

## STAC Option Comparison

	<b>A: No change</b>	<b>B: Add buses, tighten schedule</b>	<b>C: Neighborhood stops, tighten schedule</b>	<b>D: Elementary first, Masco second</b>	<b>E: K-12 busing, similar start</b>	<b>F: Double busing, similar start</b>
<b>Cost</b>	\$0	Est. \$180,000	\$0	\$0	\$1,180,000	\$1,680,000
<b>Character of changes</b>	None	Minor schedule changes	Significant change in Masconomet AM bus stops	Significant schedule changes for entire K-12 school community	Later Masconomet day, little change to elementary	Later Masconomet day, little change to elementary
<b>Masconomet</b>	7:35a – 2:15p	7:50a – 2:25p	7:50a – 2:25p	8:40a – 3:20p	8:20a – 3:00p	8:30a – 3:10p
<b>M First/Last bus<sup>1</sup></b>	6:25a / 3:25p	6:45a / 3:25p	6:45a / 3:25p	7:45a / 4:20p	7:10a / 4:00p	7:20a / 4:10p
<b>M Extra Help</b>	2:15p – 2:50p	2:25p – 3:00p	2:25p – 3:00p	3:25p – 3:55p	3:05p – 3:35p	3:15p – 3:45p
<b>M Co-curricular<sup>6</sup></b>	After 2:50p	After 3:00p	After 3:00p	After 3:55p <sup>3</sup>	After 3:35p <sup>3</sup>	After 3:45p <sup>3</sup>
<b>% no reschedule<sup>7</sup></b>				Up to 15%	Up to 10%	Up to 10%
<b>Boxford</b>	8:40a – 3:10p	8:50a – 3:20p	8:50a – 3:20p	8:00a – 2:30p	8:40a – 3:10p	8:40a – 3:10p
<b>B First/last bus<sup>1</sup></b>	7:40a / 4:10p	7:50a – 4:20p	7:50a – 4:20p	7:00a / 3:30p	7:10a / 4:00p	7:40a / 4:10p
<b>B Before school<sup>2</sup></b>	Unchanged	10m later start	10m later start	After school <sup>4</sup>	10m earlier	Unchanged
<b>Middleton</b>	8:30a – 3:00p	8:40a – 3:10p	8:40a – 3:10p	8:00a – 2:30p	8:40a – 3:10p	8:30a – 3:00p
<b>M First/last bus<sup>1</sup></b>	7:30a / 4:00p	7:50a / 4:10p	7:50a / 4:10p	7:00a / 3:20p	7:10a / 4:00p	7:40a / 4:00p
<b>M Before school<sup>2</sup></b>	Unchanged	10m later start	10m later start	After school <sup>4</sup>	Unchanged	Unchanged
<b>Topsfield</b>	8:45a – 3:10p	8:55a – 3:20p	8:55a – 3:20p	8:05a – 2:30p	8:40a – 3:05p	8:45a – 3:10p
<b>T First/last bus<sup>1</sup></b>	7:40a / 4:15p	7:50a / 4:25p	7:50a / 4:25p	7:00a / 3:35p	7:10a / 4:00p	7:40a / 4:15p
<b>T Before school<sup>2</sup></b>	Unchanged	10m later start	10m later start	After school <sup>4</sup>	Unchanged	Unchanged

1 First bus = time of earliest pickup, Last bus = time of latest drop off

2 Before school refers to before-school elementary sponsored activities, such as Band, chorus, CLIC, Foreign Language, BOKS, etc.

3 Extra- and co-curricular activities would begin after Extra Help, but exceptions would be allowed for competitions. Some practices for some students may be moved to before-school time slots.

4 Most elementary before-school activities would be moved to after school, others may be kept before school but shortened

5 Masconomet extra- and co-curricular activity schedules would be addressed on a case-by-case basis. If a competition could not be rescheduled, students and coaches could be dismissed early.

6 This refers to Masconomet athletics, extra-curricular, and co-curricular after school activities.

7 This is the estimated percentage of competitions that may not be able to be rescheduled. Students and coaches would need to be dismissed early for these competitions.

