

West Hartford Public School District

Agenda Item: Rethinking School Start Times Committee Update
Date: December 5, 2017
From: Anne McKernan, Director of Secondary Education
Through: Tom Moore, Superintendent

Background:

During the 2016-2017 school year, the West Hartford Board of Education directed Superintendent Tom Moore to convene a research committee to investigate the challenges and benefits of adjusting school start times. This fall the Rethinking School Start Time (RSST) Committee began a one-year study of the issue. The committee will provide the West Hartford Board of Education updates on its work throughout the 2017-2018 school year.

As early as 1993, sleep researchers and health care professionals were encouraging school leaders and legislators to consider adjusting school start times. In 1998, researchers at the University of Minnesota published a study on the effects of the decision to change high school start times from 7:15 to 8:40 a.m. in districts near Minneapolis. The early research reported positive benefits of moving the start time to the 8 a.m. hour. Although researchers did not cite academic benefits at the time, they identified other positive outcomes including improved attendance and enrollment rates, increased engagement in class, fewer incidents of student-reported depression, and less frequent student visits to school staff for behavioral issues. Beginning with this implementation in the Minneapolis area in 1998, nearly 250 high schools nationwide moved their high school start times later, citing similar benefits.

In the early 2000s, the Connecticut State General Assembly proposed legislation that would require high schools to start no earlier than 8:30 a.m. The League of Women Voters championed this effort in many cities and towns. Although the legislation ultimately failed, several school districts studied the issue and presented proposals to local Boards of Education. In 2003, the Wilton Public Schools, after a two-year study, voted to change the high school start time from 7:35 to 8:15 a.m. The League of Women Voters in West Hartford worked with the West Hartford Public Schools to study the issue. The committee met through the 2003 and 2004 academic years. The committee identified four scheduling options and received feedback from all stakeholder groups. The committee found the greatest support for a schedule that moved high school start times to 8:15 a.m. while adjusting middle school start times 15 minutes earlier and elementary start times 10 minutes later.

After a careful review of the information, the Board of Education chose not to adopt the proposed change for a variety of reasons including, but not limited to the following:

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- Middle school students having similar sleep needs as high school students, especially at grades 7 and 8; moving their start time earlier is not in line with the research
- Middle school students supervision with an earlier arrival home in the afternoon
- Challenges for middle school students taking classes at the high schools in the morning
- Significant transition for 6th graders who are accustomed to starting school at 8:35 a.m.
- Impact on athletics

Over the past several years, professional organizations including the Center for Disease Control (CDC) and the American Medical Association (AMA) have issued statements in support of later school start times for high school students. These endorsements create renewed interest in this topic. During the past two years, Connecticut has seen additional school districts researching and implementing these changes. During the 2017-18 school year, Greenwich Public Schools changed their high school start time from 7:30 to 8:30 a.m.; Newtown Public Schools made a decision to delay their high school start time from 7:30 to 8:00 a.m., and Ridgefield Public Schools announced they would move their high school start times for the 2018-2019 school year.

Rethinking School Start Time Committee Membership

The Rethinking School Start Time Committee is composed of 22 members who represent the interests of parents, teachers, students and school administrators. Anne McKernan, Director of Secondary Education, serves as the committee chair. To select committee members, Ms. McKernan contacted the Parent Teacher Council President, Mr. Steven Deane. Mr. Deane worked with PTO Presidents to recruit parents representing elementary, middle and high schools. Three parents represent the north end of town, while three represent the south end of town. The West Hartford Education Association (WHEA) President, Mrs. Theresa McKeown, a committee member, recruited two elementary, two middle school and two high school teachers to serve. High School building administrators recruited one student from each high school. Two principals serve on the committee.

Work to Date

In July 2017, the chair sent all committee members a literature review prepared by the Regional Education Laboratory for the Northeast and the Islands (REL-NEI). The literature review focused on the question: *What does the research tell us about later school start times?*

At the first meeting, held on September 16, members met their colleagues, reviewed the committee's purpose, discussed the literature, and reviewed the meeting schedule.

