

West Hartford Public School District

Agenda Item: Rethinking School Start Times Committee Update

Date: February 21, 2018

From: Anne McKernan, Director of Secondary Education

Through: Tom Moore, Superintendent

Background:

This update is the second in a series of three planned presentations during the 2017-2018 school year. This update focuses on four important areas. First, the committee reports what they are learning from Connecticut school districts that have implemented new school start times. The potential implications on the athletic program and student athletes is a second area of focus in the update. The report also includes additional information about the academic benefits of changing school start times that Board of Education members requested during the December 5, 2017 meeting. Finally, the update outlines the committee’s plans for surveying stakeholders and the planned family information night.

Lessons Learned Subcommittee

Subcommittee members contacted school districts in the region to gather information about their approach to researching new school start times and their experiences with implementation of these new times. Subcommittee members held conference calls with Newtown Public Schools and Greenwich Public Schools, completed a site visit to Newtown in early February, and reviewed publicly available documents regarding these changes. The committee members have also contacted officials in Wilton, CT and Salem, MA to schedule conference calls and/or visits.

Newtown, Connecticut

After a one-year study that concluded with a vote to change school start times in June 2017, the Newtown Public Schools implemented new school start times for the 2017-2018 school year. The changes in school start times are listed in the chart below.

School	Previous School Start/End Time	New School Start/End Time
Newtown High School	7:20-2:02 (6 hours, 42 minutes)	8:00-2:32 (6 hours, 32 minutes)
Newtown Middle School	7:20-2:02 (6 hours, 42 minutes)	8:00-2:32 (6 hours, 32 minutes)
Reed Intermediate School	8:05-2:49 (6 hours, 44 minutes)	9:05-3:37 (6 hours, 32 minutes)
Elementary Schools	9:05-3:37	No Change

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During their yearlong study, Newtown surveyed parent/guardians, students and teachers. Responses indicated the top concerns regarding any change in school start times would be to address adolescent sleep deprivation, minimize disruption to families' schedules, ensure reasonable bus ride times, keep costs neutral, and minimize impact on after-school activities.

Transportation was one of the greatest concerns in Newtown throughout this process. Newtown is among the largest geographic towns in Connecticut with over 57 square miles of land. The large area can create long bus rides for children. Prior to the changes implemented for the 2017-2018 school year, the school system used a three-tier transportation system. The new school start times allowed a two-tiered busing system with a shuttle between intermediate and elementary. The community raised concerns about the length of bus rides for students. Newtown's goal was to keep all bus rides under 55 minutes long; they will monitor the impact of the change throughout the school year. Newtown provides transportation services for three private schools in town and one magnet school in Danbury. These schools did not change their start times, but changed their transportation tiers to maintain their original start and end times.

Newtown sought to minimize disruptions to their after school activities and interscholastic athletic programs. With over 50 percent of students involved in interscholastic sports, 30 percent involved in music programs and clubs, and 20 percent of students working after school, the Board of Education wanted to ensure disruptions to these programs was not significant.

What we learned from the site visit: Stakeholders of all groups reported that the implementation process has been generally smooth and they have not experienced significant disruptions. Stakeholders credit the smooth implementation to addressing their greatest challenge, transportation, early on in their process.

- Newtown achieved their primary goal; increasing sleep time for adolescents.
- Students are in support of the new start times; students report they would not choose to go back to the previous start times.
- Transportation challenges must be addressed early in the process.
- Teacher support for the change is not as widely shared; some teachers voiced strong support and some remain opposed.
- Newtown moved professional learning programs to the morning; this change has been widely supported.
- The change has affected the athletic program and academic learning time; Newtown stakeholders report they have managed most of the challenges through the efforts listed below.
 - Increasing the use of lit high school and town fields.
 - Moving many late afternoon games to evening.
 - Seeking to secure agreements with other school districts regarding later competition start times, this is not always possible.
 - Scheduling most of their competitions between 3:45 and 4:15 p.m. therefore reducing the need to release athletes and teacher/coaches from class.
- Despite these changes, Newtown must release some student-athletes from class.
- The primary area that saved time between school dismissal and game time was warm-ups. In some cases, Newtown had to significantly reduce or eliminate warmup times prior to competition. This change primarily affects student-athletes at the sub-varsity level.
- Coordinating the use of non-school owned athletic facilities presented a challenge to the district. The solution implemented is to reduce practice times in many of those sports.

