



Modifications To School Start Times

School Board Information Sharing
September 10, 2018



Agenda

- Current Process
- Review of Research
- Ancillary Services
- Athletics
- Next Steps

Process

<u>1970s-current</u>	<p>National movement within districts to evaluate school start times.</p> <ul style="list-style-type: none">• Efforts focused on the adolescent brain• Ongoing research with movement in 2017• Local districts began evaluation processes in 2017
<u>2016-17 School Year</u>	<p>A group of concerned parents approached Fox Chapel Area School District administration and officials to examine the potential adjustment of the student start times across the district</p>
<u>August 2017</u>	<p>Fox Chapel Area School District <i>Examination of District Start Times</i></p>
<u>November 2017</u>	<p>District Site-Based Meeting to Overview Possible School Start Time Changes and discuss Site-Based Survey Results</p>

Process (continued)

<u>April 2018</u>	Fox Chapel Area School District utilized Transfinder to complete a Bell Time Study
<u>April 24, 2018</u>	District Forum Panel Discussion <ul style="list-style-type: none">• D. Peter Franzen, Dr. Hiren Muzumdar, Dr. Jennifer Romero, Mr. Mike O'Brien, Mr. Dan Breitzkreutz, Ms. Liz Rambeau
<u>September 5, 2018</u>	District Provided additional information to the community and initiated a district wide survey.
<u>September 10, 2018</u>	Early findings and other information presented during Committee of the Whole meeting



Research

The [American Academy of Pediatrics](#) recognizes insufficient sleep in adolescents as an important public health issue that significantly affects the health and safety, as well as the academic success, of our nation's middle and high school students. Although a number of factors, including biological changes in sleep associated with puberty, lifestyle choices, and academic demands, negatively affect middle and high school students' ability to obtain sufficient sleep, the evidence strongly implicates earlier school start times (ie, before 8:30 am) as a key modifiable contributor to insufficient sleep, as well as circadian rhythm disruption, in this population.

As sleep deprivation continues to negatively impact the health and well-being of adolescents in the United States, the [American Medical Association \(AMA\)](#)... adopted policy during its Annual Meeting to encourage reasonable school start times that allow students to get sufficient sleep. The new policy specifically calls on school districts across the United States to implement middle and high school start times no earlier than 8:30 a.m.



Research (continued)

The **Society of Behavioral Medicine** recommends school officials start middle and high school classes at 8:30 a.m. or later.

The **Center for Disease Control and Prevention** states, Schools that have a start time of 8:30 AM or later allow adolescent students the opportunity to get the recommended amount of sleep on school nights: about 8.5 to 9.5 hours.

The **American Academy of Sleep Medicine** (AASM) asserts that middle school and high school start times should be 8:30 AM or later.

National PTA and its constituent associations support the efforts of school districts to optimize sleep for students and encourage high schools and middle schools to aim for start times that allow students the opportunity to achieve optimal levels of sleep and to improve their physical and mental health, safety, academic performance, and quality of life.



School District Trends (National)

National Average Start Time

Primary:	8:17
Middle:	8:04
High:	7:59

* SOURCE: U.S. Department of Education, National Center for Education Statistics, National Teacher and Principal Survey (NTPS), "Public School Data File," 2015-16.



School District Trends (Local)

Burrell School District - Moved High School start from 7:45 to 8:10

- Eliminated Homeroom and shortened school day

Woodland Hills School District - Moved 7-12 start from 7:00 to 7:20

- Previously students were boarding buses at 6:05

North Allegheny School District - Tabled discussions to evaluate fiscal and systemic impacts

Hempfield Area School District - Moved High School start times up from 7:35 to 7:25

- Eliminated Activity Period and moved first academic course to 7:25

Trib, August 2018



School District Trends (Local)

Quaker Valley School District - Moved High School start time from 7:45 to 8:00

Avonworth School District - Moved High School Start time from 7:15 to 8:00

- Staff still report at 7:15 for planning/prep time

Seneca Valley School District - Moved High School start time from 7:34 to 8:09

- 7-12 on same campus, enabling a 2-tier system for all bussing
- Eliminated an activity period