# START TIMES ADVISORY COMMITTEE OPTION DEVELOPMENT

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Spring, 2017

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## START TIMES ADVISORY COMMITTEE

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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

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

### Boxford School Committee Representatives

David Rivers

### Middleton School Committee Representatives

Tasha Cooper

### Topsfield School Committee Representatives

Katrina Frere

### Superintendents (not voting)

Scott Morrison, Tri-Town Union  
Kevin Lyons, Masconomet

### Adjunct Members (not voting)

Kim Bitto, Masco Parent  
Diane Carreiro, Elementary Principal  
Kathryn Castonguay, Elementary Principal  
Sandra Dearborn, MTA President  
John Daileanes, Masco AD  
Pete Delani, Masco Transportation Coordinator  
Barbara Deeley, Middleton Educators' Association  
Kristen DeMarco, SEPAC  
Dorothy Flaherty, MRMS Principal  
Susan Givens, Masco CFO  
Steve Greenberg, TTU Assistant Superintendent  
Laurie Hodgdon, MRHS Principal  
Maureen Jordan, Topsfield Teachers' Association  
Karen Newton, Middleton Educators' Association  
Deb O'Brien, Boxford Teachers' Association  
Sarah O'Leary, Elementary Principal  
Carla Wiles-Stasko, Boxford Teachers' Association

# BACKGROUND

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## 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, if we decide that a change is necessary.
- 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 well being.
- We want to continue to have a strong and healthy athletic program. However, academics must come first.
- We want to avoid dismissing staff to coach students.
- We want to avoid dismissing students 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

- State requires a minimum of 180 days of school per year.
- State requires a minimum of 990 hours of instruction for middle and high school students each year.
- State requires a regional school like Masconomet to provide busing for its students free of charge.
- State requires all elementary schools to provide busing free of charge for students living greater than 2 miles of 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 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

Studies suggest adolescent natural wake/sleep times are 11p-8a, with an 8:30a start time recommended. For elementary students, an 8a start time will not adversely affect their health, however the number of studies supporting this is small.

## The Options

This document includes six different options to implement a later start time at Masconomet.

- Option A: No change
- Option B: Tighten schedules and add 3 buses
- Option C: Neighborhood stops and tighten schedules
- Option D: Elementary first, Masconomet second
- Option E: Start all schools near 8:30a with K-12 busing
- Option F: Start all schools near 8:30a with double busing

Each of these options is detailed in this document.

In a perfect world, we could change the Masconomet start time to 8:30am at no cost, with no effect on elementary schedules, and with no effect on the lives and schedules of our families and staff. 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*.

All of these options 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. STAC have provided these estimates to enable STAC to ask members of the community to honestly evaluate the options.

## OPTION A: NO CHANGE

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### Description

This option would **leave our existing schedule as it is**, with no changes to the timing of the school day. The first tier of buses would pick up Masconomet students in the morning and deliver them to school. Those buses would 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.

District	Boxford	Middleton	Topsfield	Masconomet
First Bus Start	7:40a	7:30a	7:40a	6:25a
School Start	8:40a	8:30a	8:45a	7:35a
School End	3:10p	3:00p	3:10p	2:15p
Last Bus End	4:10p	4:00p	4:15p	3:15p

Masconomet Extra Help would continue to begin at 2:20p and end at 2:50p. Extra- and Co-Curricular activities, including athletics, would continue to begin after 3:00p. Elementary before- and after- school programs would follow their current schedule.

### 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). Budget Implications

### Budget Implications

There are no cost changes associated with this option.

