

# SCHOOL START TIMES

Community Forum

May 22, 2019



Andover Public Schools  
School Start Time Working Group

# Why is Andover Looking at Start Times?

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- **Goal**: Make an overall positive impact on student well-being
  - Physical health
  - Mental health
  - Academic performance
- **Scientific Research**: Many professional medical and public health organizations have made the recommendation that **middle and high schools should not start before 8:30 AM** in order to provide adolescents more sleep.

# Advice of Medical & Public Health Organizations

## Organizations recommending middle/high school start at 8:30 AM or later

American Academy of Child & Adolescent Psychiatry	Massachusetts Medical Society
American Academy of Pediatrics	National Association of School Nurses
American Academy of Sleep Medicine	National Institutes of Health
American Medical Association	National Parent Teacher Association
American Psychological Association	National Sleep Foundation
American Sleep Association	Sleep Research Society
American Thoracic Society	Society of Behavioral Medicine
Centers for Disease Control	Society of Pediatric Nurses

# Advice of Medical & Public Health Organizations

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**Organizations recommending middle/high school  
start before 8:30 AM**

**(none)**

# Sleep Cycle Shifts During Adolescence

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- Teens need approximately **8 to 10 hours of sleep per night** <sup>(1)</sup>
- Biological sleep patterns shift toward later times for both sleeping and waking during adolescence, meaning it is **natural not to be able to fall asleep before 11:00 pm** <sup>(2)</sup>
- The sleep shift is not due to lifestyle choice; it is a factor of **biology and circadian rhythms**
  - Going to bed earlier is not a solution
  - When school starts later, **student bedtimes remain the same.** <sup>(3)</sup>

References: <sup>(1)</sup> American Academy of Sleep Medicine, 2016 and others; <sup>(2)</sup> National Sleep Foundation, 2019; <sup>(3)</sup> University of Minnesota, Dec 2002 and others.

# Research: Puberty Creates Temp. Change in Circadian Rhythm

*PEDIATRIC SLEEP: Sleep In Adolescents*

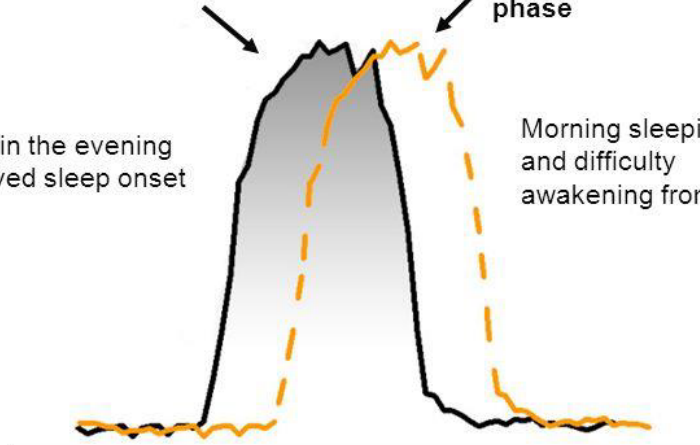
## Adolescent Sleep-Wake Cycle

Childhood circadian phase

Adolescent - Delayed circadian phase

Alert in the evening  
Delayed sleep onset

Morning sleepiness  
and difficulty  
awakening from sleep



← Normal sleep time

← Later Sleep-Wake Cycle

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# Impact of Adolescent Sleep Deprivation

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- Adolescent sleep loss poses a **serious risk** to the physical and emotional health, academic success, and safety of our nation's youth <sup>(1)</sup>
- Adolescents who do not get enough sleep are more likely to: engage in **unhealthy risk behaviors** such as drinking alcohol, smoking tobacco, and using illicit drugs; **perform poorly in school**; be overweight; suffer from **depressive symptoms** <sup>(2)</sup>
- Sleeping less than 8 hours at night is associated with an almost threefold **increased risk of suicide attempts** <sup>(3)</sup>
- Sleep deprivation lowers impulse control and reaction times. Est. 27% of all **drowsy-driving-related car crashes** involve 16-19 year old drivers <sup>(4)</sup>

References: <sup>(1)</sup> Dr. Judith Owens and American Academy of Pediatrics, 2014; <sup>(2)</sup> CDC, Aug 2015 and others; <sup>(3)</sup> Liu X, *Sleep and adolescent suicidal behavior. Sleep, 2004*; <sup>(4)</sup> AAA Foundation, 2018.