Peters Township School District - Moved High School start time from 7:30 to 7:45 in 2017-2018

- Moved to 7:35 from 7:45 for 2018-2019 School Year

Hampton Township School District - Investigating an 8:00 start but currently starting instruction at 7:30

Pine-Richland School District - Investigating an 8:00 start but currently starting instruction at 7:20



National Sleep Foundation

[LINK](#)

Adolescents today face a widespread chronic health problem: sleep deprivation. Although society often views sleep as a luxury that ambitious or active people cannot afford, research shows that getting enough sleep is a biological necessity, as important to good health as eating well or exercising. Teens are among those least likely to get enough sleep; while they need on average 9 1/4 hours of sleep per night for optimal performance, health and brain development, teens average fewer than 7 hours per school night by the end of high school, and most report feeling tired during the day (Wolfson & Carskadon, 1998).

Research shows that adolescents require at least as much sleep as they did as children, generally 8 1/2 to 9 1/4 hours each night (Carskadon et al., 1980)




National Sleep Foundation

First, daytime sleepiness can increase during adolescence, even when teens' schedules allow for optimal amounts of sleep (Carskadon, Vieri, & Acebo, 1993). Second, most adolescents undergo a sleep phase delay, which means a tendency toward later times for both falling asleep and waking up. Research shows the typical adolescent's natural time to fall asleep may be 11pm or later; because of this change in their internal clocks, teens may feel wide awake at bedtime, even when they are exhausted (Wolfson & Carskadon, 1998). This leads to sleep deprivation in many teens who must wake up early for school, and thus do not get the 8 1/2 - 9 1/4 hours of sleep that they need. It also causes irregular sleep patterns that can hurt the quality of sleep, since the weekend sleep schedule often ends up being much different from the weekday schedule as teens try to catch up on lost sleep (Dahl & Carskadon, 1995).



National Sleep Foundation

Working to bring school start times in line with teens' sleep needs presents a number of challenges and opportunities. Individual communities can vary greatly in their priorities and values; factors to consider include bell schedules of elementary and middle schools; transportation; athletic programs and extracurricular activities; use of schools for community activities; student employment; and safety issues for younger students who either may be waiting for a bus in the dark or need supervision of older siblings after school. There are also safety issues for older students, since violent activities, sex, recreational use of alcohol or drugs, and criminal and other risky behaviors frequently occur between 2 and 4 pm, according to data from the Federal Bureau of Investigation. It is also important that any consideration of a school start time change takes into account the impact on families, including transportation, dependence on teens' income, chores and other family responsibilities, and teens' mood and behavior at home.



Later School Start Times Promote Adolescent Well-Being

American Psychological Association (APA)

Benefits observed from later high school start times include:


- Increased attendance rates
- Decrease in disciplinary action
- Decrease in student-involved car accidents
- Increase in student GPA
- Increase in state assessment scores
- Increase in college admissions test scores
- Increase in student attention
- Decrease in student sleeping during instruction
- Increase in quality of student-family interaction

These benefits are from studies of delayed start times in schools and districts across the country in Colorado, Connecticut, Kentucky, Minnesota, Missouri, Rhode Island, Virginia, & Wyoming. They have been done with schools in a broad range of developed environments—urban, suburban, and rural.

Insufficient Sleep in Adolescent and Young Adults: An Update on Causes and Consequences

Judith Owens and COMMITTEE ON ADOLESCENCE
American Academy of Pediatrics (AAP)

Chronic sleep loss and associated sleepiness and daytime impairments in adolescence are a serious threat to the academic success, health, and safety of our nation's youth and an important public health issue. Understanding the extent and potential short- and long-term repercussions of sleep restriction, as well as the unhealthy sleep practices and environmental factors that contribute to sleep loss in adolescents, is key in setting public policies to mitigate these effects and in counseling patients and families in the clinical setting. [This report reviews the current literature on sleep patterns in adolescents, factors contributing to chronic sleep loss \(ie, electronic media use, caffeine consumption\), and health-related consequences, such as depression, increased obesity risk, and higher rates of drowsy driving accidents.](#)



