

8:30 or Later

A review of the research on high school start times for FBISD administration and stakeholders

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Executive Summary

Later High School Start Times:

- ❖ **Are supported by the US Surgeon General, Texas Dept of State Health Services, AMA, APA, AAP, NSF and more**
- ❖ **Improve academic performance, especially for disadvantaged students**
 - Including higher standardized test scores, less tardiness, higher attendance, higher graduation rates
- ❖ **Improve mental health**
 - Including lower rates of depression, anxiety, and suicidality, and better emotion regulation and use of positive coping skills
- ❖ **Improve physical health**
 - Including lower caffeine consumption, nicotine use, and drug use, fewer car accidents, fewer accidents & injuries, higher physical activity, and less obesity
- ❖ **Reduce delinquency and problem behavior**
 - Including classroom behavior, suspensions, risky behavior, physical aggression, and juvenile arrests
- ❖ **Have other benefits**
 - E.g., improved extracurricular performance and long term economic benefits
- ❖ **Common Concerns are generally unfounded**
 - Teens tend to keep their same bedtimes and really do get additional sleep (in contrast to the suggestion that they'll just stay up later).
 - Traffic patterns in areas that have made the school start time change have not become unmanageable (e.g., in Houston in 2018).
 - Scheduling UIL/after school events is doable even in a district that makes the change alone, as demonstrated other districts, but several nearby districts have made the switch or have plans to.
 - Safety issues need to be managed for all students, not only young students (in the event of flipping bus schedules); teens are at substantially higher risk for both abduction and death by pedestrian-vehicle accidents than 5-12 year olds.

Why Start Later?

➤ **Teens aren't getting enough sleep.**

A National Sleep Foundation Sleep in America Poll found that over 45% of adolescents in the United States obtained inadequate sleep, with 73% percent of U.S. high school students getting less than the recommended 8-10 hours of sleep on school nights¹². In other words, only 30% of teens are getting 8 or more hours of sleep per night!³

➤ **It's not because they're lazy or on their phones too much or goofing off. The normal, biological changes that come with adolescence are responsible.**

These biological changes are present across mammalian species! During puberty (which for humans is roughly the period between ages 11 and 25, the body shifts to get sleepy later and natural wake time is delayed as well.⁴⁵ Simply going to bed earlier does not change this.⁶

➤ **It causes LOTS of problems.**

Chronic sleep loss in adolescents poses risks to physical and mental health, public safety, and reduced academic performance.⁷ (See next pages)

➤ **And delaying high school start times WORKS.**

Delaying school start times is one of the most evidence-based strategies to reduce inadequate sleep and improve academic, behavioral, and health outcomes among adolescents at the population-level⁸. In fact, 10am might be even better!⁹

¹ Hirshkowitz M, Whiton K, Albert SM, et al. National Sleep Foundation's sleep time duration recommendations: methodology and results summary. *Sleep Health*. 2015;1(1):40-43.

² Carskadon, M. A. (2013). Optimal sleep habits in adolescents. In H. P. A. Van Dongen & G. A. Kerkhof (Eds.), *Encyclopedia of Sleep*, 190, 86-87.

³ US Department of Health and Human Services. Healthy People 2020 sleep health objectives.

⁴ Crowley, S. J., Acebo, C., & Carskadon, M. A. (2007). Sleep, circadian rhythms, and delayed phase in adolescence. *Sleep Medicine*, 8, 602-612

⁵ Hagenauer, M. H., Perryman, J. I., Lee, T. M., & Carskadon, M. A. (2009). Adolescent changes in the homeostatic and circadian regulation of sleep. *Developmental Neuroscience*, 31, 276-284

⁶ Kirby, M., Maggi, S., & D'Angiulli, A. (2011). School start times and the sleep-wake cycle of adolescents: A review and critical evaluation of available evidence. *Educational Researcher*. 40(2), 56-61

⁷ Sharman, Rachel & Illingworth, Gaby. (2019). Adolescent sleep and school performance – the problem of sleepy teenagers. *Current Opinion in Physiology*. 15. 10.1016/j.cophys.2019.11.006

⁸ Au, et al. (2014). School start times for adolescents. *Pediatrics*, 134(3).