# Impact of Later Start Times

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- Delaying school start times is an **effective countermeasure to chronic sleep loss** and has a wide range of potential benefits to students with regard to physical and mental health, safety, and academic achievement. <sup>(1)</sup>
- Delaying middle school and high school start times **promotes student health and performance**,<sup>(2)</sup> is linked to **higher attendance & graduation rates**,<sup>(3)</sup> shows **improvement in standardized test scores**, **reduces injuries to student-athletes**,<sup>(4)</sup> and **reduces car accidents** among teen drivers.<sup>(5)</sup>

References: <sup>(1)</sup> American Academy of Pediatrics, Adolescent Sleep Working Group, *School Start Times for Adolescents* Policy Statement, 2014; <sup>(2)</sup> American Academy of Sleep Medicine, 2017; <sup>(3)</sup> Reuters Health, Feb 2017; <sup>(4)</sup> Dr. Mathew Milewski, American Academy of Pediatrics Conference, 2012; <sup>(5)</sup> Dr. Wendy Troxel, Why School Should Start Later for Teens Ted Talk, 2017.



# Additional Mass Districts Looking at Start Times

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Acton-Boxborough (2018/19)	Duxbury (2016/17)	Peabody
Arlington (2020/21)	Franklin (2020/21 target)	Reading (2019/20)
Ashland (2017/18)	Grafton (2020/21)	Scituate (2019/20)
Barnstable	Holliston	Sharon (2010/11)
Bellingham (2017/18)	Hanover	Stoneham (2018/19)
Belmont (2019/20)	Lexington (2020/21 target)	Sudbury
Beverly (2017/18)	Masconomet Regional	Watertown (2018/19)
Burlington (2018/19)	Mashpee (2019/20)	Wayland (2019/20)
Concord-Carlisle (2018/19)	Melrose (2019/20)	Westborough (2018/19)
Chelmsford	Monomoy (2017/18)	Weston (2019/20)
Dighton-Rehoboth	Nauset Regional (2012/13)	Wilmington
Dover-Sherborn	Newton	Winchester (2018/19)

*Where applicable, school year of later start time implementation is indicated.*

# Andover Process & Timeline (page 1 of 3)

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- School Committee established Guiding Principles (Spring 2018) and an administrative working group (Fall 2018)
- Administrative working group has been meeting twice monthly to determine general options based on transportation, facility and staff logistics.

➤ Timeline:

March – April 2019	Informational Coffees / PTO Meetings
May – June 2019	Public Forums (May 22 at DMS, June 11 at West Middle)
May – June 2019	Surveys for student, faculty and staff, and parents
September 2019	Survey results shared publicly
Sept to Oct 2019	Public Forums
October 2019	Start Time options presented to School Committee

# Andover Process & Timeline (page 2 of 3)

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- Working Group is examining considerations including:
  - Impact on student well being (physical & mental health and academic performance)
  - Impact on family and staff schedules (work schedules, before/after school child care arrangements, homework)
  - Impact on extra-curricular activities (athletics, drama, music, clubs) and after school jobs
  - Cost to families including child care (before/after school)
  - Cost to the district including transportation
  - Consultation with the Andover Education Association (AEA)
  - Coordination with other Merrimack Valley communities

# Andover Process & Timeline (page 3 of 3)

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- Options have not been finalized
  - Some options have no additional cost to the district
  - Some options would require investment in transportation. (The addition of one bus is roughly \$65,000 per year)
  - Tonight's presentation provides rough "skeleton" options, and logistics still need to be finalized based on a number of factors
- No decisions have been made except that any change will not be implemented until the 2020/21 school year at the earliest
- Targeting decision in Fall 2019. **Community feedback is critical**

# General Options for Consideration

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Adds no  
additional  
cost

1. Status Quo
2. Elementary continues to begin AFTER middle & high schools, with middle & high starting around 8:30 AM
3. Elementary begins BEFORE middle & high school, with middle & high starting around 8:30 AM

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Make financial investment in transportation to improve logistics

# 1. Status Quo (2019/20 School Year)

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## School Hours

	Start Time	End Time
Middle & High	7:45 / 7:44 AM	2:20 PM
Elementary	8:45 AM	3:15 PM

## Transportation

	First AM Pick Up	Last PM Drop Off
Middle & High	6:40 AM	3:13 PM
Elementary	7:48 AM	4:10 PM

- Considerations:
- Does not allow additional sleep time for adolescents
  - Keeps existing schedules

## 2. Elementary begins AFTER Middle & High

All times shifted 30 to 45 minutes from Status Quo Option

School Hours		
	Start Time Range	End Time Range
Middle & High	8:15 – 8:30 AM	2:50 – 3:05 PM
Elementary	9:15 – 9:30 AM	3:45 – 4:00 PM

