



North Salem Central School District

District Mission:

**Engage students to continuously learn, question, define and solve
problems through critical and creative thinking**

BOE & Administrative Follow-Up Committee Report

July 10, 2023

And September 6, 2023



Recap 2021-2022 Start Time Committee Work



Members and Roles



Mrs. Brandy Keenan	BOE Member
Mrs. Jennifer Binette	BOE Member
Mrs. Elizabeth Malvino	Parent
Mrs. Lisa DeRose	Parent
Mrs. Maryann D'Amato	Parent
Mrs. Jennifer Logan	Parent
Mrs. Colleen Fodor	Teacher
Mrs. Anna Frates	Teacher
Mrs. Mary Johnson	Principal
Mr. Vince DiGrandi	Principal
Mrs. Denise Kiernan	Director of Health, Physical Education and Athletics
Mr. Eric Stark	Director of Business Administration
Dr. Joannes Sieverding	Director of Buildings, Grounds and Transportation
Dr. Julio Vazquez	Director of Instruction and Human Resources
Dr. Kenneth Freeston	Superintendent
Mr. Jonathan Costa	Consultant



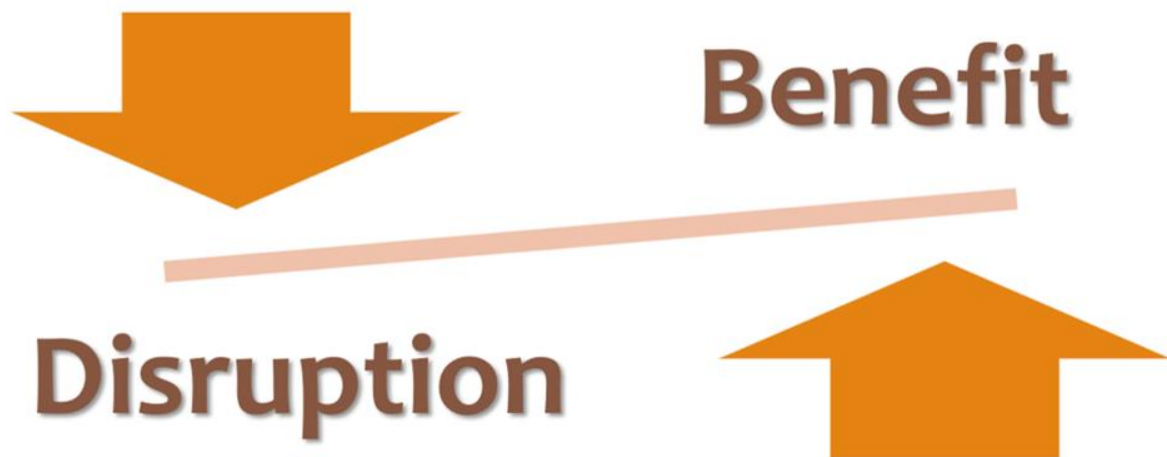
Start Time Committee Objective



“To review existing literature and best practice regarding school start times and their impact on student physical, mental and intellectual health and to decide on and propose the implementation of a recommendation based on those findings.”



Research & Practice Reveal a Central Tension





Background & Research



- [Sleep deficiency and motor vehicle crash risk in the general population: a prospective cohort study](#)- (March 2018) BMC Medicine 16(1):44.
- [Sleep-deprived young drivers and the risk for crash: the DRIVE prospective cohort study](#)- (July 2013) JAMA Pediatrics 167(7): 647-655
- [Sleep duration and injury-Related risk behaviors among high school students](#)- United States, 2007-2013. (2006) MMWR-Morbidity and Mortality Weekly Report 65: 337-341



Research Studies - Sleep to Mitigate Sports Injuries



- Chronic Lack of Sleep is Associated With Increased Sports Injuries in Adolescent Athletes (March 2014). Journal of Pediatric Orthopaedics 34(2):129-13
- The Value of Sleep on Athletic Performance, Injury, and Recovery in the Young Athlete (March 2017) Pediatric Annals 46(3):e106-e111
- Sleep and Injury in the young athlete (September 2019). JBJS Reviews. 7(9):e1