⁹ Kelley, P., Lockley, S. W., Kelley, J., & Evans, M. D. R. (2017). Is 8:30 a.m. Still too early to start school? A 10:00 a.m. school start time improves health and performance of students aged 13–16. *Frontiers in Human Neuroscience*, 11, Article 588. <https://doi.org/10.3389/fnhum.2017.00588>

Who Supports This?

- **U.S. Surgeon General¹⁰**
- **Center for Disease Control and Prevention¹¹**
- **Texas Department of State Health Services¹²**
- **American Medical Association¹³**
- **American Academy of Pediatrics¹⁴**
- **American Psychological Association¹⁵**
- **National Sleep Foundation¹⁶**
- **National Association of School Nurses¹⁷**
- **American Sleep Association¹⁸**
- **Society for Behavioral Medicine¹⁹**
- **And more...**

¹⁰ [surgeon-general-youth-mental-health-advisory.pdf \(hhs.gov\)](#)

¹¹ [Most US middle and high schools start the school day too early | CDC Online Newsroom | CDC](#)

¹² [School Health Advisory Committee: Recommendations \(texas.gov\)](#)

¹³ [AMA Supports Delayed School Start Times to Improve Adolescent Wellness - American Medical Association \(cision.com\)](#)

¹⁴ [School Start Times for Adolescents | Pediatrics | American Academy of Pediatrics \(aap.org\)](#)

¹⁵ <https://www.apa.org/pi/families/resources/school-start-times.pdf>

¹⁶ [nsf-sleep-health-policy-statement_school-start-times.pdf \(startschoollater.net\)](#)

¹⁷ [Title \(startschoollater.net\)](#)

¹⁸ [Healthy School Start Times | American Sleep Association](#)

¹⁹ [late-school-start-statement-FINAL.pdf \(sbm.org\)](#)

Academic Impact

- **Increased attendance rates^{20,21,22,23}**
- **Decreased tardiness^{20,22}**
- **Decrease in high school drop out rates^{22,24}**
- **Increased alertness^{25,26} and cognitive processing^{27,28}**
- **Decreased sleeping during instruction^{21,29}**
- **Increase in overall GPA and especially morning class GPA^{20,25,30}**
- **Increase in standardized test scores^{31,32,33}**
- **Increase in college admissions test scores²⁵**
- **Impact is especially high for disadvantaged students³⁴**

²⁰ Wahlstrom, K., Dretzke, B., Gordon, M., 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. Center for Applied Research and Educational Improvement.

²¹ Owens JA, Belon K, Moss P. (2010). Impact of delaying school start time on adolescent sleep, mood, and behavior. *Archives of Pediatric & Adolescent Medicine*, 164(7), 608–14

²² Wahlstrom, K. (2002). Changing times: Findings from the first longitudinal study of later high school start times. *NASSP Bulletin*, 86(633), 3–21.

²³ Lenard, M., Morrill, M. S., & Westall, J. (2020). High school start times and student achievement: Looking beyond test scores. *Economics of Education Review*, 76. <https://doi.org/10.1016/j.econedurev.2020.101975>

²⁴ McKeever, PM, Clark, L (2017). Delayed high school start times later than 8:30am and impact on graduation rates and attendance rates. *Sleep Health*, 3(2), 119-125. DOI:<https://doi.org/10.1016/j.sleh.2017.01.002>

²⁵ Vedaø, Ø., Saxvig, I. W., & Wilhelmsen-Langeland, A. (2012). School start time, sleepiness and functioning in Norwegian adolescents. *Scandinavian Journal of Educational Research*, 56, 55-67