As the new school start times have been in place for just over five months, the district does not have data at this time to show that a delayed start time for their intermediate, middle, and high school students resulted in improved academic outcomes. The district is committed to studying the impact through a review of various data points in the coming year.

Greenwich, Connecticut

Greenwich Public Schools began their district study of changing school start times in August 2015. The district formed a Steering Committee that met during the 2015-2016 school year; the steering committee completed the initial phases of their study and reported to the Board of Education. In September of 2016, the Greenwich Board of Education approved changing school start times and formed the School Start Time Ad Hoc Committee. The committee’s charge was to work with the administration in finalizing and implementing a later school start (bell) time plan to maximize the academic success and social and emotional well-being of all Greenwich Public School students. For the 2017-2018 school year, the Greenwich Public Schools enacted the following start times.

School	Previous School Start/End Time	New School Start/End Time
Greenwich High School	7:30-2:15 (6 hours, 45 minutes)	8:30-3:15 (6 hours, 45 minutes)
Middle Schools	7:45-2:35 (6 hours, 50 minutes)	8:00-2:50 (6 hours, 50 minutes)
Elementary Schools (8)	8:45-3:15	*No Change Continued Study
Elementary Schools (3)	8:15-2:45	*No Change Continued Study

*Decision expected late winter 2017-18

During their year of implementation preparation, the Ad Hoc Committee met approximately 18 times. Greenwich hired a professional project manager to oversee the work of the committee. The committee established focus areas for implementation including academics, transportation, athletics, before and after care, food services, town issues, staff-related issues, and coordination with independent schools. The district hired engineering consultants Milone and McBroom to address the feasibility of adding lighting to a second and third athletic field. The committee members devised a new schedule for the high school, identified optimal schedules for teacher-coaches, created a dismissal policy for student-athletes, coordinated private school transportation agreements, examined staff commuting options, collected relevant data, and identified strategies for effective communication with stakeholders.

Greenwich Public Schools provides parents with periodic updates regarding the implementation of new school start times. At the end of September 2017, the parent update focused on the district approach to addressing transportation related issues including congestion, late bus arrivals, late bus pick-ups and bus ridership levels. In the area of athletics, Greenwich reported it has maintained three levels of teams (freshman, junior varsity and varsity) in the first year of implementation. To provide adequate practice time and maintain the previous number of competitions, the district secured additional fields and busing to ensure all students were able to practice for 1.5 to 2.5 hours as they had prior to this change. When possible, the athletic director moved athletic competitions from 4:00 p.m. to 4:30 p.m. start time. The result has increased early dismissals for a loss of class time for student-athletes and teacher-coaches. The

school and district are examining short and long-term solutions to mitigate the issue of student-athlete and teacher-coach dismissal from class.

The December parent update included information about the district's upcoming surveys, the athletic program, transportation issues, and the next scheduled Board of Education update in February 2018. The district conducted a second high school sleep survey in October 2017 and will compare the results to the spring 2017 results. The parent update stated that school officials are currently collecting data on attendance rates, the number of early-dismissals for student-athletes, student achievement data, traffic patterns and access to athletic fields to identify options and recommendations that will address the challenges associated with the later start/dismissal times.

In the area of athletics, the school continues to dismiss student-athletes so that they reach their contest venues in time for the start of competition. The Administration will continue to assess the number of early dismissals, the amount of missed class time, and the amount of time spent in travel prior to making any determinations about the continuation of certain sports for 2018-19. District administration continues to explore options for expanding the number of available practice fields and provide adequate transportation to these fields for the 2018-2019 athletics program.

Greenwich is working on a solution for better bus arrival and dismissal timing throughout the district including transportation for both public and private schools. By combining routes, the district seeks to free up buses that can assist with the timing issues Greenwich is currently experiencing on a small percentage of routes.

