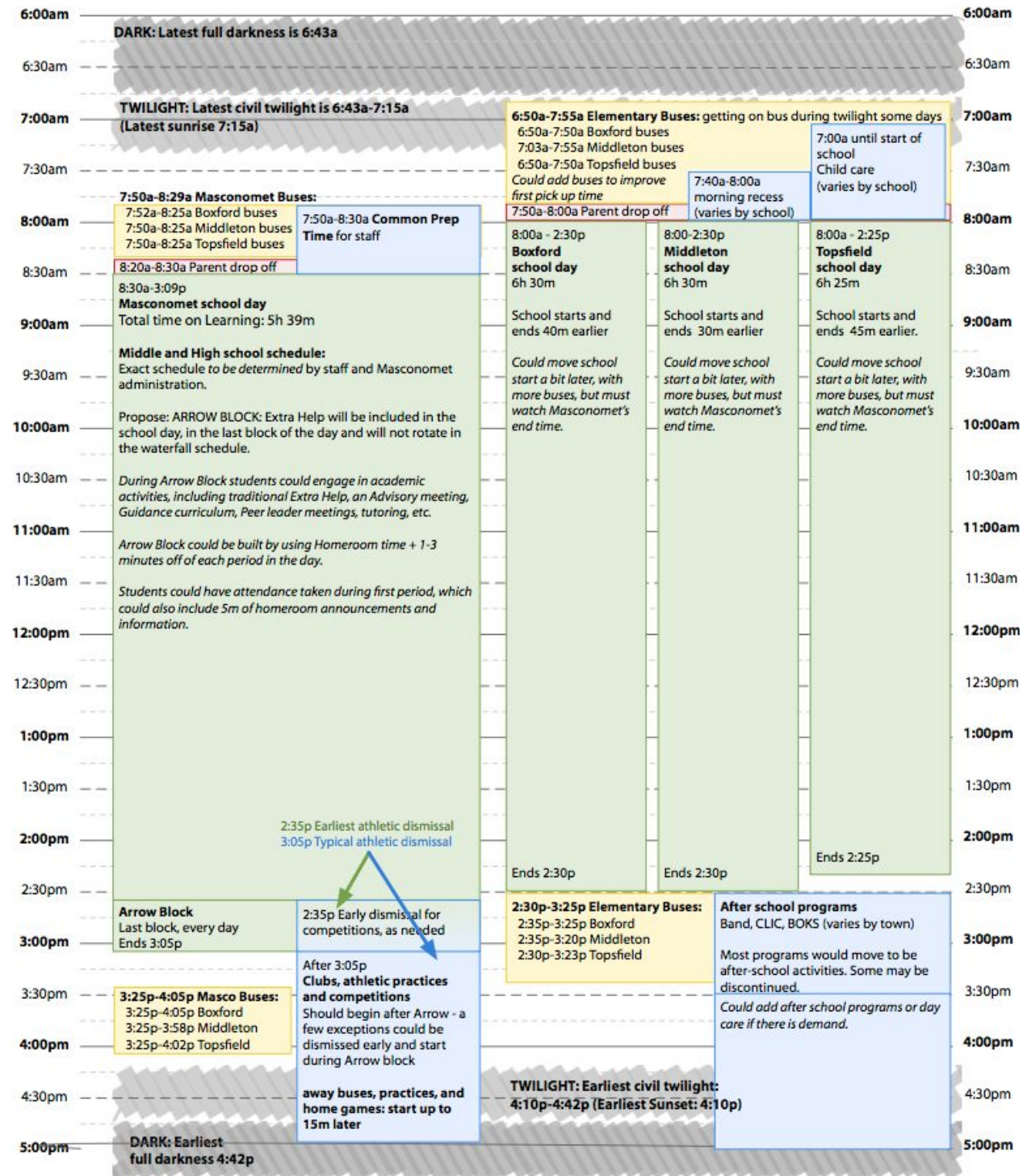
For Elementary schools:

- Most elementary before-school activities would likely move to after school (resulting in minimal end-of-school time changes) as a result of start time change.
- The BOKS program, which was designed to occur before school, would either move earlier or come to an end.
- The new Inclusive Band Program in Boxford for students with special needs currently occurs after school. Should the morning band programs move to after school, scheduling for this program will be more challenging based on the changed schedules of those involved. While this program is presently small, the intent has been to broaden this program to the other elementary schools in the Tri-Town due to the current success of the program.