School Start Times Sleep, Behavioral, Health and Academic Outcomes: A Review of the Literature

Anne G. Wheaton, PhD, corresponding author Daniel P. Chapman, PhD, and Janet B. Croft, PhD
National Library of Medicine and National Institute of Health

The review concluded that “Most studies reviewed provide evidence that delaying school start time increases weeknight sleep duration among adolescents, primarily by delaying rise times. Most of the studies saw a significant increase in sleep duration even with relatively small delays in start times of half an hour or so. Later start times also generally correspond to improved attendance, less tardiness, less falling asleep in class, better grades, and fewer motor vehicle crashes.”

Later School Start Times in the US: An Economic Analysis

Marco Hafner, Martin Stepanek, Wendy M. Troxel
RAND Corporation

“The benefit–cost projections of this study suggest that delaying school start times is a cost-effective, Population-level strategy that could have a significant impact on public health and the U.S. economy.

From a policy perspective, these findings are crucial as they demonstrate that significant economic gains resulting from the delay in SST accrue over a relatively short period of time following the adoption of the policy shift.” (Hafner, Sepanek, Troxel, p.4)



Later School Start Times Promote Adolescent Well-Being

The Children, Youth, & Families Office of the American Psychological Association

Studies were conducted at schools in Colorado, Connecticut, Kentucky, Minnesota, Missouri, Rhode Island, Wyoming and Virginia, in urban, suburban and rural areas. This study looked at the strengths and challenges of late start times, and concluded that despite a change being complex, later start times are recommended. Noted strengths were increased attendance, grades, attention and performance. Noted challenges were cost, traffic congestion, child care for younger family members, and scheduling conflicts for sports and other after school activities.

Later Start Time for Teens Improves Grades, Mood, and Safety

By Kyla L. Wahlstrom- Phi Delta Kappan

Research conducted in urban and suburban settings resulted in positive outcomes. Significant contact with school districts and superintendents around the country. Like other studies concluded that there is an increase in attendance, decrease in tardiness, and statistically significant increases in grades in various first period core classes with a start time at 8:30, and with start times at 8:45 there were significant increases in grade point averages in all classes, across all grade levels.



Items to Consider

Palo Alto School District Case Study

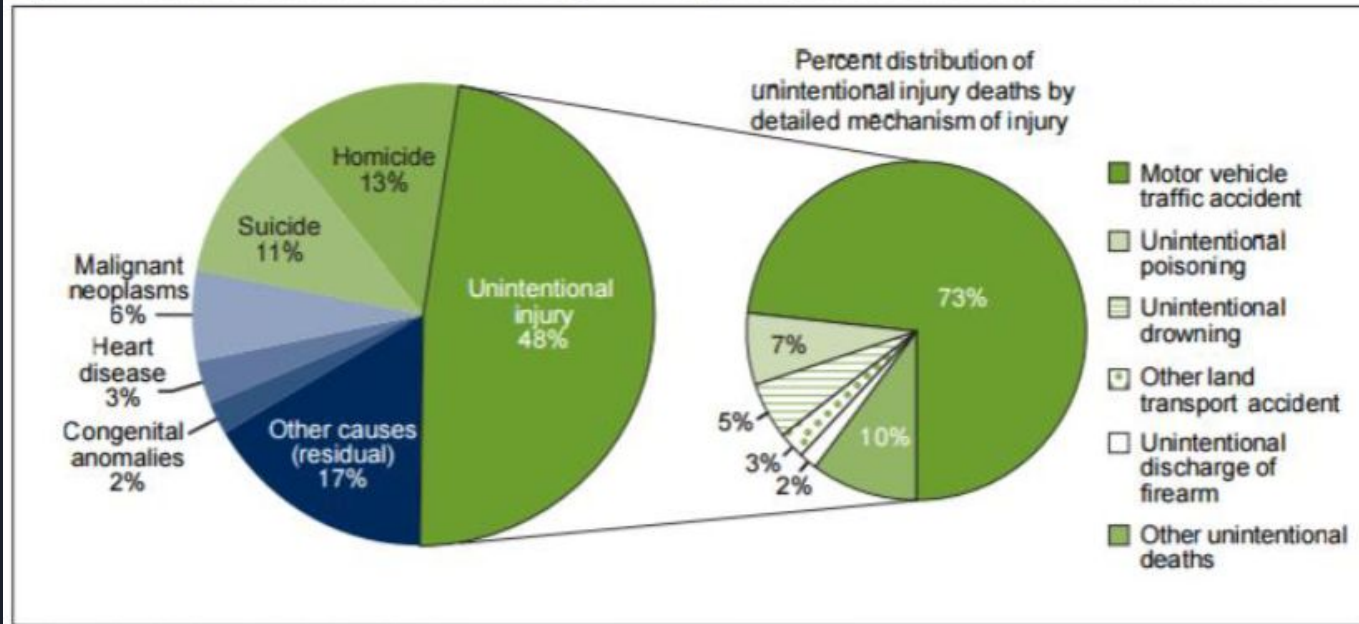
- Palo Alto, CA
- 12% of high-school students surveyed in 2013-14 reported having contemplated suicide