²⁶ Minges KE, Redeker, NS. Delayed School Start Times and Adolescent Sleep: A Systematic Review of the Experimental Evidence. *Sleep Med Rev*. 2015;28:86-95. Minges KE, Redeker NS. Delayed school start times and adolescent sleep: A systematic review of the experimental evidence. *Sleep Med Rev*. 2016;28:86-95. doi:10.1016/j.smr.2015.06.002

²⁷ Cohen-Zion, M., Shabi, A., Levy, S., Glasner, L., & Wiener, A. (2016). Effects of Partial Sleep Deprivation on Information Processing Speed in Adolescence. *Journal of the International Neuropsychological Society*, 22(4), 388-398. doi:10.1017/S1355617716000072

²⁸ Lo, J. C., Ong, J. L., Leong, R. L., Gooley, J. J., & Chee, M. W. (2015). Cognitive performance, sleepiness, and mood in partially sleep deprived adolescents: The need for sleep study. *Sleep*, 39(3), 687-98. <https://dx.doi.org/10.5665%2Fsleep.5552>

²⁹ Center for Applied Research and Educational Improvement. (1998). School start time study. Technical report: Vol. II. Analysis of student survey data.

³⁰ Hysing, M., Harvey, A. G., Linton, S. J., Askeland, K. G., & Sivertsen, B. (2016). Sleep and academic performance in later adolescence: Results from a large population-based study. *Journal of Sleep Research*, 25(3), 318-24

³¹ Roberts, S. M. (2021). Exploring the predictive relationship between school day start time, gender, school level, and standardized test results. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 82(10-A).

³² Groen, J.A., Pabilonia, S.W. Snooze or Lose: High School Start Times and Academic Achievement. *Economics of Education Review*, 2019, 72, 204–218, <https://doi.org/10.1016/j.econedurev.2019.05.011>

³³ Heissel, J., and Norris, S. (2019). [Rise and Shine: How school start times affect pandemic performance](#). *Education Next*, 19(3), 54-61.

³⁴ Bastian, K. C., & Fuller, S. C. (2018). Answering the bell: High school start times and student academic outcomes. *AERA Open*, 4(4). <https://doi.org/10.1177/2332858418812424>

Mental Health Impact

When teens get enough sleep, we see...

- **Decreased depressive symptoms^{35,36,37,38,39}**
- **Decreased anxiety symptoms⁴⁰**
 - **Less sadness, hopelessness, nervousness, worry⁴¹**
 - **Less test anxiety⁴²**
- **Decreased suicidal thinking and planning**
- **Improvements in mood and emotion regulation^{35,43}**
- **Better coping⁴⁴**
 - **Less ruminating, more problem solving, more peer and family support seeking, higher well being**
- **Reduced fatigue and daytime sleepiness⁴⁵**
- **Improvement in quality of student-family interaction⁴⁶**

³⁵ Owens JA, Belon K, Moss P. (2010). Impact of delaying school start time on adolescent sleep, mood, and behavior. *Archives of Pediatric & Adolescent Medicine*, 164(7), 608–14

³⁶ Wahlstrom, K. (2002). Changing times: Findings from the first longitudinal study of later high school start times. *NASSP Bulletin*, 86(633), 3–21.

³⁷ Pasch KE, Laska MN, Lytle LA, Moe SG. Adolescent sleep, risk behaviors, and depressive symptoms: are they linked? *Am J Health Behav*. 2010;34(2):237–248

³⁸ Peltz, J. S., & Buckhalt, J. A. (2021). Equal benefits? An examination of the potential consequences of later school start times for adolescents and their mental health. *Journal of School Health*. Advance online publication.