Option Y Schedule Diagram

OPTION Y: Masco 8:30a-3:05p, Elementary 8:00a-2:30p + up to 3 buses

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OPTION Z: MASCO 8:20a-3:00p, ELEMENTARY UNCHANGED

Description

This option would use two separate fleets of buses for students, running concurrently. The schools would likely hire a bus consultant to thoroughly study our routes and any possible savings that might be gained from leasing or purchasing buses. Homes with both elementary and Masconomet students would have two buses visit in close succession in the morning and the afternoon. This option would incur a significant cost increase in our transportation budgets.

- **Independent buses for Masconomet and elementary school districts.** Key Goal: As this option provides Masconomet with independent busing, Masconomet may adjust start time as needed to minimize the impact on extra- and co-curricular activities.
- **Adjust the Masconomet Bell Schedule.** Key goal: create an Arrow Block at the end of the school day that incorporates what is now Extra Help, and may include other academic opportunities that do not detract from Extra Help but could be counted as Time on Learning. Another key goal: add 30m of common preparation time for staff to Masconomet before school from 7:50a to 8:20a. This time would allow teachers an opportunity to collaborate with one another.

Approximate schedule for this option (details would be worked out in implementation phase).

	Boxford	Middleton	Topsfield	Masconomet
First Bus Start	7:45a <i>(was 7:45a)</i>	7:30a <i>(was 7:30a)</i>	7:40a <i>(was 7:40a)</i>	7:40a <i>(was 6:25a)</i>
School Start	8:40a <i>(was 8:40a)</i>	8:30a <i>(was 8:30a)</i>	8:45a <i>(was 8:45a)</i>	8:20a <i>(was 7:35a)</i>
School End	3:10p <i>(was 3:10p)</i>	3:00p <i>(was 3:00p)</i>	3:10p <i>(was 3:10p)</i>	3:00p <i>(was 2:15p)</i>
Competitions Begin	n/a	n/a	n/a	3:00p <i>(was 2:50p)</i>
Last Bus End	4:11p <i>(was 4:11p)</i>	4:00p <i>(was 4:00p)</i>	4:06p <i>(was 4:06p)</i>	3:55p <i>(was 3:05p)</i>

At Masconomet:

- Extra Help is now part of the school day, in Arrow block, e.g. from 2:30p to 3:00p (was 2:15p to 2:50p).
- Athletics, extracurricular, and co-curricular activities would begin after Arrow block, e.g. 3:00p (was 2:50p). **This is 10m later than the current time.**
- Students and faculty coaches could be dismissed as Arrow block begins, e.g 2:30p (missing Arrow block) for competitions that cannot be rescheduled (was 2:15p).

Elementary schools would be unchanged.

Implementation Notes

The bus consultant may be able to find ways to make the bus routes more efficient, or may recommend leasing or owning buses, which would mean that “independent busing” is not actually “double busing”. The costs are likely to be less than “double” the current cost, particularly for Masconomet, which already has shorter routes, lower ridership, and fewer stops.

General Pros

- A Masconomet start time that is in keeping with recommendations of the American Academy of Pediatrics and many physicians, and will provide students with an opportunity for a good night's sleep.
- No impact on elementary student schedules.
- All children are picked up and dropped off at approximately the same time.
- Families with time-constrained work commutes will be better supported, with children leaving and arriving at approximately the same time.
- Masconomet and elementary school buses operate on independent schedules, providing them the most flexibility in choosing the start and end times that work best for each school.
- No child will wait for buses in the dark (before earliest civil twilight, in January at 6:43a).

General Cons

- This option would create a different schedule for Masconomet students: a later start and a slightly later finish.
- This option would have an impact on all after-school activities for Masconomet students, whether school-sponsored or not, including volunteering and jobs. All would need to begin 15-20m later than they currently do. In some cases, this change will be small enough that it will not matter. In other cases, students would not be able to engage in some activities the way they do now.
- The later Masconomet end time would likely have a significant impact on athletics and co-curricular after school activities. See the Athletics section for more information.
- The Masconomet Teacher Contract may need to be considered.