### 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.

## OPTION B: ADD 3 BUSES AND TIGHTEN SCHEDULES

### Description

This option involves adding a modest number of buses and making small tweaks to the school day that would delay bus pickup times and provide the opportunity for somewhat more sleep for adolescents. However, there is a limit to how much later in the morning the elementary schools should start. The changes include:

- **Add three extra buses** to trim turnaround time between Masconomet and Elementary routes, and **tighten up the bus schedule** to remove some down time. Estimated time gained: 10 minutes shorter busing time. This has no effect on school end.
- **Tighten schedule by changing traffic patterns at Masconomet.** Currently buses drop students off at 7:15a-7:30a, then have a wait before starting elementary run. Students don't have to be in homeroom until 7:35a. This is to allow for parents, staff, and students to drive into school without causing traffic problems. Instead, allow buses to unload at 7:25a and ask any parents dropping off children to arrive earlier. Alternatively, changes to the Masconomet parking lot utilization may enable us to allow parents to drop off children while buses are unloading. Estimated time gained: 10 minutes shorter busing time. This has no effect on school end.
- **Tighten schedule by shortening homeroom.** Estimated time gained: 5 minutes later start at Masconomet. This has no effect on school end.
- **Tighten schedule by moving all start times 10 minutes later.** A slight adjustment in all school's start times. This will also affect the time of school end. Estimated time gained: 10 minutes later start and end at all schools.

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

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

Masconomet Extra Help would continue to begin at 2:30p and end at 3:00p. Extra- and Co-Curricular activities including athletics would continue to begin after 3:00p. Elementary before- and after- school programs would follow their current schedule.

### General Pros

- 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.
- Few changes to existing before- and after-school programs at Masconomet and at all elementary schools.
- Slight changes to Masconomet after school programs (10 minutes) with likely low impact.
- Masconomet students get off the bus before their elementary siblings in the afternoon, and are available for afternoon child care.
- Far fewer Masconomet students will wait for buses in the dark (before earliest civil twilight, in January at 6:43a).

### 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.
- Tightening schedule may mean that unexpected events like weather, late buses, etc. will have a bigger impact on all the schools.
- Parents will continue to drive children to school to give them a chance to sleep later.

- May require parent community to cooperate and not drop children while buses are unloading at Masconomet, or traffic jams will ensue.
- Children dropped off before start time creates a safety issue.
- Masconomet students get on the bus before their elementary siblings, and are unavailable for morning child care.
- It is likely that four Teachers' contracts would need to be considered.

### **Budget Implications**

- 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: **\$24 in Boxford, \$18 in Middleton, and \$19 in Topsfield.**

### **Extra- and Co-Curricular Activities Implications**

- All Masconomet Extra- and Co-Curricular activities (including athletics) would begin approximately 10 minutes later, with little effect on these activities.
- Elementary before-school programs (other than child care) and after school programs would begin approximately 10 minutes later.



## OPTION C: NEIGHBORHOOD STOPS AND TIGHTEN SCHEDULES

### Description

This option involves a substantial change in how Masconomet students are picked up on morning bus routes, while making a **10 minute later change** to elementary schedules. The option would reduce the number of bus stops by 50% and thus decrease the time to travel each bus route. **Masconomet students would need to walk or be driven up to a mile to get to a neighborhood bus stop in the morning only.** This would be a fundamental change in Masconomet busing for the morning routes. Masconomet students would continue to be dropped off in the afternoons as they currently are.

- **Reduce the number of bus stops by 50% ONLY FOR MASCONOMET MORNING ROUTES.** This would result in time savings on the bus routes of up to 30 minutes. No change to start time or end time.
- **Tighten schedule by changing traffic patterns at Masconomet.** As previously proposed, estimated time gained: 10 minutes shorter busing time. No change to start time or end time.
- **Tighten schedule by shortening homeroom.** Estimated time gained: 5 minutes later start at Masconomet. This has no effect on school end.
- **Tighten schedule by moving all start times 10 minutes later.** Estimated time gained: 10 minutes later start and end at all schools.

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

District	Boxford	Middleton	Topsfield	Masconomet
First Bus Start	7:50a (was 7:40a)	7:40a (was 7:30a)	7:50a (was 7:40a)	6:45a (was 6:25a)
School Start	8:50a (was 8:40a)	8:40a (was 8:30a)	8:55a (was 8:45a)	7:50a (was 7:35a)
School End	3:20p (was 3:10p)	3:10p (was 3:00p)	3:20p (was 3:10p)	2:25p (was 2:15p)
Last Bus End	4:20p (was 4:10p)	4:10p (was 4:00p)	4:25p (was 4:15p)	3:25p (was 3:15p)

Masconomet Extra Help would continue to begin at 2:30p and end at 3:00p. Extra- and Co-Curricular activities, including athletics, would continue to begin after 3:00p.