Research Studies - Sleep and Mental Health



- [Self-reported sleep patterns and quality amongst adolescents: cross-section and prospective associations with anxiety and depression](#) - (October 2020). Journal of Child Psychology and Psychiatry 61(10): 1126-1137
- [The effect of non-pharmacological sleep interventions on depression symptoms: A meta-analysis of randomised controlled trials](#)- (February 2019) Sleep Medicine Reviews 43: 118-128
- [A process-oriented model linking adolescents' sleep hygiene and psychological functioning: the moderating role of school start times](#) (September 2017). Sleep Health- Journal of the National Sleep Foundation 3(6): 465-471
- [The relationship of school start times, sleep duration and mental health among a representative sample of high school students in Colorado, 2019](#) (June 2021). International Journal of Environmental Research and Public Health 18 (11): 5708
- [Sleepless in Fairfax: The difference one more hour of sleep can make for teen hopelessness, suicidal ideation, and substance abuse](#) (February 2015) Journal of Youth and Adolescence 44 (2):362-378



Research Studies- Sleep and Academic Performance



- [A's from Zzzz's? The Causal Effect of School Start Time on Academic Achievement of Adolescents](#)- (August 2011) American Economic Journal: Economic Policy 3(3) 62-81
- [The effect of Sleep Quality on Student's Academic Achievement \(July 2020\)](#) Advances in Medical Educational and Practice 11: 497-502
- [Sleepmore in Seattle: Later school start times are associated with more sleep and better performance in high school students](#) (December 2018) Science Advances 4(12)
- [Understanding adolescents' sleep patterns and school performance: a critical appraisal](#) (2003) Sleep Medicine Reviews 7(6) 491-506



Experts' Recommendations



- The *American Medical Association (AMA)* calls on school districts across the United States to implement middle and high school start times no earlier than 8:30 a.m.
- The *Center for Disease Control (CDC)* recommends that middle and high schools start school no earlier than 8:30 a.m.
- The *American Academy of Pediatrics (AAP)* strongly supports the efforts of school districts to optimize sleep in students by starting middle and high schools no earlier than 8:30 a.m.
- The *American Academy of Sleep Medicine (AASM)* position statement asserts that the school day should begin at 8:30 a.m. or later for middle school and high school students.
- *NYSSBA* supports appropriate changes to state law, regulations and state policies that encourage and incentivize New York State school districts to address the health issue of sleep deprivation in teenagers by implementing later school start times that are developmentally appropriate for middle and high school students.



Committee's Recommendation



Proposal 5: MSHS 7:58 a.m. - 2:40 p.m.

PQ 8:55 a.m. - 3:35 p.m.

This keeps the waves in the same order, **but it shifts times to later and adjusts the schedule** to accommodate this change to reduce programmatic disruptions.

Proposal 5 best met the committee's criteria, balancing benefits and disruptions:

- Improves conditions of learning
- Improves quality of life - social emotional learning
- Improves achievement/align structures of learning with best practice research
- Minimizes disruption of community structures and practices
- Minimizes cost of transition and transportation

Due to the planning required, we believe the change should be made by the 2024-2025 school year.



Board and District Next Steps



- 1. Board of Education does its due diligence**
- 2. Community engagement and feedback**
 - Warm and cool feedback
 - Additional barrier identification
- 3. Begin planning on how to mitigate schedule shift impacts on:**
 - Family Schedules - Childcare
 - Extracurricular Activities
 - Overall physical and mental health
 - Transportation Budget (Option 5 will require an additional van for out of district placement transportation costing approximately \$115 K)
 - Bus Schedules
 - Out of District Busing



BOE and Administration Due Diligence



Follow Up Committee Members and Roles



Mrs. Brandy Keenan

Mrs. Fran Havard

Mr. Kurt Guldán

Dr. Roy Martin

Mr. Vince DiGrandi

Mrs. Denise Kiernan

Mr. Eric Stark

Dr. Joannes Sieverding

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Director of Instruction and Human Resources



Survey Data



Overall Data for Parents/Families



- 304 total responses
(largest response was parents who will have 2-3 graders in the 2024 school year, followed by HS families - added up to 66.7% of total responses)
- 56 % were VERY aware or aware of the shift in school start time
 - Areas of perceived impact:
 - Athletic schedules (22%)
 - Child care arrangements before school (34%)
 - Child care arrangements after school (21%)
 - Transportation to and from school (21%)
 - After school family routine (27%)
 - Impact on own family routine (46.3%)
 - No impact (35%)
 - Families now maybe requiring the YMCA (17.5%)
- 43% of respondents asked for more information