Survey Data

Option Z may appear to be fundamentally the same option that was presented during the surveys as Option F (double busing), but there are two key differences. First, with additional study, it's likely the the costs shown for Option F are the maximum costs; the actual costs are likely to be lower, though without a bus consultant we cannot accurately estimate how much lower. The second difference is that, with the Arrow Block folding Extra Help into the day, the end time is much earlier and the effect on after school activities is lower.

- **Parents:** 63% of parents opposed Option F, with 80% saying that they were concerned about the effect on property taxes. However, when asked to rank the options if cost was not a factor, Option F was the preferred option, over all others (including no change).
- **Staff:** 71% of staff opposed Option F, with most concerned about the effect on Masconomet Athletics. Option Z, which incorporates Extra Help into the day, should mitigate many of those concerns.
- **Masconomet students** were not specifically asked about the cost of this option. However, we did ask Masconomet students to evaluate an option with an 8:40a-3:20p school day and they opposed it by 69%. The primary reasons cited: other activities outside of school, my schedule, Masconomet athletics, and Extra Help. Option Z brings the end time earlier and is designed to mitigate some of these concerns. Masconomet student preference was mostly driven by end times, and they showed at least 50% support for options ending before 3:15p. These students also reported that they felt awake and ready to learn at 8:19a.
- **Elementary students** in Grades 5-6 supported No Change (which this option would be for them) with 59% support. However, it was second to their preferred option: an 8a-2:30p elementary school day (69%).

Budget Implications

At worst this option would cost double the cost of the current bus contract, as we would need twice as many drivers and buses. The cost would be subject to market pricing for bus drivers, which are in short supply. However, it may be that we can find savings in the current bus contracts, and may (like other districts) be able to save money by owning or leasing some of our buses. The additional cost could add up to \$1,000,000 to the budgets of the four school districts. For \$1M, the additional cost to the average household tax bill in each town would be: **Boxford, \$161; Middleton, \$88; Topsfield, \$135.**

Extra- and Co-Curricular Activities Implications

All Masconomet Extra- and Co-Curricular activities (including athletics) would begin approximately 15-20m later than they do now, but students could be dismissed as early as 2:30p for competitions.

The net result is that nearly every practice and game will need to shift 10m later, and more students and coaches would need to be dismissed during Arrow Block to attend competitions.

The Athletic director writes: *[Option Z] is workable but presents more challenges.*

- 2:30p dismissal would pose a challenge to golf for matches (home and away) as we are limited by course availability to 3:30p start times. I see this as something that could be worked out if students could be dismissed about 10m earlier (2:20p).
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- Masconomet teacher-coaches would need to adjust practice start times after school from 3:00p (current schedule) to after 3:15p..