Wendy Troxel, PhD Ted Talk

- https://www.ted.com/talks/wendy_troxel_why_school_should_start_later_for_teens?language=en

Deficient Sleep in Teens: Impact on Mood and Risky Behavior (Troxel, 2017)

Figure 2. Percent distribution of all deaths to teenagers 12–19 years, by cause of death: United States, 1999–2006



SOURCE: National Vital Statistics System, Mortality.

Deficient Sleep in Teens: Impact on Mood and Risky Behavior (Troxel, 2017)

1 in 5 children ages 13-18 have, or will have a serious mental illness



20% of youth ages 13-18 live with a mental health condition¹



11% of youth have a mood disorder¹



10% of youth have a behavior or conduct disorder¹



8% of youth have an anxiety disorder¹

Impact



50% of all lifetime cases of mental illness begin by age 14 and 75% by age 24 (Kessler et al., 2008)

Figure adapted from NAMI website

**As Troxel(2017) states,
“there is an acute
need for novel,
multi-level
prevention and
intervention efforts.”**





Safety Nets

Guidance Counselors

- FCAHS: 6 Counselors
- DMS: 3 Counselors
- Elementary: 1 Counselor/building

Transition Coordinator

- Licensed Professional Counselor
- Teaches Social Thinking 9-12
- Nationally recognized as an expert in the field of Transition

School Psychologist

- 2 Full Time and 1 Contracted for Services
- Evaluation and Identification
- Part of our Crisis Response Team



Safety Nets (continued)

Behavioral Specialist

- 2 within the district
- Work primarily with K-5 but available 6-12
- Social Thinking
- Comprehensive Crisis Management Team (CCM)

MAPS (University of Pittsburgh)

- Provides school-based and school-linked mental health, alcohol and tobacco and other drug related services
- Assigned to each building
- Student Assistance Program (SAP/ESAP)
- Screening
- Postvention
- Psychoeducational Services
- Social Skills

Ancillary Services





Current Transportation Overview

4,777 total assigned to transportation: 4,039 students to FCASD buildings and 738 students assigned to private, parochial, charter, and Approved Private Schools

Currently operate a fleet of 46 full-size buses and 38 mini buses and/or vans to approximately 57 different schools (including 6 FCASD buildings): 84 total units

Total transportation budget (excluding athletics, extracurricular, and field trips): \$4,239,782.00

PDE regulations to consider:

Elementary (K-6) can walk up to 1 ½ miles to a stop and/or school

Secondary (7-12) can walk up to 1 ½ miles to a stop and 2 miles to school

Public school districts must provide transportation up to 10 miles from their border

Public school districts must follow private and parochial schedules



Transportation overview (continued)

3-TIER TRANSPORTATION SYSTEM

High School: 7:00 AM arrival, 2:32 PM departure (31 buses)