Trends in Written Responses:

- Flawed survey (both sides)
- Not a needed change
- Very much a change needed
- Impact on sports and after school tutoring MSHS
- Sleep choices
- Morning PQ concerns
- Financial impact
- Swapping start time



Overall Data for MSHS Students



- 124 (23%) Student Responses (by grade level 6/18, 7/29, 8/20, 9/18, 10/14, 11/14, 12/11)
- What time do you typically fall asleep?
 - 37.9% - 10 - 11 p.m.
 - 24.2% - 9 - 10 p.m.
 - 21.8% - 11 - 12 a.m.
- What do you feel most effects whether you get a good night's sleep?
 - 61.0% Worrying about tomorrow (tests/projects, social issues)
 - 60.2% Decompressing from the days events
 - 56.9% Time spent completing HW
- How is it for you to wake up at the current start time of 7:20 a.m.?
 - 18.7% Extremely Difficult
 - 33.3% Difficult
 - 19.5% Easy
- How might a 7:58 a.m. start time and a 2:40 p.m. dismissal impact your life?
 - 42.5% No impact will occur as a result of this change
 - 37.5% Impact after school work/responsibilities
 - 26.7% Impact the ability to participate in after school activities not related to school

Trends from open response:

- 24 responses in support of the change
- 13 responses opposed to change
- 2 want an hour later start time
- Time spent on HW was overwhelmingly the main complaint for late bedtime/lack of sleep



Overall Data for Custodians/ Bus Drivers



- 19% of Facilities and Transportation Staff Responded
- 91% (9 of 11) of Respondents reported being aware of the sleep research and benefits that support a later school start time for secondary students
- 73% (8 of 11) of Respondents reported awareness of a possible School Start Time Change
- 82% (9 of 11) of Respondents reported no impact in their ability to support students as a result of the change
- 18% (2 of 11) of Respondents reported that a School Start Time Change would impact their ability to chaperone for sports and other after school activities.



Overall Data for Clerical Staff



- Only MSHS clerical staff responded
- 85% of the total of number Clerical Staff responded
- 91% of Clerical Staff surveyed reported being aware of the sleep research and benefits that support a later school start time for secondary students
- 91% of Clerical Staff reported awareness of School Start Time Change
- 73% (8 out of 11) No impact in ability to support students
- 9% (1 out of 11) impact
- 18% (2 out of 11) So long as hours did not shift



Overall Data for Teachers/TAs and Paraprofessionals



- 75% of teachers/TAs/Paraprofessionals responded
 - 99% reported being aware of the research and its benefits
 - 98% reported awareness of school start time change
 - 49% reported no impact in their ability to support students
 - 51% reported some type of impact ranging from minimal to severe
 - Severe is defined as the inability to provide the service
 - Moderate requires adjustments to be made
 - Minimal is limited disruption
- Coaching
- 6 severe/ 7 moderate/ 9 minimal/ 45 no impact
- Co-curricular activities
- 10 severe/10 moderate/ 10 minimal/ 35 no impact
- Clubs
- 15 severe/12 moderate/7 minimal / 32 no impact



Other Reported Impacts by Teachers, TAs and Paraprofessionals



- Child care- 11
- Family Commitments - 9
- Tutoring or other employment -5
- Traffic- 5
- Doctor Appointments - 5
- Bus Monitor - 1



Research



- 25 requests for research
- 78 stated they were all set
- 2 researched on their own
- 1 no response



Summary of Misconceptions



- All or nothing approach
- Impact on extra help
- Students will stay up later negating benefit of start time delay
- Negative impact for elementary students
- Reasons for why students are not getting enough sleep
- Reasons for not flipping



Breaking a Negative Cycle



Survive vs. Thrive. Or, "I Went To School At 7:30am And I Turned Out Fine."

<https://www.startnewcanaanlater.org/faqs/2019/1/12/i-went-to-school-at-730-and-i-turned-out-fine>

“With chronic sleep restriction over months or years, an individual will actually acclimate to their impaired performance, lower alertness, and reduced energy levels. That low-level exhaustion becomes their accepted norm, or baseline. Individuals fail to recognize how their perennial state of sleep deficiency has come to compromise their mental aptitude and physical vitality, including the slow accumulation of ill health.” (p. 137)

Why We Sleep, Matthew Walker, PhD.