What we learned from a review of documents and phone calls:

- Analyze the impact of new school bus routes and times on traffic patterns
- Secure agreements for later athletic start times from other districts; be aware of various factors that influence schools in making these agreements
- Prepare for the loss of learning time, as students-athletes will be required to depart early for away games. The fall will be the most challenging season.
- Identify mitigation strategies for loss of academic time before, during, and after implementation
- Prepare for increased loss of learning time from October 11 until the end of the fall season as student-athletes and teacher-coaches may need to be dismissed from class for both home and away competitions
- Identify the key data points to collect during the first few years of implementation in order to analyze the impact of the change
- Communicate regularly with stakeholders on the progress of the implementation
- Analyze the feasibility of maintaining all athletic programs

Athletic Impact Subcommittee

This section presents the subcommittee's best efforts to demonstrate the impact on athletics from changing dismissal by 30 and 60-minutes. The analysis we present are best estimates of the potential impact and serve as a starting point for conversations.

To determine the potential impacts that later school start and dismissal times would have, the Athletics Subcommittee members interviewed principals and athletic directors from schools that implemented

delayed school start times. Subcommittee members reviewed the current athletic schedule for the 2017-2018 school year, examined participation data by sport and season, studied civil twilight charts, and applied a 30 and 60-minute delay to determine potential impact. The greatest area for potential impacts include:

- academic learning loss by dismissing students early from classes
- academic learning loss by dismissing teacher/coaches early from classes
- loss of or limits on use of non-school facilities for practice and games in the specific sports
- delay of home and away contests start times
- elimination or shortening of some JV and Freshman contests
- participation in certain programs may need to be limited
- maintain the appropriate use of lighting on athletic fields per West Hartford policy
- increased substitute costs for teacher-coaches to attend competition
- secure officials for late afternoon contests as they often also are scheduled for night contests

The loss of academic learning time for students is a primary challenge for any district considering a change to school dismissal times. Examining the current schedule for the 2017-2018 school year, the subcommittee identified 23 occasions that student-athletes are released from classes to attend regular season competitions. The primary reason for these early dismissals include regional competitions at locations that are more than 30 miles away.

Conard and Hall High Schools are members of the Central Connecticut Conference (CCC); drive times to most CCC schools range from approximately 20 to 35 minutes in the 2:30-3:30 p.m. drive time. Non-conference games require longer drive times as most of these schools are located beyond the greater Hartford area. The chart below shows the impact of later dismissal times on afternoon contests. Granby, Ridgefield, Hamden, and Amity are examples of non-conference schools with which Conard and Hall compete. The chart below shows the impact of later dismissal times on afternoon contests.

Key Points	Current Schedule	30 minute delay	60 minute delay	*CIAC Default Game Time
School ends	2:15	2:45	3:15	3:45
Bus departure	2:35-2:40	3:05-3:10	3:35-3:40	3:45
Bus arrival to conference school site	3:00-3:15	3:30-3:45	4:00-4:15	3:45
**Bus arrival to non-conference school site	3:10-3:40	3:40-4:10	4:10-4:40	3:45

*the CIAC enforces established a 3:45 default start time for athletic competitions when schools cannot agree to a start time.

**Currently, most of these competitions require an early dismissal for student-athletes, teacher/coaches.

The fall season will present the greatest challenge of the three season athletic program. From October 11 to the end of the fall season, the sun sets at 6:15 p.m. and earlier each day thereafter. In some cases, securing agreements to start games late may not provide enough time to complete games before sunset during this time of year. The spring season is not expected to create the same problem as after April 1, sunset is 7:16 p.m. and days get longer after that date. The challenge in the spring will be securing later

start times for competitions. Examining the current schedule, during the 2017-2018 school year, there were approximately 23 regular season contests that required student-athletes and teacher/coaches to be dismissed from class prior to the end of school. In applying a 30 and 60-minute delay to the current process, the number of dismissals could rise to a high of 262.