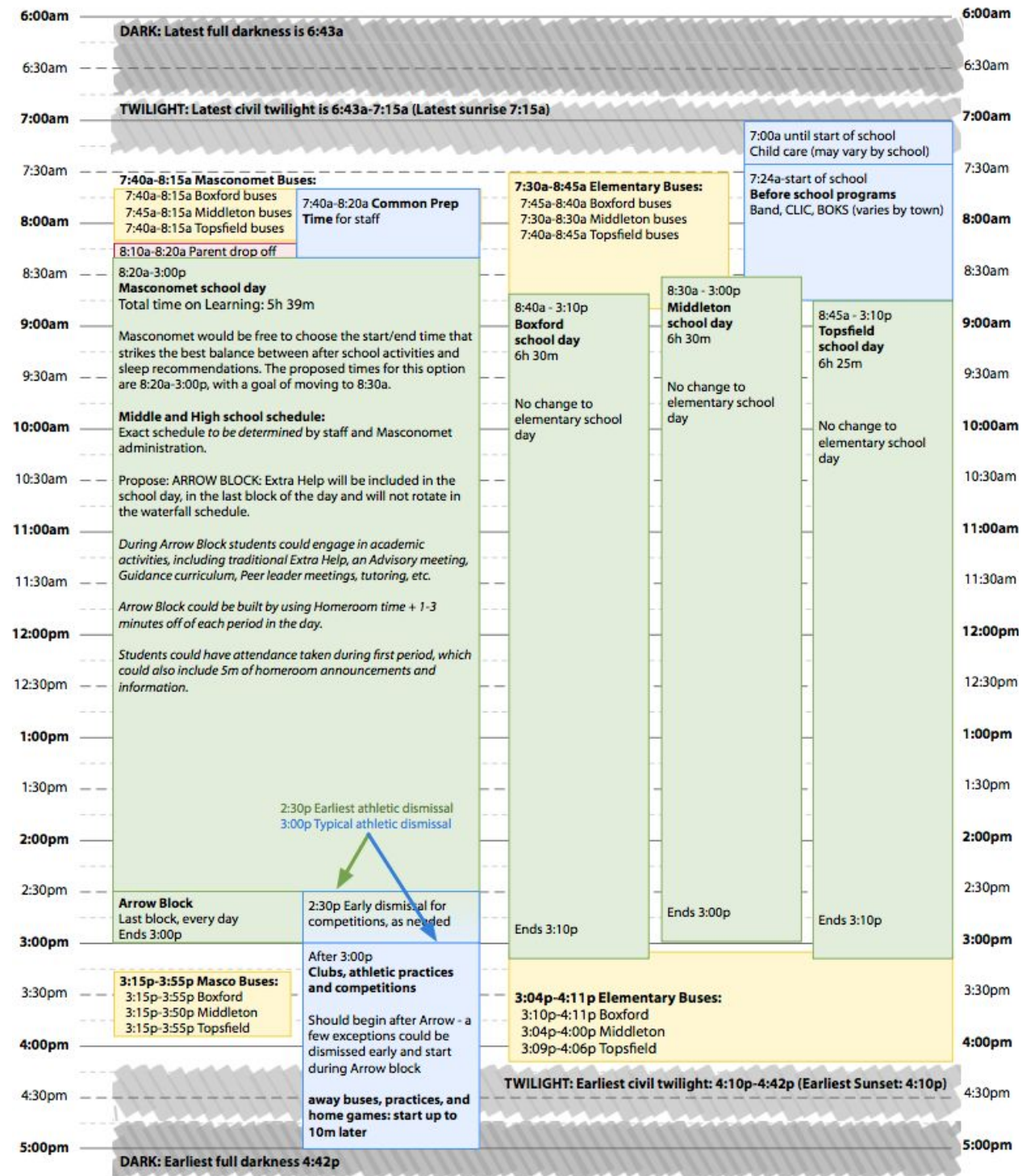
Elementary schools:

- No changes would be needed to before- and after-school programs at the elementary schools.

Option Z Schedule Diagram

OPTION Z: Masco 8:20a-3:00p, Elementary unchanged + Independent Busing

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OPTION SUMMARY

Masconomet Option Summary

	Current Schedule	Option X	Option Y	Option Z
MASCONOMET	7:35a-2:14p	8:00a-2:52p	8:30a-3:05p	8:20a-3:00p
First Bus Start	6:27a	7:12a	7:50a	7:40a
School Start	7:35a	8:00a	8:30a	8:20a
School End	2:14p	2:52p	3:09p	3:00p
Last Bus End	2:57p	3:20p	4:02p	3:55p
Extra Help/Arrow (1)	2:20p-2:50p	2:22p-2:52p	2:39p-3:09p	2:30p-3:00p
Athletics Begin	After 2:50p	After 2:52p	After 3:09p	After 3:00p
School hrs/day	6h 40m	6h 52m	6h 39m	6h 40m
Time on learning/day	5h 30m	5h 52m	5h 39m	5h 39m
Time on learning/year	990h	1056h	1017h	1017h
Staff common prep time	none	7:30a-8:00a	7:50a-8:30a	7:40a-8:20a
Staff hrs (2)	7:25a-2:52p	7:30a-2:52p	7:50a-3:09p	7:40a-3:09p
Staff hrs/wk	36h 38m	36h 50m	36h 35m	36h 40m

(1) Note: Changes to the bell schedule are demonstrations of a *possible* model. The actual bell schedule changes would be determined during implementation.

(2) Note: Changes to staff hours and prep time would be part of a contract discussion with the Masconomet staff.

Boxford Elementary Option Summary

Note: No changes to the bell schedule are proposed for the elementary schools, so the table does not include information on Time on Learning. All options have the same length school day and time on learning as the current school schedule.