Transportation		
	First AM Pick Up	Last PM Drop Off
Middle & High	7:10 – 7:25 AM	3:43 – 3:58 PM
Elementary	8:18 – 8:33 AM	4:40 – 4:55 PM

### ➤ Considerations:

- Provides 30 to 45 more minutes of sleep for all students each day
- Extends potential window of need for elementary care before school (shortens window for after school care)
- Last elementary students do not get home until 4:40 to 4:55 PM
- Requires adjustment of after school extra-curriculars including AHS athletics

# 3. Elementary begins BEFORE Middle & High

Flips elementary and middle/high start times

School Hours		
	Start Time Range	End Time Range
Elementary	7:30 – 7:45 AM	2:00 – 2:15 PM
Middle & High	8:30 – 8:45 AM	3:05 – 3:20 PM

Transportation		
	First AM Pick Up	Last PM Drop Off
Elementary	6:33 – 6:48 AM	2:55 – 3:10 PM
Middle & High	7:25 – 7:40 AM	3:58 – 4:13 PM

## ➤ Considerations:

- Provides 45 to 60 more minutes of sleep for middle & high school students
- Elementary students are at school 60 to 75 minutes earlier than current
- Extends potential window of need for elementary care after school (shortens window for before school care)
- Requires adjustment of after school extra-curriculars including AHS athletics



# Financial Investment to Improve Options

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- Make financial investment in transportation to improve or optimize bus routes
  - Remove B runs (second bus runs now required at most elementary schools)
  - Shorten some bus routes
  - Compress time now required between Tier 1 and Tier 2 of runs
  - Potential to de-couple middle & high start time (do not begin at same time)
- Additional busses cost approximately \$65,000 per bus

# Next Steps: How you can Help

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➤ **Community Feedback** is Critical

- Let us know your thoughts tonight
- Please respond to survey(s) sent by the district
- Reach out to start time working group with feedback and questions: [schoolstarttimes@andoverma.us](mailto:schoolstarttimes@andoverma.us)

**See Also** additional background on Andover effort:

- Start time website: click link on the front page of APS1.net
- Presentation by Dr. Judith Owens, director of Sleep Medicine at Boston Children's Hospital and professor in Neurology at Harvard Medical School

# Next Steps: Questions for Consideration

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- Do you have concerns about adolescent sleep under the current school schedule?
- What would be your biggest challenges if school times were adjusted? Are these challenges worth overcoming?
- If middle & high school started around 8:30 AM, is it better for elementary school to begin before or after that?
- Should we invest in transportation to improve logistics?



# THANK YOU

## School Start Times Community Forum

May 22, 2019



Andover Public Schools  
School Start Time Working Group

# Summary of Initial Options

School Hours			Transportation		
	Start Time Range	End Time Range		First AM Pick Up	Last PM Drop Off
<b>1. STATUS QUO: 2019-20 SCHOOL YEAR</b>					
Middle & High	7:45 / 7:44 AM	2:20 PM	Middle & High	6:40 AM	3:13 PM
Elementary	8:45 AM	3:15 PM	Elementary	7:48 AM	4:10 PM
<b>2. SHIFT: ELEMENTARY STARTS AFTER MIDDLE &amp; HIGH</b>					
Middle & High	8:15 – 8:30 AM	2:50 – 3:05 PM	Middle & High	7:10 – 7:25 AM	3:43 – 3:58 PM
Elementary	9:15 – 9:30 AM	3:45 – 4:00 PM	Elementary	8:18 – 8:33 AM	4:40 – 4:55 PM
<b>3. FLIP: ELEMENTARY STARTS BEFORE MIDDLE &amp; HIGH</b>					
Elementary	7:30 – 7:45 AM	2:00 – 2:15 PM	Elementary	6:33 – 6:48 AM	2:55 – 3:10 PM
Middle & High	8:30 – 8:45 AM	3:05 – 3:20 PM	Middle & High	7:25 – 7:40 AM	3:58 – 4:13 PM

# Next Steps: Timeline

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March – April 2019	Informational Coffees / PTO Meetings
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# Latest Morning Twilight Hours