### General Pros

- 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.
- Few changes to existing before- and after-school programs at Masconomet and at all elementary schools.
- Slight changes to Masconomet after school programs (10 minutes) with likely low impact.
- 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).

### 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).
- The concept of neighborhood bus stops would be a significant change in our busing culture, where families are accustomed to bus stops at most home addresses. For some families, this will represent a hardship. We would need to take care to ensure that bus stops and our children are as safe as possible.
- Tightening the bus schedule may mean that unexpected events like weather, late buses, etc. will have a bigger impact on all the schools.
- May require the Masconomet parent community to cooperate by not dropping off children while buses are unloading at Masconomet, or traffic jams will ensue.
- Children dropped off before start time creates a safety issue.

- Masconomet students get on the bus before their elementary siblings, and are unavailable for morning child care.
- Up to four school districts' Teacher Contracts may need to be considered.

### **Budget Implications**

- No additional costs, possibly modest savings on Masconomet busing.

### **Extra- and Co-Curricular Activities Implications**

- All Masconomet Extra- and Co-Curricular activities (including athletics) would begin approximately 10 minutes later, with little effect on these activities.
- Elementary before-school programs (other than child care) and after school programs would begin approximately 10 minutes later.

## OPTION D: ELEMENTARY FIRST, MASCONOMET SECOND

### Description

This option exchanges the two school schedules, but also tightens morning transportation times in order to reduce the afternoon impact.

- **Elementary students bus first.** Start elementary students at approximately 8:00a, such that the first bus pickup is no earlier than 7a (the earliest dawn begins is 7:15a with the earliest twilight beginning at 6:43a). The buses pick up elementary students in the morning in each town and each bus drops off at two elementary schools, as they currently do.
- **Masconomet would bus after elementary.** The same buses then pick up the Masconomet students and deliver them to school.
- **Change in traffic patterns at Masconomet.** As previously proposed, time gained: 10 minutes shorter busing time. No change to start time or end time. This would shorten total busing time by 10 minutes in the morning.
- **Extra- and Co-Curricular activities would be addressed on a case-by-case basis.** Some practices would occur later, while others may be moved to occur in the morning. Masconomet would work with other school districts to schedule games and academic competitions on days and times that would best align with our schedule. The Masconomet Athletic Director has estimated that, looking at the *current* athletic schedule, up to 81% of all games would experience scheduling conflicts with the 65-minute shift, affecting 12-250 high school students (1-21% of the high school student population) on any given day during an athletic season. For games with schedule conflicts, students and coaches could be dismissed from school early until Masconomet negotiates an alternate schedule. STAC has not looked closely at non-athletic competitions, assuming that they would be more flexible in accommodating the schedule shift.

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

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

Masconomet Extra Help would begin at 3:25p and end at 3:55p. Extra- and Co-Curricular activities, including athletics, could begin after 3:55p, with some exceptions allowed.

### 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 the opportunity for a good night's sleep.
- The research suggests that the 8:00am start time will not result in a change of total sleep for elementary students. Anecdotal reports indicate that elementary start times as early as 7:45 result in higher alertness throughout the elementary school day.
- This would be a return to the longstanding start times that the elementary schools had for many years. Up until 1993, start times for the elementary schools were: Middleton 8:00am, Boxford 8:05am and Topsfield 8:10am.
- The earlier finish for elementary students gives them more time to play outdoors, and engage in afternoon after school activities, and in completing homework before they become overtired.
- 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 6:43am).
- The Masconomet students who are natural early birds can use the before-school time for other activities.