	Current Schedule	Option X	Option Y	Option Z
BOXFORD	8:40a-3:10p	8:55a-3:25p	8:00a-2:30p	8:40a-3:10p
First Bus Start	7:45a	7:57a	6:50a	7:45a
School Start	8:40a	8:55a	8:00a	8:40a
School End	3:10p	3:25p	2:30p	3:10p

Last Bus End	4:11p	4:20p	3:25p	4:11p
Band, Chorus, etc.	Before school	Before school	After school	Before school
School hrs/day	6h 30m	6h 30m	6h 30m	6h 30m

Middleton Elementary Option Summary

Note: No changes to the bell schedule are proposed for the elementary schools, so the table does not include information on Time on Learning. All options have the same length school day and time on learning as the current school schedule.

	Current Schedule	Option X	Option Y	Option Z
MIDDLETON	8:30a-3:00p	8:55a-3:25p	8:00a-2:30p	8:30a-3:00p
First Bus Start	7:30a	7:55a	7:03a	7:30a
School Start	8:30a	8:55a	8:00a	8:30a
School End	3:00p	3:25p	2:30p	3:00p
Last Bus End	4:00p	4:06p	3:20p	4:00p
Band, Chorus, etc.	Before school	Before school	After school	Before school
School hrs/day	6h 30m	6h 30m	6h 30m	6h 30m

Topsfield Elementary Option Summary

Note: No changes to the bell schedule are proposed for the elementary schools, so the table does not include information on Time on Learning. All options have the same length school day and time on learning as the current school schedule.

	Current Schedule	Option X	Option Y	Option Z
TOPSFIELD	8:45a-3:10p	8:55a-3:20p	8:00a-2:25p	8:45a-3:10p
First Bus Start	7:40a	7:58a	6:50a	7:40a
School Start	8:45a	8:55a	8:00a	8:45a
School End	3:10p	3:20p	2:25p	3:10p
Last Bus End	4:06p	4:14p	3:23p	4:06p
Band, Chorus, etc.	Before school	Before school	After school	Before school
School hrs/day	6h 25m	6h 25m	6h 25m	6h 25m

Current Transportation Budget Costs

	Masconomet	Boxford	Middleton	Topsfield
2017 NRT budget	(1) \$923,795	\$336,997	\$256,817	\$180,457
# Buses currently	28 shared	13 shared	8 shared, 1 unshared	7 shared
1 bus, shared cost (2)	\$32,993	\$25,993	\$25,780	\$25,780
1 bus, unshared cost	\$50,861	\$50,861	\$50,580	\$50,580

(1) Note: Masconomet is estimated to be receiving \$574,809 (Cherry Sheet) in regional transportation aid from the state for 2017-2018.

(2) Note: “shared” buses split cost between Masconomet and the elementary district. Masconomet pays more per shared bus; the apportionment is calculated based on mileage.

Estimating the Cost of the Options

Costs are estimated and would need to be determined during option implementation. However, these estimates can be used to evaluate the options.

	Current Schedule	Option X	Option Y	Option Z
Masco Buses	28 shared	Up to 31 shared	Up to 31 shared	25 unshared
Boxford Buses	13 shared	Up to 14 shared	Up to 14 shared	13 unshared
Middleton Buses	8 shared, 1 unshared	9 shared, 1 unshared	9 shared, 1 unshared	9 unshared
Topsfield Buses	7 shared	Up to 8 shared	Up to 8 shared	8 unshared
Masco Additional Cost	\$0	\$98,978	\$98,978	\$347,730
Boxford E. Additional Cost	\$0	\$25,993	\$25,993	\$323,286
Middleton E. Additional Cost	\$0	\$25,780	\$25,780	\$198,403
Topsfield E. Additional Cost	\$0	\$25,780	\$25,780	\$224,183
TOTAL ADDITIONAL COST	\$0	\$176,530	\$176,530	\$1,093,602
Town of Boxford Cost for median home: \$607,635	\$0	\$22	\$22	\$161
Town of Middleton Cost for median home: \$539,840	\$0	\$17	\$17	\$88
Town of Topsfield Avg Cost for median home: \$551,966	\$0	\$22	\$22	\$135

OPTION EVALUATION CRITERIA

These are the criteria that the Start Times Advisory Committee used in guiding our dialogue and evaluation of the options.

Student Learning and Engagement Criteria

1. Does the option align with the American Academy of Pediatrics (AAP) recommendation for middle and high school starts of no earlier than 8:30a?
2. Does the option uphold the MASCONOMET Extra Help program?
3. Does the option offer MASCONOMET school start times that capture peak learning time for students?
4. Does the option offer ELEMENTARY school start times that capture peak learning times for students?
5. Does the option provide the potential to decrease tardiness and absenteeism levels in ALL SCHOOLS?