The RSST Committee reconvened on September 25 to hear from leaders in this work. Former CT Senate President Kevin B. Sullivan presented on the state's efforts to adjust school start times in 2001. Sarah Raskin, PhD, from the Department of Psychology and Neuroscience Program at Trinity College, provided information on brain science and circadian rhythms. Dr. Susan Rubman Gold, Director of Sleep Medicine Program for the Hospital of Central Connecticut explained the effects of later school start times for high school students in the area of sleep, athletics, safety and academics. Committee members posed questions regarding their understanding of the research.

The October 16 and the November 6 meetings allowed the committee members time to work in their designated subcommittees. Subcommittees are forming their research questions, sharing their findings,

and planning their next steps. Dr. Susan Rubman Gold attended the November 6 meeting to clarify questions regarding sleep research questions.

The committee meets one to two times per month and is scheduled to provide the Board of Education updates on February 21 and May 15, 2017.

Subcommittees and Research Topics

The committee organized eight subcommittees with the purpose of conducting in-depth research into key topics. The chart below shows the areas of focus and the facilitators for each subcommittee.

Rethinking School Start Times Subcommittee	
Sleep Research	What does the research say about sleep, adolescents and school start times?
Academic Impacts	What does the research tell us about the impact of changing school start times on academic outcomes?
Lessons Learned from Early Adopters	What can school districts who have made this change tell us about the lessons they have learned?
Stakeholder Impacts	What are the challenges and benefits for our stakeholders if school start times are changed?
Professional Learning	What are the opportunities and challenges for professional learning if school start times are changed?
Transportation	What challenges and benefits may we see in the area of transportation?
Town of WH Impacts	How may this change influence our town partners in areas of shared programming, scheduling and space?
Athletic Program	What are the challenges and benefits for our student-athletes and their families to a changed school start time?

Sleep Research Subcommittee Initial Report

The sleep research subcommittee is exploring all aspects of the relevant research from professional articles, three presentations given on September 25, 2017 and a question and answer session with Dr. Susan Rubman Gold on November 6, 2017. The subcommittee’s research is focused on academic and health benefits, policy changes, driver safety, and impact related to athletics. It is important to note, the committee did not find articles for Connecticut or New England schools that have delayed their start times. This committee will continue to study the issue, read new research and provide additional updates throughout the year. Research articles reviewed to date include:

Title	Focus of the Study	Publisher
<i>"A's From ZZZZ's? The Causal Effect of School Start Time on the Academic Achievement of Adolescents"</i>	United States Air Force Academy First Year Students, Colorado	American Economic Journal, 2010
<i>"Impact of Delaying School Start Time on Adolescent Sleep, Mood, and Behavior"</i>	An Independent Private High School with 201 students in Rhode Island	JAMA Pediatrics, 2010
<i>"School start time and adolescent sleep patterns: Results from the US national comorbidity survey-adolescent supplement"</i>	National Study of 7308 students in 245 schools	American Journal of Public Health, 2015
<i>"Sleep duration, positive attitude toward life, and academic achievement: the role of daytime tiredness, behavioral persistence, and school start times"</i>	2716 students with mean age of 15.4 years in Switzerland	Journal of Adolescence, 2013
<i>"Delayed high school start times later than 8:30 a.m. and impact on graduation rates and attendance rates"</i>	29 High Schools in 7 States	Sleep Health, 2017
<i>"School Start Time and Academic Achievement: A Literature Review"</i>	Literature Review, Blue Valley School District	Report from the Blue Valley School District , Kentucky, 2006
<i>"Later School Start Times for Supporting the Education, Health, and Well-being of High School Students"</i>	Meta-Analysis of Research Studies	The Campbell Collaboration, 2012
<i>"Early to Rise? The Effect of Daily Start Times on Academic Performance"</i>	Middle Schools in Wake County, North Carolina	Economics of Education Review, Colby College, 2012
<i>"Longitudinal Outcomes of Start Time Delay on Sleep, Behavior, and Achievement in High School"</i>	Public High Schools, Upstate New York	The Sleep Research Society, 2016
<i>"Morningness is associated with better grading and higher attention in class"</i>	1977 students aged 10-17	Research Gate, 2013
<i>"Examining the Impact of Later High School Start Times on the Health and Academic Performance of High School Students: A Multi-Site Study"</i>	Eight Public High Schools in Three States: Minnesota, Wyoming, Colorado	Center for Applied Research and Educational Improvement The University of Minnesota, 2014

The committee found more compelling evidence related to the potential health benefits for students. Below is a summary of the committee's review of the research in key areas:

Academic Impacts: Some of the studies indicate that there are improved academic results when school districts delay start times. The most compelling article on this topic came from the United States Air Force study that showed that even a 30-minute change in start times is likely to have a positive impact on academics. Several of the articles were silent on the matter of improved academic benefits, but reported health benefits related to mood and attention. In the study published in *Sleep Health* in 2017, researchers found graduation rates rose on average from 79 to 88 percent in the 29 schools studied. This study also found that first period attendance rose.