FALL SPORTS # of Athletes- 1031		REG. SEASON CONTESTS	REG. SEASON EARLY DISMISSAL	EARLY DISMISSALS 30 MIN DELAY	EARLY DISMISSALS 60 MIN DELAY
Football Soccer-Boys Soccer-Boys Swim/Diving-Girls	Cross Country-Boys Cross Country-Girls Field Hockey Volleyball-Girls Cheerleading	520	7	*60-65 Estimated	*87-94 Estimated
WINTER SPORTS # of Athletes-642		REG. SEASON CONTESTS	REG. SEASON EARLY DISMISSAL	EARLY DISMISSALS 30 MIN DELAY	EARLY DISMISSALS 60 MIN DELAY
Basketball -Boys Basketball -Girls Gymnastics Indoor Track-B/G	Ice Hockey- B/G Wrestling Swimming/Diving-B Cheerleading	470	7	*20-25 Estimated	*28-30 Estimated
SPRING SPORTS # OF ATHLETES-1150		REG. SEASON CONTESTS	REG. SEASON EARLY DISMISSAL	EARLY DISMISSALS 30 MIN DELAY	EARLY DISMISSALS 60 MIN DELAY
Baseball Softball Golf-B/G	Lacrosse-B/G Tennis-B/G Track-B/G Volleyball-Boys	660	9	*120-130 Estimated	*135-140 Estimated
Teams	Athletes	REG. SEASON CONTESTS	REG. SEASON EARLY DISMISSAL	EARLY DISMISSALS 30 MIN DELAY	EARLY DISMISSALS 60 MIN
62 Teams per school 3 three levels of competition	1680 individual participants 287 -three sports 567-two sport 826- one sport	1650	23	*200-220 Estimated	*250-262 Estimated

*Estimate with no mitigation factors implemented

Teacher/Coaches: Currently, Conard High School employs 75 coaches of which 37 are West Hartford Public School teachers (25 high school, 10 middle school, 2 elementary school). Hall High School has 83 coaches of which 32 are West Hartford Public School teachers (18 high school, 11 middle school and 3 elementary school). Between the two schools, there are 69 teachers. Later dismissal times will result in the need to release teacher/coaches from their teaching assignments during the last periods of school.

Use of Town Facilities: The hockey teams practice and play home games at Veterans' Memorial Ice Skating Rink. Practices times rotate among the three teams. After preliminary discussion with the rink operators,

it does not appear that a change in school start/dismissal times will affect this program, as these times are not directly after school. Boys and girls swimming/diving teams practice and hold home meets at Cornerstone Aquatics Center. The teams practice daily from 3:00 to 5:00 p.m. Cornerstone's other swim programs resume immediately after the high school practices and meets. As Cornerstone depends on usage and rental fees to sustain their operation, changes in practice and swim meets will pose a challenge. Similarly, Rockledge Golf Course relies on green's fees to support their operation. Currently, all golfers must tee off by 3:30 p.m. to accommodate the afternoon golfers who pay greens fees. The athletic program practices and plays competitions at several town fields located off of the high school grounds including Sedgwick Middle School, Sterling Field, Wolcott Park, Eisenhower Park and Whiting Lane School.

Town Policy on Lighting Athletic Fields: The town of West Hartford has a policy on the use of lighting fields for high school activities. Currently, the high schools are well within the policy requirements that restricts the use of athletic field lighting to no more than 36 times in the fall and 16 times in the spring per site. This fall Hall scheduled 15 night games and Conard held 11 night games; this spring there are seven night games scheduled at Hall and six night games scheduled at Conard.

Academic Impact Subcommittee

At the December 5, 2017 West Hartford Board of Education meeting, members requested additional information regarding the academic impact of later school start times. Subcommittee members reviewed relevant literature over the past six months. The committee members found some studies that supported a causal relationship between school start times and academic achievement and others that address the relationship between these two factors. It is important to note that there are hundreds of articles on this topic; subcommittee members have read over 20 articles.

A sample of studies that support strong connection between academic outcomes and later school start time include:

- A study that examined data from the United States Air Force Academy examined the change in school start time and grades for first year students. Results indicated that when the first period started later by 30 minutes, the grades for all classes were better. Because the United States Air Force requires all first year students to take the same classes and implements common grading procedures, researchers were able to hold several factors constant during the study period.

Carrell, S., Maghakian, T., West, J.E. (2011). A's from Zzzz's? The Causal Effect of School Start Time on the Academic Achievement of Adolescents. *American Economic Journal: Economic Policy* 3:3, 62-81

- A research study conducted on middle school students in Wake County, NC from 1999 to 2006 identified the causal effect of daily start times on academic performance. Using variation in start times within schools over time, the effect is a two-percentile point gain in math test scores. The researcher found similar results for reading scores.