Other concerns, issues, mitigations, or opportunities

- Some options might provide elementary schools with an opportunity to extend recess or lunch times.

Health and Safety Criteria

1. Does the option align with the SCHOOLS' belief that schools provide a healthy and safe school environment for our students?
2. Does the option ensure that no child in ANY SCHOOL will wait at a bus stop in the dark in the morning (latest twilight begins at 6:42a in January 1-5, with latest sunrise at 7:14a).
3. Does the option ensure that no child in ANY SCHOOL will get off the bus in the dark in the afternoon (earliest sunset is at 4:10p on December 8-9, with twilight ending at 4:42p).
4. Does the option provide the potential for the following outcomes: to counteract the negative health and safety effects of teen sleep deprivation, including anxiety, depression, obesity, risk taking behaviors, improve vehicular safety for drivers, passengers, and pedestrians; have the potential to lower the rates of use of medications to stay alert (e.g. caffeine and stimulants) or fall asleep (e.g. melatonin and depressants), which have been found to be the beginning of a progression toward drug use?
5. Does the option minimize unsupervised time in the afternoon for MASCONOMET students (this is a safety issue)?

Other concerns, issues, mitigations, or opportunities

- Some options might mean that MASCONOMET students may arrive at school before start time, presenting a safety issue that may need to be mitigated.
- Some options might mean that ELEMENTARY students may have more time available for outdoor play after school and during daylight hours.

Equity Criteria

1. Does this option provide equitable access to ALL SCHOOLS' academic offerings for all students?

2. Does this option have a positive impact on students who are performing the worst academically?
3. Does the option have a positive impact on students with disabilities or other special needs?
4. Does the option provide equitable access to MASCONOMET's Extra Help program, enabling all students to participate?

Other concerns, issues, mitigations, or opportunities

- Some options may have an impact on employment for those students who work after school.

Transportation Criteria

1. Does the option address the transportation needs of all students in ALL SCHOOLS?
2. Does the option increase transportation efficiency for MASCONOMET or ELEMENTARY schools?
3. Does the option likely reduce the number of parents driving students to MASCONOMET? To ELEMENTARY schools?
4. Does the option give us flexibility in the transportation system to help us respond to unusual circumstances or weather delays?
5. Does the option improve traffic patterns at our schools and surrounding neighborhoods?

Other concerns, issues, mitigations, or opportunities

- Some concerns might be mitigated by adding bus monitors to our buses.
- The bus routes must consider rush-hour traffic in our towns and on the roads to our schools.
- Some options might encourage more walking, where it is safe to do so.
- Some options may impact transportation for members of our special education community – we will need to consider this and develop mitigations.

Budget Criteria

In examining the budgetary effects, we need to evaluate potential costs to ALL SCHOOL budgets. Costs may come from a number of sources, including safety, transportation, contract negotiations, facilities, before- and after- school programs, etc. We need to be able to provide cost estimates for each option, along with a cost-benefit analysis.

1. Does the option offer cost savings, or neutral cost to EACH DISTRICT?
2. Does the cost of the option represent a worthwhile use of EACH DISTRICT'S funds?

Before/After School Activities and Athletics

1. Does the option mean that MASCONOMET will be able to continue to offer before and after school programs to its students (e.g. Excels, clubs, athletics, and academic teams)?
2. Does this option mean that the majority of MASCONOMET students will be able to continue to participate in non-school sponsored before- and after-school activities?
3. Does this option mean that MASCONOMET will maintain a strong, healthy athletic program?
4. Does this option preserve all existing MASCONOMET athletic programs?
5. Does this option mean that MASCONOMET students and staff will be present for the entire school day, even when they have athletic and academic competitions?
6. Does the option mean that ELEMENTARY SCHOOLS will be able to continue to offer before and after school programs to its students (e.g. band, foreign language)?

7. Does this option mean that the majority of ELEMENTARY SCHOOL students will be able to continue to participate in non-school sponsored before- and after-school activities?

Other concerns, issues, mitigations, or opportunities

- Some options may affect participation in before/after-school activities, such as school clubs, music programs, and tutoring. We should work to minimize these effects.