DMS/HES: 8:00 AM arrival, 3:15 PM departure (31 buses)

KES/FES/OES: 9:00 AM arrival, 4:00 PM departure (31 buses)



Transfinder Bell Time Study Summary

6 options proposed

Option 1: Elementary: 7:40 AM start (7:25 AM arrival)

2:15 PM end (2:40 PM depart)

Middle School: 8:40 AM start (8:25 AM arrival)

3:35 PM end (3:50 PM depart)

High School: 8:40 AM start (8:25 AM arrival)

3:25 PM end (3:40 PM depart)

Requires 26 additional buses (57-2 tier)



Options (continued)

Option 2: High School: 7:40 AM start (7:25 AM arrival)

2:35 PM end (2:50 PM depart)

Middle School: 7:40 AM start (7:25 AM arrival)

2:25 PM end (2:40 PM depart)

Elementary: 8:40 AM start (8:25 AM arrival)

3:15 PM end (3:40 PM depart)

Requires 26 additional buses (57-2 tier)



Options (continued)

Option 3: Elementary: 7:50 AM start (7:25 AM arrival)

2:25 PM end (2:40 PM depart)

High School: 8:35 AM start (8:20 AM arrival)

3:30 PM end (3:45 PM depart)

Middle School: 8:35 AM start (8:50 AM arrival)

3:20 PM end (3:35 PM depart)

Requires 26 additional buses (57-2 tier)



Options (continued)

Option 4:	Middle School:	7:50 AM start	(7:25 AM arrival)
		2:35 PM end	(2:50 PM depart)
	HES/OES:	7:50 AM start	(7:35 AM arrival)
		2:30 PM end	(2:45 PM depart)
	High School:	8:35 AM start	(8:20 AM arrival)
		3:30 PM end	(3:45 PM depart)
	KES/FES:	8:35 AM start	(8:20 AM arrival)
		3:10 PM end	(3:25 PM depart)

Requires 19 additional buses (50- 2 tier)



Options (continued)

Option 5: FES/KES/OES: 7:50 AM start (7:35 AM arrival)

2:30 PM end (2:45 PM depart)

DMS/HES: 8:35 AM start (8:20 AM arrival)

3:30 PM end (3:45 PM depart)

High School: 9:20 AM start (9:05 AM arrival)

4:20 PM end (4:35 PM arrival)

Requires 6 additional buses (37-3 tier)



Options (continued)

Option 6: Elementary: 7:50 AM start (7:35 AM arrival)

2:30 PM end (2:45 PM depart)

Middle School: 8:35 AM start (8:20 AM arrival)

3:20 PM end (3:35 PM depart)

High School: 9:20 AM start (9:05 arrival)

4:15 PM end (4:30 PM depart)

Requires 12 additional buses (43-3 tier)



Considerations for each option

Option 1: Some elementary school pick ups may begin before 7:00 AM

60 minutes between runs allows for flexibility

Consistent schedule for elementary programs

Some high school students on bus until 4:30 PM

Significant cost: \$1,304,517.70

Option 2: Not a significant change to high school start time

Consistent schedule for elementary programs

60 minutes between runs allows for flexibility

Has middle school students arriving earlier than current schedule

Significant cost: \$1,304,517.70



Considerations (continued)

Option 3: Some elementary school pick ups may begin before 7:00 AM

45 minutes between runs reduces route flexibility-will reduce stop capacity

Consistent schedule for elementary programs

Significant cost: \$1,304,517.70

Option 4: Some elementary school pick ups may begin before 7:00 AM

45 minutes between runs reduces route flexibility-will reduce stop capacity

Inconsistent schedule for elementary programs

Significant cost: \$953,301.44



Considerations (continued)