Edwards, F. (2012). Early to rise? The effect of daily start times on academic performance. *Economics of Education Review* 31:6, 970-983

- A report released by the Rand Corporation in 2017 cited the economic benefits of later school start times on the United States economy. In the study, Rand cites a variety of studies on the academic benefits of later school start times.

Hafner, Marco, Martin Stepanek, and Wendy M. Troxel. Later school start times in the U.S.: An economic analysis. Santa Monica, CA: RAND Corporation, 2017.
https://www.rand.org/pubs/research_reports/RR2109.html.

The list below is a sample of studies that addresses the relationship between later start times and academic outcomes. These include

- A review of 38 studies that found it difficult to measure impact on academics, as there is no standardization of grades across school districts and states. However, some evidence showed a positive association. Most of the studies saw a significant increase in sleep duration even with relatively small delays in start times of a 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.

Wheaton, A.G., Chapman D.P., Croft J.B., (2016) "School Start Times, Sleep, Behavioral, Health, and Academic Outcomes: A Review of the Literature." *The Journal of School Health*. 2016 May;86(5):363-81. doi: 10.1111/josh.12388.

- A longitudinal study completed after a public high school in upstate NY delayed their start time by 45 minutes. Their study did not show a consistent change in student grades and no consistent improvement in the standardized assessment. They reported no differences in grades, overall GPA or standardized test scores.

Thacher, P.V., Onyper, S.V. (2016) "Longitudinal Outcomes of Start Time Delay on Sleep, Behavior, and Achievement in High School." *Sleep*. 2016 Feb 1;39(2):271-81.

- A report on a multi-site project that studied six high schools in Minnesota, Colorado and Wyoming. The GPA data indicated that there were statistically significant increases in GPA for 5 of the 6 schools. This gain was primarily seen in the first or third period class. Findings from a statewide achievement test indicated there was no pattern of improvement in the pre to post test scores.

Wahlstrom, K. L., Dretzke, B.J., Gordon, M.F., Peterson, K., Edwards, K., Gdula, J. (2014) "Examining the Impact of Later High School Start Times on the Health and Academic Performance of High School Students: A Multi-Site Study, 2014, Final Report." Center for Applied Research and educational improvement, University of Minnesota

- A longitudinal study examining how nightly variations in adolescents' study and sleep time are associated with academic problems on the following day in upper level high school students. Researchers examined the costs and benefits of additional study time before a test versus additional sleep time. Authors stated "While the evidence pertaining to consequences of not enough sleep in adolescents related to academic outcomes (grades, test scores, attendance) is still emerging, the general consensus of research indicated that good sleep has a positive relationship with academic outcomes for students in middle school all the way through college."

Gileen-O'Neal, C., Huynh, V.W., Fuligni, A.J. (2013) "To study or to sleep? The academic costs of extra studying at the expense of sleep." *Child Dev*. 2013 Jan-Feb; 84(1):133-42.

Jennifer Papa Kanaan, M.D. a specialist in pediatric and adult sleep disorders at the University of Connecticut, Farmington presented her findings to the Newton community during their research process. Dr. Kanaan described the academic effects of delaying school start times as offering a potential for better grades and a better quality of life.

Stakeholder Impact Subcommittee

The Stakeholder Impact Subcommittee members reviewed several stakeholder survey examples used in school districts around the country. These surveys did not meet West Hartford's needs. As a result, the committee formed a partnership with the Hanover Research Group from Alexandria, VA to work collaboratively in the creation of parent/guardian, staff and secondary school student surveys tailored to West Hartford's needs. As the school district is a member of the Hanover Research Group Consortium, the district will not incur a cost for this work. Working with Hanover, however, will delay the subcommittee's original plan to administer these surveys in March. Stakeholder surveys and a Family Information Night are planned for May. Survey results will be reported to the Board of Education on Tuesday, June 5.

The Subcommittee has created a website and has a dedicated email address. To communicate its efforts, the subcommittee submits updates to all schools for inclusion in their newsletters sent to families twice per month.

Ms. McKernan, Mr. Vicinus, Mr. Duarte and Mr. Siegal will be available to answer questions.