Child Care Criteria

For each criteria, we'd like to understand the impact on child-care (before and after school) for those families that depend on child care. This may be difficult to measure, however.

1. What is the option's impact on the availability of childcare for families of both students and staff?
2. What is the option's impact on the cost of childcare for families of both students and staff?
3. Does the option allow families and child care programs adequate time to adjust their schedules?

Other concerns, issues, mitigations, or opportunities

- Any change in school schedules will have impact on those families who need child care for their children, including both parents and staff. The committee has recommended that parents and staff have adequate time to make other child care arrangements.
- Some options may mean that older siblings are not available at home in the afternoons to care for younger siblings.
- Some options may be better supported if ELEMENTARY schools are able to offer after-school programs.
- Some options may make it possible for older siblings to care for younger siblings in the morning.
- Some options are likely to cause changes in child care for both parents and staff at ALL SCHOOLS.
- A "child care" fair might help staff and parents find new child care options for their children.
- A child care program at MASCONOMET might help staff by providing on-site child care to staff members.

OPTION CRITERIA COMPARISONS

	Option X	Option Y	Option Z
Bell times	Arrow block incorporated into the day as last period	Arrow block incorporated into the day as last period	Arrow block incorporated into the day as last period
Dismissal	Students normally would be dismissed at 2:52p, but could be dismissed as early as 2:18p for competitions and not miss academic classes	Students normally would be dismissed at 3:09p, but could be dismissed as early as 2:35p for competitions and not miss academic classes	Students normally would be dismissed at 3:00p, but could be dismissed as early as 2:26p for competitions and not miss academic classes
Elementary day impact	Starts and ends 15-30m later (varies by town)	Starts and ends 30-45m earlier (varies by town)	No change
Learning and Engagement	Does NOT meet AAP recommendation of 8:30a start time, though students gain 25m	DOES meet AAP recommendation of 8:30a start time, students gain 55m	Does NOT meet AAP recommendation of 8:30a start time, though students gain 45m
Health and Safety	NO students board or leave buses in the dark	NO students board or leave buses in the dark	NO students board or leave buses in the dark
Equity	Equitable access to Masconomet Extra Help for all students	Equitable access to Masconomet Extra Help for all students	Equitable access to Masconomet Extra Help for all students
Transportation	When Masconomet starts first, Elementary must start 57m later with current buses or 55m later with 3 additional buses	When Elementary starts first, Masconomet must start 40m later, regardless of the number of buses. Adding 3 buses could make first Elementary pick up times later.	Independent busing: no turnaround times between districts. School could continue to contract busing, own or lease their own buses. A tri-town transportation coordinator would be required.
Masconomet Extracurriculars	Almost no change. Athletics: up to 2m later for away buses, practices and games.	15m change. Athletics: up to 15m later for away buses, practices and games.	10m change. Athletics: up to 10m later for away buses, practices and games.
Elementary Extracurriculars	15-30m more time before school (varies by school)	20m morning recess (varies by school), most before school activities would move to after school	No change
Child Care	Impacted	Impacted	Impacted

ADDITIONAL RECOMMENDATIONS

For Families

Although schools can create the opportunity for healthy sleep hours, only families can ensure that our students take advantage of that opportunity. We refer families to the American Academy of Pediatrics' guidelines on bedtimes and bedtime habits for children of all ages and also the recommendations on the healthy Family Media Use Plan at <http://www.healthychildren.org/MediaUsePlan>

In comments from the student survey, we observed that many students felt overwhelmed with their daily schedule as a whole. This school year, Masconomet initiated the **Freshman Seminar** to work with students on time management and study skills as tools to help them effectively handle their schedule. We urge parents to have thoughtful discussions with their children regarding course load and extra-curricular activities and to work together to find balance in their children's lives. They need time to learn, to study, to play, to compete, to socialize, and to sleep.

For Masconomet

Masconomet can and should explore some additional new policies, based on what we have learned through the STAC process:

- Create policies that restrict student activities during hours when those children should be preparing for bed. For example, no school activities after 9:00p on a school night.
- Create policies that restrict student activities during early morning hours, when students should be sleeping. For example, no school activities before 8:00a on school days.
- Create policies that set hours for homework submission deadlines. For example, no homework is accepted after 10:00p on school nights.
- Eliminate caffeinated beverages and stimulants from being sold at the school.
- Ensure that the athletic programs are following the MIAA guidelines for practice times and games.
- The implementation team should revisit the idea of offering child care for staff on site at Masconomet.