³⁹ Peltz, J. S., Rogge, R. D., Connolly, H., & O'Connor, T. G. (2017). A process-oriented model linking adolescents' sleep hygiene and psychological functioning: The moderating role of school start times. *Sleep Health*, 3(6), 465–471. <https://doi.org/10.1016/j.sleh.2017.08.003>

⁴⁰ Melisa Moore, PhD, H. Lester Kirchner, PhD, Dennis Drotar, PhD, Nathan Johnson, MS, Carol Rosen, MD, Sonia Ancoli-Israel, PhD, Susan Redline, MD, Relationships Among Sleepiness, Sleep Time, and Psychological Functioning in Adolescents, *Journal of Pediatric Psychology*, Volume 34, Issue 10, November-December 2009, Pages 1175–1183, <https://doi.org/10.1093/jpepsy/jsp039>

⁴¹ Berger, A. T., Wahlstrom, K. L., & Widome, R. (2019). Relationships between sleep duration and adolescent depression: A conceptual replication. *Sleep Health*, 5(2), 175–179. <https://doi.org/10.1016/j.sleh.2018.12.003>

⁴² Fernández-Castillo, A. (2013). Sleep time, test anxiety and aggressiveness in university students. *Ansiedad y Estrés*, 19(1), 71–82.

⁴³ Holm, S. M., Forbes, E. E., Ryan, N. D., Phillips, M. L., Tarr, J. A., & Dahl, R. E. (2009). Reward-related brain function and sleep in pre/early pubertal and mid/late pubertal adolescents. *The Journal of adolescent health : official publication of the Society for Adolescent Medicine*, 45(4), 326–334. <https://doi.org/10.1016/j.jadohealth.2009.04.001>

⁴⁴ Wang, Y., & Yip, T. (2019). Sleep facilitates coping: Moderated mediation of daily sleep, ethnic/racial discrimination, stress responses, and adolescent well-being. *Child Development*, 91(4), e833–e852. <https://doi.org/10.1111/cdev.13324>

⁴⁵ Minges KE, Redeker, NS. Delayed School Start Times and Adolescent Sleep: A Systematic Review of the Experimental Evidence. *Sleep Med Rev*. 2015;28:86-95. Minges KE, Redeker NS. Delayed school start times and adolescent sleep: A systematic review of the experimental evidence. *Sleep Med Rev*. 2016;28:86-95. doi:10.1016/j.smrv.2015.06.002

⁴⁶ American Psychological Association. (2014). Later school start times promote adolescent well-being. The Children, Youth, & Families Office of the American Psychological Association.

Physical Health Impact

When teens get enough sleep, we see...

- **Healthier body mass index (BMI)^{47,48}**
- **Better markers for long term cardiovascular health⁴⁹**
- **Better dietary choices⁵⁰**
 - **Less skipped breakfast, less consumption of sweets & fast-food**
- **More physical activity, less sedentary time, and less screen time⁵¹**
- **Reduced caffeine use⁴⁵ & tobacco use⁵¹**
- **Decreased risk for acute and chronic illness, and sports injury⁵²**
- **Fewer accidents and injuries^{53,54}**
- **Decrease in student-involved (16-18 yo) car accidents by up to 70%⁵⁵**
 - **More than 50% of teens report drowsy driving (and how many don't report it?)⁵⁶**
- **Fewer risky behaviors like drunk driving, texting while driving, failing to use a seatbelt, and riding a bike without a helmet⁵⁷**

⁴⁷ Gariépy, G., Janssen, I., Sentenac, M., & Elgar, F. J. (2018). School start time and the healthy weight of adolescents. *Journal of Adolescent Health, 63*(1), 69–73. <https://doi.org/10.1016/j.jadohealth.2018.01.009>

⁴⁸ El-Sheikh, M., Bagley, E. J., Keiley, M. K., & Erath, S. A. (2014). Growth in Body Mass Index From Childhood Into Adolescence: The Role of Sleep Duration and Quality. *The Journal of Early Adolescence*.