Option 5: Some elementary school pick ups may begin before 7:00 AM

45 minutes between runs reduces route flexibility-will reduce stop capacity

Some high school students on bus until 5:15 PM

Cost is manageable: \$301,042.56


Option 6: Some elementary school pick ups may begin before 7:00 AM

Consistent schedule for elementary programs

45 minutes between runs reduces route flexibility-will reduce stop capacity

Some high school students on bus until 5:10 PM

Cost is significant: \$602,085.12



Cost for each option (not including lost efficiency due to route sharing with private, parochial, homeless, special education):

Option 1: $\$275.68 \times 182 \text{ days} \times 26 \text{ buses} = \$1,304,517.70$

Option 2: $\$275.68 \times 182 \text{ days} \times 26 \text{ buses} = \$1,304,517.70$

Option 3: $\$275.68 \times 182 \text{ days} \times 26 \text{ buses} = \$1,304,517.70$

Option 4: $\$275.68 \times 182 \text{ days} \times 19 \text{ buses} = \$953,301.44$

Option 5: $\$275.68 \times 182 \text{ days} \times 6 \text{ buses} = \$301,042.56$

Option 6: $\$275.68 \times 182 \text{ days} \times 12 \text{ buses} = \$602,085.12$

Not included are 3 AM and 3 PM bus shares, 3 AM and 3 PM van shares, and 3 additional AM mini-buses needed for Central and Oakland Catholic



Historical sunrise data (www.timeanddate.com)

Aug. 1, 2017: 6:17 a.m.

Feb. 1, 2018: 7:29 a.m.

Sept. 1, 2017: 6:47 a.m.

March 1, 2018: 6:53 a.m. (Daylight Savings)

Oct. 1, 2017: 7:16 a.m.

April 1, 2018: 7:03 a.m.

Nov. 1, 2017: 7:50 a.m. (Daylight Savings)

May 1, 2018: 6:19 a.m.

Dec. 1, 2017: 7:24 a.m.

June 1, 2018: 5:51 a.m.

Jan. 1, 2018: 7:43 a.m.

Athletics





Potential Impact to Athletics

- Athletes may miss significant amounts of class time for afternoon home and away games and contests.
- Athletics would not be able to start until approximately 4 p.m. or later.
- Later practices could impact students' ability to get homework completed in a timely manner.
- Practice times for athletic teams would be impacted due to the fact that, in the fall and spring seasons, there is not nearly as much time left at the end of the school day to safely practice in the light.
- There will be less fields and facilities available for resident/community league use as our scholastic athletes will be using them for the majority of the evening due to the later practice times.



Potential Impact to Athletics (continued)

- There may be a shortage of officials due to later start times.
- Fox Chapel Area potentially will lose dual teacher-coaches who coach at one school but teach at another. This is not only because of logistics, but family obligations.
- Morning practices become a possibility, which would negate the benefits of a later start time at the high school.
- In order to qualify for postseason play, in the WPIAL/PIAA playoffs, teams must conclude their season by a qualifying date. If less field/gym time exists, schedules will need to be altered in order to meet that deadline. As such, less contests may be played than the maximum required by rule.



Performing Arts and Other Curricular Areas

- High school after-school extracurriculars, including performing arts- and music-related activities may start later in the evening.
- However, after meetings and discussions with department chairs and performing arts leaders, it has been determined that a wide range of start times would not negatively impact their programs. It would just change the “when” for what they do.
- QUEST, Academic Counseling - A modified start time would not impact services.
- *A caution* was verbalized that if start time was moved later: Would that cause certain performing groups to want to meet prior to school beginning?



High School Programs and Activities to Consider

- Students attending A.W. Beattie - 52
 - Program start times and the number of students attending will have to be examined moving forward.
 - Once potential schedule constructs are created, we will have to work with the technical school to determine the feasibility and/or changes.
- Professional Experience - 4
- College/University - 6
- Work Experience - 28
- FCAO Delayed Start/Early Dismissal - 80 students for the year
- After-School Employment



Next Steps

2018-2019 Engage all stakeholders

- Community
- Staff
- Students
- Teachers

Continue to review research and evaluate impacts stakeholders and district systems

Connect with other later start time districts

Administrative recommendation

If FCASD moves forward

2019-2020 Develop District Level Plan

2020-2021 Implementation