For Elementary Schools

The elementary schools can and should explore some additional new policies, based on what we have learned through the STAC process:

- Elementary school districts can support sleep by adding policies that restrict elementary student activities during hours when those children should be preparing for bed. For example, no school activities after 8:00p on a school night, to support healthy bedtimes.

On Homework

STAC recommends that all four school districts evaluate their homework policies and practices to see if any adjustments should be made to support student sleep and health. It's important that homework be meaningful, useful, and engaging. STAC recognizes that Masconomet has implemented curricula in regard to time management and study skills development that can assist in homework management and recommends that Masconomet study the homework issue further and propose new policies and practices to support our students.

Transportation

STAC has completed a layman's analysis of our bus routes and concluded that there is ample room for improvement. We asked MASBO's Bus Consultants to give us a high level review of our busing. They suggested several cost saving measures and recommended that we consider leasing our own buses and operating our own fleet. STAC recommends that the school committees engage the services of a bus consultant to do a thorough review of our routes and propose options we should consider for busing.

MEASURING SUCCESS

We anticipate that issues may come up during the first few weeks and months of a start time change, and recommend the formation of a Start Time Change committee to track the rollout and make any recommendations for adjustments to the administration.

We recommend measuring success 6-months, 1-year, and 2-years out, if a start time change is implemented. Below is a list of potential evaluation criteria:

At Masconomet:

- Increased average sleep for our students, as evidence by our Youth Risk Behavior Survey.
- Greater number of students getting at least 8 hours of sleep.
- Decrease in tardiness, absenteeism and “school refusals”.
- Improved social and emotional health, as measured by the school nurse and school psychologists.
- Decrease in disciplinary problems.
- Decrease in the number of Ds and Fs fall (as scores and as grades).
- Improvement in grades overall, especially among students who are struggling.
- May see a rise in state testing scores: as Masconomet is already a very high performing school, that rise is likely to be small.
- Students will be at lower risk for automobile accidents.
- Students will be at lower risk for athletic injuries.
- Athletic and Academic after school programs should continue to thrive, with students participating and teams continuing to play well.

At elementary schools:

- Tardiness and absenteeism should remain unchanged.
- The number of students getting 9h or more of sleep should remain the same or rise.
- Should not see changes in social/emotional health, disciplinary problems, or grades that could be associated with sleep loss.
- Students should be awake and alert and ready to learn during school hours.
- The rate of participation in before- and/or after-school activities should remain unchanged or increase.

DISCARDED OPTIONS

During option development, the following options were considered and discarded, for the reasons stated below:

Flex schedule: add an extra period to the day at either end: students opt to come in earlier or leave earlier, or arrive later and stay later. Staff work hours would be split. Buses would need to bus for the start of period 1, and the end of period 7. School would still start at 7:35a, but some students would not come to school until period 2 (8:40a) and they would stay later. *This option was considered not viable because it presents a thicket of logistical issues, and some students would be forced to choose between sleep and athletics/extracurriculars, or between sleep and a class that they wanted in period 1. It also creates extremely difficult transportation issues between Masconomet and the elementary schools, as they would have overlapping hours.*

Shorter school days, longer school year. In rough terms: extend the school year beyond 180 days, and make each school day shorter. Back of the napkin math shows that a school day that is 30 minutes shorter would add about 18 days of school (about 10min/day). The school year could run later in June or start earlier in August. Start times: Masconomet hours: about 8:00a to 2:15 and Elementary hours: about 9:00a to 3:00. *This option was considered not viable because of probably high cost and low community support.*

Masconomet moves to 8:30a and Elementary school move to 9:30a. This option is intended to move all school days forward by 1 hour. *This option was considered not viable because there is evidence that such a late start would be detrimental to elementary students, who are more alert in the morning and fade in the afternoon. However, option 2 does include the notion that elementary start time might shift forward 5-10 minutes.*

K-12 busing. This option used one set of buses to transport all children in K-12 together. *Survey results showed very poor support for K-12 busing. Parents, staff, and students agreed that it was, in most cases, their least favorite option. For this reason, we have removed it from consideration.*