The sleep research subcommittee believes that there may be a positive impact on the delay, but it is not likely to be as large an impact given the district's high performance in many areas. For example, the district's four-year cohort graduation rate for the class of 2017 was approximately 96 percent compared to significantly lower graduation rates in many of the studies. Similarly, West Hartford attendance rates are relatively high. The Academic Impact Committee will engage in a more in-depth analysis of academic benefits.

Health Impacts: The committee found the research articles to be consistent in their findings that the adolescent body needs additional sleep. Throughout many of the research articles and presentations, the change in adolescent circadian rhythms was clear. The research emphasized that students cannot address their sleep needs by merely trying to go to bed earlier. The evidence across many of the studies showed there is a delay in melatonin release in adolescents. The result is that teenagers cannot fall asleep at the same time they did when they were younger. The potential negative effect of cumulative sleep deprivation makes a persuasive argument. The amount of time high school students sleep on non-school days averages 9 hours and 32 minutes revealing their need to sleep more. Several articles noted improvements in mood and attention in schools that implemented later school start times.

Policy Changes: The research from the University of Minnesota showed that when schools adjust their start times later, students sleep more. The subcommittee questioned if delaying school start times will only have the effect of students going to bed later than they currently do. Dr. Susan Rubman Gold presented research that showed with school start times at 7:30 a.m.; about 33 percent of students are getting the recommended minimum of 8 hours of sleep. By moving the school start time to approximately 8:00 a.m., between 42-49 percent of students are receiving the recommended hours of sleep. When school starts at 8:30 a.m., 57-59 percent of students sleep at least 8 hours. Unfortunately, even moving school start times to 9:00 a.m. increased the percentage to only 65 percent of students getting the minimum recommendations. One 2016 study from the Sleep Research Society contradicted this finding. In their first trial after implementing later school start times, students went to bed at the same time and woke later resulting in more sleep. When researchers completed their second trial, the students reported they adjusted their sleep time later, which resulted in the same amount of sleep as before the delay in school start time was implemented.

Driver Safety: The committee examined research on driver safety and found data in two studies from Virginia that compared the rate of accidents involving high school students in districts that made the decision to delay their start times to districts that did not delay start times. The research showed a lower accident rate per 1000 drivers in the districts that moved start times later. West Hartford Police Department data from September 1, 2016 to November 22, 2017 on school days only, shows that there were 107 accidents in the 7:00 to 8:00 a.m. hour with 82 involving property only and 25 involving injury. The 8:00 to 9:00 a.m. hour in the same period shows 179 accidents with 138 involving only property and

39 resulting in injury. The subcommittee is unsure if West Hartford would realize a positive outcome in the area of drivers' safety based on this data. In order to interpret these results fairly, more analysis would be necessary, as the volume of traffic and rate of accidents are important variables to consider.

Athletic Performance: Dr. Rubman Gold shared two studies that showed that there is evidence of positive outcomes affecting athletics that result from delaying school start times. One study showed improvement in athletic performance for a university basketball team while another study showed decreases in sports related injuries related to fatigue. The subcommittee members were intrigued by the reduction in sports related injuries because of increased sleep. The committee found limited research articles on this topic.

Communication Efforts to Date

The Board of Education's webpage on the West Hartford Public Schools site now features a Rethinking School Start Time information page. The site includes an overview of the project and links to key documents including the committee member list, meeting agendas, local presentations, research studies, and the RSST committee's timeline.

The Stakeholder Impact Subcommittee will be creating surveys for parents, students and teachers that they will administer in the late winter to early spring. The survey will gather stakeholder feedback on a variety of issues related to different scheduling options.

Anne McKernan, Director of Secondary Education and Paul Vicinus, Assistant Superintendent for Curriculum and Instruction will be available to answer questions.