Fact vs. Fiction



Later start times will result in kids just staying up later

- **FALSE.** Several studies have found when schools move to later start times, students consistently went to bed *at or near the same time* each night and were able to rise later in the morning.

You can just put your child to bed earlier

- **FALSE.** We know the biological shift in adolescent body clocks does not allow for this. Teens go to sleep based on their internal sleep cycles, not when they physically get into bed.

Catching up with sleep on weekends helps students stay rested.

- **FALSE.** Also known as “recovery sleep”, studies have shown that it can take **multiple nights of sleep** to make up for even **one hour of missed sleep**. Multiple nights of sleep deprivation lead to problems with attention, working memory, processing speed, and alertness.

Waking a teenager for school at 7am is similar to waking an adult for work at 4AM.

- **TRUE.** See study called “The Hamilton project.”
(http://media.mlive.com/chronicle/news_impact/other/start-time%20study.pdf)



Additional Studies & Reports



- Brookings Institution: What new research tells us about elementary and middle school start times
- Early start times OK for elementary schools, study finds
- Research finds earlier start times have little effect on elementary outcomes



New York/CT Districts That Moved to Later Start Times



New York

- Corinth
- Cocksackie
- **Dobbs Ferry**
- Elmira
- Glens Falls
- Greenburgh
- Ithaca
- **Katonah-Lewisboro**
- Nanuet
- Rhinebeck
- **Briarcliff Manor**

Connecticut

- Greenwich
- Green Farms Academy
- **New Canaan**
- Newtown
- Rocky Hill
- West Hartford
- **Wilton**
- Westport
- Brookfield



Putnam, Westchester & Connecticut Districts



Carmel 7:05 a.m.	North Salem CSD 7:58
New Fairfield 7:19 a.m. Mahopac and Danbury 7:20 a.m.	Hastings, 8:00 a.m. Westport, 8:00 a.m.
Ridgefield 7:25 a.m.	New Canaan, 8:00 a.m. Brookfield, 8:00 a.m.
Somers 7:30 a.m.	Newtown 8:00 a.m.
Bethel 7:35 a.m.	
Brewster 7:40 a.m.	Ossining 8:04 a.m.
Weston, Byram Hills, Fox Lane and Sleepy Hollow 7:45 a.m.	Dobbs Ferry 8:12 a.m.
Rye Neck, Blind Brook, Croton 7:50 a.m.	Wilton 8:20 a.m.
Ardsey 7:55 a.m.	Briarcliff Manor 8:35 a.m.



Putnam, Westchester & Connecticut Districts- Elementary Times



Carmel: *Matthew Patterson 9:00 a.m.; Kent Elementary 9:00 a.m.*

New Fairfield: Meeting House Hill School and Consolidated School 8:50 a.m

Mahopac: *Austin Road and Fulmer 9:00 a.m.*; and Lakeview 8:30

Ridgefield: *Barlow Mountain Elementary 9:10.*; Branchville 8:35; *Farmingville 9:10* ; Ridgebury 8:35; Scotland E. 8:35; *Veterans Park 9:10*

Somers: Primrose 8:00; *Somers Intermediate 9:00*

Bethel: RMT 8:45; *Frank Berry 9:00*; Anna Rockwell 8:45

Brewster: *JFK Elementary School 9:10 a.m.*

Weston: Hurlbutt Elementary 8:30; Weston Intermediate 8:30

Byram Hills: *Corman Hill 9:10*; Wampus 8:30

Bedford: *Bedford Hills 9:00*, B. Village 8:50, M.K. 8:50; P.R. 8:50; West Patent 8:50

P.S. of the Tarrytowns: John Paulding 8:00; Morse 7:55 ; W. Irving 7:15

Rye Neck: Daniel Warren 8:45; *F.E. Bellows 8:45 classes begin 9:00*

Blind Brook: *BMP Ridge 8:35*

Croton: Carrie Tompkins 8:25

Ardsley: Concord Road 8:50

North Salem CSD- PQ 8:55 a.m.