## General Cons

- This would represent a very 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. The length of afternoon Extra Help would not be altered as it is a fundamental part of the Masconomet culture.
- 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 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 impact all after-school activities for Masconomet students, whether school-sponsored or not, including volunteering and jobs. Some 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 later. In the fall, outdoor activity schedules may be limited by the availability of daylight and illuminated fields.
- A result of later end times for school will likely be the shifting of athletic practices to occur before school. Holding practices before school is not an ideal solution, although as other districts in the Cape Ann League move their start times, Masconomet would anticipate being able to eventually return all athletics to an afternoon practice schedule if desired. It is important to note that morning practice sessions would only affect those athletes who participate in those sports that choose to hold morning practices, and only for the days in the season when practices are held.
- Traditionally, athletic and co-curricular activities have been required to begin after Extra Help periods. In order to make this option work, it is likely that some students will not be able to attend Extra Help on days when they have a competition on the same day.
- Masconomet would increase before-school supervision as needed for early drop offs.
- 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.
- Up to four school districts' Teacher Contracts may need to be considered.

## Budget Implications

- No cost for busing.
- Any changes in school-sponsored child care would continue to be charged as user fees to cover the costs.

## Extra- and Co-Curricular Activities Implications

- Masconomet extra- and co-curricular activities would be addressed on a case-by-case basis.
- 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.**

## OPTION E: START ALL SCHOOLS NEAR 8:30A WITH K-12 BUSING

### Description

This option would **bus all students in K-12 together on the same buses**. Students would all be picked up at the same time at their bus stops and dropped off at their respective schools. This option would cost more, as we would likely need more buses to transport all children at the same time.

- **All children, grades K-12, board buses together.** One bus picks up children of all ages at each stop. Siblings could ride together.
- **All buses have bus monitors, video cameras, and strategic grade-level seating** to ensure safety.
- **Extra- and Co-Curricular activities would be addressed on a case-by-case basis.** Some practices would occur later, while others may be moved to occur in the morning. Masconomet would work with other school districts to schedule games and academic competitions on days and times that would best align with our schedule. The Masconomet Athletic Director has estimated that, looking at the *current* athletic schedule, up to 81% of all games would experience scheduling conflicts with the 65-minute shift, affecting 12-250 high school students (1-21% of the high school student population) on any given day during an athletic season. For games with schedule conflicts, students and coaches could be dismissed from school early until Masconomet negotiates an alternate schedule. STAC has not looked closely at non-athletic competitions, assuming that they would be more flexible in accommodating the schedule shift.

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

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

Masconomet Extra Help would begin at 3:05p and end at 3:35p. Extra- and Co-Curricular activities, including athletics, could begin after 3:35p, with some exceptions allowed.

### 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.
- Very little impact on elementary student schedules.
- All children are picked up and dropped off at the same time. Families need to only plan for one drop off and one pick up at the bus per day. Siblings could ride together.
- Existing before and after school elementary activities would experience only small changes in timing, depending on the town.
- The schedule will better support family work commutes, with children leaving and arriving home at approximately the same time.
- 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 6:43am).

### General Cons

- Younger children are busing with older children. While all buses are currently equipped with video cameras, the schools would need to add more supervision on the buses.
- The bus ride for some students may become longer.
- This option represents a very different schedule for Masconomet students: a later start and a later finish. Afternoon Extra Help time would not be altered as it is a fundamental part of the Masconomet culture.
- This option would impact all after-school activities for Masconomet students, whether school-sponsored or not, including volunteering and jobs. Some 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 later. In the fall, outdoor activity schedules may be limited by the availability of daylight and illuminated fields.
- A result of later end times for school will likely be the shifting of athletic practices to occur before school. Holding practices before school is not an ideal solution, although as other districts in the Cape Ann League move their start times, Masconomet would anticipate being able to eventually return all athletics to an afternoon practice schedule if desired. It is important to note that morning practice sessions would only affect those athletes who participate in those sports that choose to hold morning practices, and only for the days in the season when practices are held.
- Traditionally, athletic and co-curricular activities have been required to begin after Extra Help periods. In order to make this option work, it is likely that some students will not be able to attend Extra Help on days when they have a competition on the same day.
- Some families would need to find additional after school childcare for their elementary children, since Masconomet students would not be home before their siblings. Additional childcare could be provided through the Elementary schools, through programs at each Town Library, and/or private offerings.
- Up to four school districts' Teacher Contracts may need to be considered.