⁴⁹ Alcántara, C., Cosenzo, L. G., Leigh, A. K., Shimbo, D., & Miller, G. E. (2019). Longer sleep duration and endothelial cell health among a multiethnic sample of adolescents. *Psychosomatic Medicine, 81*(9), 778–781. <https://doi.org/10.1097/psy.0000000000000745>

⁵⁰ Tambalis, K. D., Panagiotakos, D. B., Psarra, G., & Sidossis, L. S. (2018). Insufficient sleep duration is associated with dietary habits, screen time, and obesity in children. *Journal of Clinical Sleep Medicine, 14*(10), 1689–1696. <http://dx.doi.org/10.5664/jcsm.7374>

⁵¹ Zhang, J., Paksarian, D., Lamers, F., Hickie, I. B., He, J., & Merikangas, K. R. (2016). Sleep patterns and mental health correlates in US adolescents. *The Journal of Pediatrics, 182*, 137–143. <https://doi.org/10.1016/j.jpeds.2016.11.007>

⁵² Copenhaver, E. A., & Diamond, A. B. (2017). The value of sleep on athletic performance, injury, and recovery in the young athlete. *Pediatric Annals, 46*(3), e106–e111. <https://doi.org/10.3928/19382359-20170221-01>

⁵³ Carskadon MA, Acebo C, Jenni OG. Regulation of adolescent sleep: implications for behavior. *Ann N Y Acad Sci.* 2004 Jun;1021:276–91. doi: 10.1196/annals.1308.032. PMID: 15251897.

⁵⁴ Wheaton AG, Olsen EO, Miller GF, Croft JB. Sleep Duration and Injury-Related Risk Behaviors Among High School Students--United States, 2007–2013. *MMWR Morb Mortal Wkly Rep.* 2016 Apr 8;65(13):337–41. doi: 10.15585/mmwr.mm6513a1. PMID: 27054407.

⁵⁵ Wahlstrom, K., Dretzke, B., Gordon, M., 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. Center for Applied Research and Educational Improvement.

⁵⁶ SADD and Liberty Mutual Group. <https://www.libertymutualgroup.com/about-lm/news/articles/new-study-finds-one-three-teens-are-driving-while-drowsy>

⁵⁷ Wheaton AG, Olsen EO, Miller GF, Croft JB. Sleep Duration and Injury-Related Risk Behaviors Among High School Students--United States, 2007–2013. *MMWR Morb Mortal Wkly Rep.* 2016 Apr 8;65(13):337–41. doi: 10.15585/mmwr.mm6513a1. PMID: 27054407.

When students get enough sleep, we see...

- Improved classroom behavior⁵⁸
- Decreases in disciplinary action⁵⁹
- Fewer suspensions⁶⁰

- Less risk taking behavior^{61,62,63}
 - Including less risky sexual behavior
- Improved self control⁶⁴
- Reduced substance use, including alcohol and illegal drugs^{65,66}

- Less physical aggression⁶⁷
- Decrease in juvenile delinquency⁶⁸
 - Including fighting and carrying weapons⁶⁶
 - 60+% of juvenile delinquency occurs on school days, most often between 2pm-6pm⁶⁹

⁵⁸ Teachers College of Columbia. The Impact of Sleep on Learning and Behavior in Adolescents. 2003.

<https://www.tc.columbia.edu/articles/2002/february/the-impact-of-sleep-on-learning-and-behavior-in-adolescents/>

⁵⁹ American Psychological Association. (2014). Later school start times promote adolescent well-being. The Children, Youth, & Families Office of the APA.

⁶⁰ Bastian, K. C., & Fuller, S. C. (2018). Answering the bell: High school start times and student academic outcomes. *AERA Open*, 4(4).

<https://doi.org/10.1177/2332858418812424>

⁶¹ O'Brien EM, Mindell JA. Sleep and risk-taking behavior in adolescents. *Behav Sleep Med*. 2005;3(3):113–133

⁶² Holm, S. M., Forbes, E. E., Ryan, N. D., Phillips, M. L., Tarr, J. A., & Dahl, R. E. (2009). Reward-related brain function and sleep in pre/early pubertal and mid/late pubertal adolescents. *The Journal of adolescent health : official publication of the Society for Adolescent Medicine*, 45(4), 326–334.