Hastings: Hillside 8:20

Westport: *Coleytown 9:00; Green Farms 9:00; Kings Highway 9:00; Long Lots 9:00; Saugatuck 8:30*

New Canaan: East 8:40, South 8:40, West 8:40

Brookfield: Candlewood Lake 8:50; Center 8:40

Newtown: Hawley and Middle Gate 8:45; Head O'Meadow and Sandy Hook 8:45; Housatonic 8:10;

Fraser Woods 8:10; St Rose 7:45

Ossining: Brookside 8:50; Claremont 8:50;

Roosevelt 8:50

Dobbs Ferry: Springhurst 8:15 K-2 8:45 3-5

Wilton: *Miller Driscoll 9:00* and Cider Mill 7:40

Briarcliff Manor: Todd Elementary 8:40



Impact on Scheduling



8:00am

9:00am

10:00am

11:00am

12:00pm

1:00pm

2:00pm

3:00pm

4:00pm

YMCA-
Opens at
7:00 am

- 8:35-parent drop off
Teachers in the building

3:25*
Dismissal
Starts

ASE-3:35-4:30
pm

PQ School Day

YMCA-3:35 -6:00
pm

Extra Help
Sessions
Start 8:15
am

- 8:55-buses
unload

3:35-buses
leave

PQ Clubs-
3:35-4:15

Late
Bus-
4:15
pm

Proposed PQ Schedule Option 1



8:00am

9:00am

10:00am

11:00am

12:00pm

1:00pm

2:00pm

3:00pm

4:00pm

YMCA-
Opens at
7:00 am

Extra Help
Sessions
Start 8:15 am

PQ Clubs-
8:15- 8:55 am

ASE-8:00- 8:55
am

- 8:35-parent drop off
Teachers in the building

PQ School Day

- 8:55-buses
unload

3:25*
Dismissal
Starts

3:35-buses
leave

YMCA-3:35 -6:00
pm

Late Bus-
4:15 pm

Proposed PQ Schedule Option 2



Unintended Impacts



- **ASE Instructors** - May not be interested in that time slot
- **Para support**- ASE
- **Contracts**
- **YMCA Numbers**
- **Students sitting for 2 hours Before school starts**



MSHS proposed schedule



Current		Proposed
7:28 a.m.	Start Time	7:58 a.m.
2:10 p.m.	End Time	2:40 p.m.
2:15 p.m.	Extra Help Begins	2:45 p.m.
2:50 p.m.	Extra Help Ends	3:20 p.m.
2:55 p.m.	Clubs/Athletics Start*	3:25 p.m.
3:40 p.m.	Clubs End	4:10 p.m.
3:45 p.m.	Late Bus Leaves	4:15 p.m.



Impact for Transportation



Impact for Transportation



- **Changing the HS/MS start time to 7:58am. Approximately 25 students, whose Out-Of-District schools start 8:00 - 8:10am, will not be able to ride HS/MS In-District buses to transfer to shuttle vans.**
- **Impact Scenario 1**

Van #1 PNW BOCES, St. Pat's, Shrub Oak

1st pick up 6:45am

Approximate time on bus for students 1 hr. 15 min. - 1:45 min.

Return to Bus Garage 9:15am

Driver 4.0 FTE to full-time 6.25 hrs.

Increase

\$17,469

Projected total yearly In-District miles 3600

Expenditures for fuel, parts and labor

Increase \$1,386

Van #2 JFK

1st pick up 6:40am

Approximate time on bus for students 1 hr. 20 min.

Return to Bus Garage 8:30am

Driver 4.0 FTE to full-time 6.25

Increase

\$17,469

Projected total yearly In-District miles 5400

Expenditures for fuel, parts and labor

Increase \$2,565



Impact for Transportation



Van #3 Harvey, Rippowam

1st pick up 7:15am

Approximate time on bus for students 45 - 55 min.

Return to Bus Garage 8:30am

Driver 4.0 FTE No Change

Projected total yearly In-District miles 2160

Expenditures for fuel, parts and labor

Increase \$550

Total expenditures for bus drivers, fuel/parts/labor

Increase \$39,439

- **Impact Scenario 2**

Vans #1,2,3 and remove Shrub Oak run from Van #1

\$39,439

Add additional Van #4 to reduce Shrub Oak run from 1 hr 45 min. to 45 min.