DATE	MORNING TWILIGHT	SUNRISE
<b>12/19/2018</b>	6:38 AM	7:10 AM
<b>12/20/2018</b>	6:38 AM	7:11 AM
<b>12/21/2018</b>	6:39 AM	7:11 AM
<b>12/22/2018</b> (no school)	6:39 AM	7:12 AM
<b>12/23/2018</b> (no school)	6:40 AM	7:12 AM
<b>12/24/2018</b> (no school)	6:40 AM	7:13 AM
<b>12/25/2018</b> (no school)	6:41 AM	7:13 AM
<b>12/26/2018</b> (no school)	6:41 AM	7:13 AM
<b>12/27/2018</b> (no school)	6:42 AM	7:14 AM
<b>12/28/2018</b> (no school)	6:42 AM	7:14 AM
<b>12/29/2018</b> (no school)	6:42 AM	7:14 AM
<b>12/30/2018</b> (no school)	6:42 AM	7:14 AM
<b>12/31/2018</b> (no school)	6:43 AM	7:15 AM
<b>1/1/2019</b> (no school)	6:43 AM	7:15 AM
<b>1/2/2019</b>	6:43 AM	7:15 AM
<b>1/3/2019</b>	6:43 AM	7:15 AM
<b>1/4/2019</b>	6:43 AM	7:15 AM
<b>1/5/2019</b> (no school)	6:43 AM	7:15 AM

DATE	MORNING TWILIGHT	SUNRISE
<b>1/6/2019</b> (no school)	6:43 AM	7:15 AM
<b>1/7/2019</b>	6:43 AM	7:15 AM
<b>1/8/2019</b>	6:43 AM	7:14 AM
<b>1/9/2019</b>	6:43 AM	7:14 AM
<b>1/10/2019</b>	6:42 AM	7:14 AM
<b>1/11/2019</b>	6:42 AM	7:14 AM
<b>1/12/2019</b> (no school)	6:42 AM	7:13 AM
<b>1/13/2019</b> (no school)	6:42 AM	7:13 AM
<b>1/14/2019</b>	6:41 AM	7:13 AM
<b>1/15/2019</b>	6:41 AM	7:12 AM
<b>1/16/2019</b>	6:41 AM	7:12 AM
<b>1/17/2019</b>	6:40 AM	7:11 AM
<b>1/18/2019</b>	6:40 AM	7:11 AM
<b>1/19/2019</b> (no school)	6:39 AM	7:10 AM
<b>1/20/2019</b> (no school)	6:39 AM	7:10 AM
<b>1/21/2019</b>	6:38 AM	7:09 AM
<b>1/22/2019</b>	6:38 AM	7:08 AM

# Earliest Evening Twilight Hours

DATE	SUNSET	EVENING TWILIGHT
<b>11/21/2018</b>	4:18 PM	4:48 PM
<b>11/22/2018</b> (no school)	4:17 PM	4:48 PM
<b>11/23/2018</b> (no school)	4:16 PM	4:47 PM
<b>11/24/2018</b> (no school)	4:16 PM	4:47 PM
<b>11/25/2018</b> (no school)	4:15 PM	4:46 PM
<b>11/26/2018</b>	4:15 PM	4:46 PM
<b>11/27/2018</b>	4:14 PM	4:45 PM
<b>11/28/2018</b>	4:14 PM	4:45 PM
<b>11/29/2018</b>	4:13 PM	4:44 PM
<b>11/30/2018</b>	4:13 PM	4:44 PM
<b>12/1/2018</b> (no school)	4:12 PM	4:44 PM
<b>12/2/2018</b> (no school)	4:12 PM	4:44 PM
<b>12/3/2018</b>	4:12 PM	4:43 PM
<b>12/4/2018</b>	4:11 PM	4:43 PM
<b>12/5/2018</b>	4:11 PM	4:43 PM
<b>12/6/2018</b>	4:11 PM	4:43 PM
<b>12/7/2018</b>	4:11 PM	4:43 PM

DATE	SUNSET	EVENING TWILIGHT
<b>12/8/2018</b> (no school)	4:11 PM	4:43 PM
<b>12/9/2018</b> (no school)	4:11 PM	4:43 PM
<b>12/10/2018</b>	4:11 PM	4:43 PM
<b>12/11/2018</b>	4:11 PM	4:43 PM
<b>12/12/2018</b>	4:11 PM	4:43 PM
<b>12/13/2018</b>	4:11 PM	4:43 PM
<b>12/14/2018</b>	4:11 PM	4:43 PM
<b>12/15/2018</b> (no school)	4:12 PM	4:44 PM
<b>12/16/2018</b> (no school)	4:12 PM	4:44 PM
<b>12/17/2018</b>	4:12 PM	4:44 PM
<b>12/18/2018</b>	4:12 PM	4:45 PM
<b>12/19/2018</b>	4:13 PM	4:45 PM
<b>12/20/2018</b>	4:13 PM	4:45 PM
<b>12/21/2018</b>	4:14 PM	4:46 PM
<b>12/22/2018</b> (no school)	4:14 PM	4:46 PM
<b>12/23/2018</b> (no school)	4:15 PM	4:47 PM
<b>12/24/2018</b> (no school)	4:15 PM	4:47 PM