### Budget Implications

- STAC estimates an **increase up to 70% (\$1.18M)** in the combined annual bus budget (approx. \$1.68M) of all schools, depending on the number of additional buses that would be needed to transport all students on one set of buses at the same time. The additional cost to the average-priced household in each town: **\$158 in Boxford, \$115 in Middleton, and \$123 in Topsfield.**

### Extra- and Co-Curricular Activities Implications

- Masconomet extra- and co-curricular activities would be addressed on a case-by-case basis.
- **No changes would be needed to before- and after-school programs at the elementary schools.**

## OPTION F: START ALL SCHOOLS NEAR 8:30A WITH DOUBLE BUSING

### Description

This option would use **two separate fleets of buses** for students, running concurrently. 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.**
- **Extra- and Co-Curricular activities would be addressed on a case-by-case basis.** Some practices would occur later, while others may be moved to occur in the morning. Masconomet would work with other school districts to schedule games and academic competitions on days and times that would best align with our schedule. The Masconomet Athletic Director has estimated that, looking at the *current* athletic schedule, up to 81% of all games would experience scheduling conflicts with the 65-minute shift, affecting 12-250 high school students (1-21% of the high school student population) on any given day during an athletic season. For games with schedule conflicts, students and coaches could be dismissed from school early until Masconomet negotiates an alternate schedule. STAC has not looked closely at non-athletic competitions, assuming that they would be more flexible in accommodating the schedule shift.

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.

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

District	Boxford	Middleton	Topsfield	Masconomet
First Bus Start	7:40a ( <i>was 7:40a</i> )	7:30a ( <i>was 7:30a</i> )	7:40a ( <i>was 7:40a</i> )	7:20a ( <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> )	8:30a ( <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> )	3:10p ( <i>was 2:15p</i> )
Last Bus End	4:10p ( <i>was 4:10p</i> )	4:00p ( <i>was 4:00p</i> )	4:15p ( <i>was 4:15p</i> )	4:10p ( <i>was 3:15p</i> )

Masconomet Extra Help would begin at 3:15p and end at 3:45p. Extra- and Co-Curricular activities, including athletics, could begin after 3:25p, with some exceptions allowed.

### 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.
- More Masconomet students will ride the bus, with fewer parents driving them to school just to help them sleep later.
- 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 6:43am).

### General Cons

- This option would create a very different schedule for Masconomet students: a later start and a later finish.
- This option would have a significant impact on the schedules of all after school activities for Masconomet students, whether school sponsored or not, including volunteering and jobs. Some students may not be able to engage in some activities.
- The later Masconomet end time would likely have a significant impact on athletics and co-curricular after school activities. This will mean that athletic practices and after school co-curricular activities will start later, and in the case of outdoor activities, may be limited by the available daylight and fields. The impact is on athletics and co-curriculars would likely be reduced as more schools in the Cape Ann League make this change.

- Masconomet would likely need to add some before-school supervision for children with time-restricted work commutes.
- The Masconomet Teacher Contract may need to be considered.

### **Budget Implications**

- Approximately 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. The cost of the combined bus contract for all schools for the current school year is approximately \$1.68M. The additional cost would add the following to the average household tax bill in each town: **Boxford, \$225; Middleton, \$168; Topsfield, \$175.**

### **Extra- and Co-Curricular Activities Implications**

- Masconomet extra- and co-curricular activities would be addressed on a case-by-case basis.
- **No changes would be needed to before- and after-school programs at the elementary schools.**



## OPTION CRITERIA

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These are the proposed criteria that the Start Times Advisory Committee will use for evaluating the options, followed by additional items we want to keep in mind as we consider each section.

### 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 counter-act 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 child care for families of both students and staff?
2. What is the option's impact on the cost of child care 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.

## DISCARDED OPTIONS

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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. Split staff times. Buses would need to bus for the start of period 1, and the end of period. 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/extra-curriculars, or between sleep and a class that they wanted in period 1.*

**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.*