<https://doi.org/10.1016/j.jadohealth.2009.04.001>

⁶³ Uy, J. P., & Galván, A. (2017). Sleep duration moderates the association between insula activation and risky decisions under stress in adolescents and adults. *Neuropsychologia*, 95, 119-129. <https://doi.org/10.1016/j.neuropsychologia.2016.12.018>

⁶⁴ Meldrum, R. C., Barnes, J. C., & Hay, C. (2015). Sleep deprivation, low self-control, and delinquency: A test of the strength model of self-control. *Journal of Youth and Adolescence*, 44(2), 465-77. <https://doi.org/10.1007/s10964-013-0024-4>

⁶⁵ Pasch KE, Laska MN, Lytle LA, Moe SG. Adolescent sleep, risk behaviors, and depressive symptoms: are they linked? *Am J Health Behav*. 2010;34(2):237–248

⁶⁶ Miller, M. B., Janssen, T., & Jackson, K. M. (2017). The prospective association between sleep and initiation of substance use in young adolescents. *Journal of Adolescent Health*, 60(2), 154-160. <https://doi.org/10.1016/j.jadohealth.2016.08.019>

⁶⁷ Street, N. W., McCormick, M. C., Austin, S. B., Slopen, N., Habre, R., & Molnar, B. E. (2016). Sleep duration and risk of physical aggression against peers in urban youth. *Sleep Health*, 2(2), 129-135. <https://doi.org/10.1016/j.sleh.2016.03.002>

⁶⁸ Meldrum, R. C., Barnes, J. C., & Hay, C. (2015). Sleep deprivation, low self-control, and delinquency: A test of the strength model of self-control. *Journal of Youth and Adolescence*, 44(2), 465-77. <https://doi.org/10.1007/s10964-013-0024-4>

⁶⁹ Office of Juvenile Justice and Delinquency Prevention "Offending by Juveniles," *Statistical Briefing Book*, October 2018.

Other Positive Impacts

➤ Long Term Economic Impact

- RAND economists estimate that delaying U.S. middle and high school start times to 8:30 a.m. would contribute \$8.6 billion dollars to the U.S. economy after just two years, \$83 billion after a decade, and \$140 billion after 15 years, with an average annual gain of \$9.3, far outweighing any costs of change.⁷⁰
- Estimates are that later high school start times create a lifetime earnings gain of \$17,500 per student with a school system cost of \$0.00 to \$1,950 per student, a benefit-to-cost ratio of 9:1 or better⁷¹

➤ Advantages for Disadvantaged Groups

- Girls are less likely to report getting ≥ 7 hours of sleep per night than boys, as are racial/ethnic minorities, urban students, and those of low socioeconomic status (SES). However, minority or low SES teens and families are also more likely to believe they are getting adequate sleep.⁷²
- Increases in test scores with later middle and high school start times are roughly twice as great in disadvantaged students.⁷²

⁷⁰ Hafner, M, Stepanek, M, & Troxel, W.M. Later school start times in the U.S.: An economic analysis. https://www.rand.org/pubs/research_reports/RR2109.html

⁷¹ The Brookings Institute. (2017). Start high school later for better academic outcomes.

⁷² Columbia University Mailman School of Public Health. Teens increasingly sleep deprived. (2015). <https://www.eurekalert.org/news-releases/839245>

Common Concerns

The most common concerns seem to not be borne out in places where the high school start time has changed, or seem to be relatively easy to manage:

➤ **Teens will just stay up later!**

They don't! They actually get more sleep, on average about 45 minutes more (30-60 min, depending on the start time change – virtually every extra minute is spent sleeping in every study), with reduced daytime sleepiness and fewer fatigue-related complaints.^{73,74}

➤ **Changing the bus schedules is unmanageable**

Bus scheduling is a commonly cited concern, and there is no one-size-fits-all solution.⁷⁵ Some common solutions include swapping elementary and high school start times, or adjusting all start times to accommodate triple-use of all busses. Coordination with the transportation division will be necessary, but many districts have managed to find solutions that work.

➤ **Traffic concerns**

As to traffic, as school and bus times change, so do the traffic patterns of families taking children to school, so the differences (if any) are typically mild. It is worth noting that no traffic disasters occurred in Houston in 2018, when HISD changed its high school start times. Further, if teens are driving to school when there is less traffic, that may additionally contribute to fewer serious car accidents.

⁷³ Vedaa, Ø., Saxvig, I. W., & Wilhelmsen-Langeland, A. (2012). School start time, sleepiness and functioning in Norwegian adolescents. *Scandinavian Journal of Educational Research*, 56, 55-67

⁷⁴ Owens JA, Belon K, Moss P. (2010). Impact of delaying school start time on adolescent sleep, mood, and behavior. *Archives of Pediatric & Adolescent Medicine*, 164(7), 608–14

⁷⁵ Kirby, M., Maggi, S., & D'Angiulli, A. (2011). School start times and the sleep-wake cycle of adolescents: A review and critical evaluation of available evidence. *Educational Researcher*. 40(2), 56-61

➤ **Less time for sports/extracurriculars and work**

This turns out not to be true, either! Teens don't lose time on after-school jobs (they rarely begin work at 3pm) or sports; communities adjust quickly.^{76,77} Communities and employers adjust to changing school times (as they did in the 1980s when school hours became earlier). Students who work after school actually need the later start time more than students who don't. Additionally, students with enough sleep perform better in athletics and are less likely to be injured.⁷⁸

If needed, after school activities can become before school activities. This still *reduces* the number of high school students on an early schedule, and would likely still result in academic improvements.

➤ **Scheduling for UIL/after school events**

Coordination of after school activities with nearby districts is manageable. HISD has already changed their high school start time to 8:30, along with Goose Creek CISD, Texas City, and Deer Park. Pearland, Cypress-Fairbanks, and Pasadena all have petitions or changes in the works.

➤ **Elementary kids need their teen siblings to watch them after school**

Almost every elementary school in FBISD already offers before and after school care, while high schools don't.⁷⁹ This means that there are options for the safe supervision of

⁷⁶ Groen, J.A., Pabilonia, S.W. Snooze or Lose: High School Start Times and Academic Achievement. *Economics of Education Review*, 2019, 72, 204–218, <https://doi.org/10.1016/j.econedurev.2019.05.011>

⁷⁷ Center for Applied Research and Educational Improvement (umn.edu)

⁷⁸ Milewski MD, Skaggs DL, Bishop GA, Pace JL, Ibrahim DA, Wren TA, Barzdukas A. Chronic lack of sleep is associated with increased sports injuries in adolescent athletes. *J Pediatr Orthop*. 2014 Mar;34(2):129-33. doi: 10.1097/BPO.000000000000151. PMID: 25028798.

⁷⁹ Extended Learning / Department Home (fortbendisd.com)

younger kids, and teens wouldn't have as much unsupervised after school time (which presents its own dangers).

➤ **We don't want young kids to be walking to school or waiting for the bus in the early morning dark**

With the permanent move to Daylight Savings Time, this will certainly be an important issue to address. There seems to be a concern that if elementary and high school start times are switched, younger children will be walking or waiting at bus stops in the dark.

But really, shouldn't the safety of ALL students, not just young students, be a priority? The two most commonly mentioned concerns are potential abductions and vehicle-pedestrian accidents.

Though the press tends to cover child abductions of younger children more, teens between 12-18 account for more abductions overall, and about 80% of stranger (non-familial) abductions in the US!⁸⁰ Likewise, teens are at higher risk for being hit by cars (40% say they have been close), in part because they are more likely to be walking while distracted by a device. The teen death rate for vehicle-pedestrian accidents is nearly 3x higher than for 5-12 year olds.⁸¹

Flipping start times isn't the only option - high school could simply move to a later start and end time, and NO students would have to walk or wait for the bus in the dark!

⁸⁰ Let Grow Takes a Look at Crime Statistics - Let Grow

⁸¹ [alarming_dangers_in_school_zones.pdf](#) (safekids.org)