\$75,000

Driver 4.0 FTE

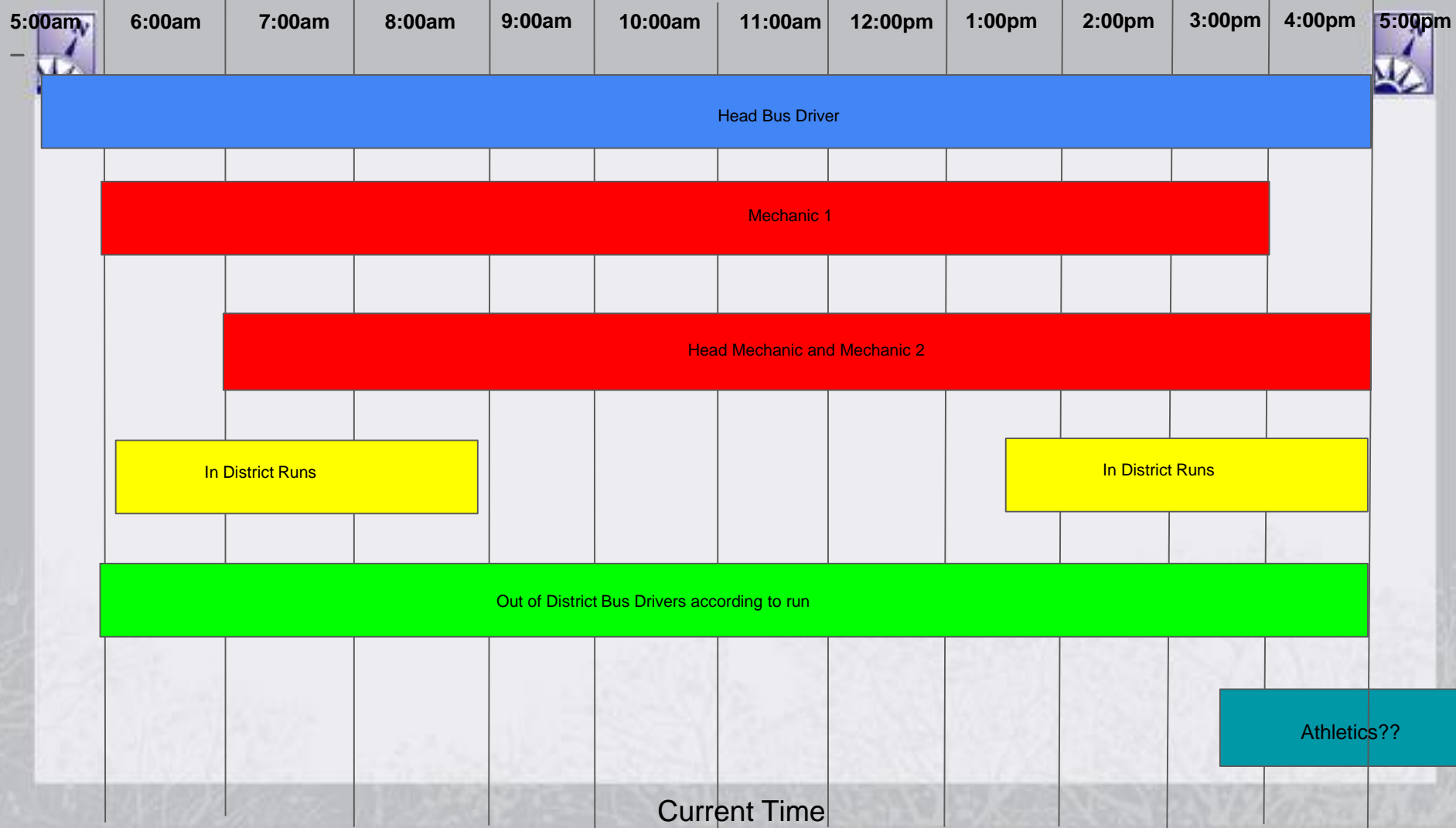
\$54,056

Projected total yearly miles 6,480

Expenditures for fuel and maintenance

\$1,523

Total \$170,018



5:00am	6:00am	7:00am	8:00am	9:00am	10:00am	11:00am	12:00pm	1:00pm	2:00pm	3:00pm	4:00pm	5:00pm
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Head Bus Driver

??

Mechanic 1

Head Mechanic and Mechanic 2

In District Runs

In District Runs

Out of District Bus Drivers according to run

Athletics

7:58 start time



Impact on Athletics



Impact for Athletics With a 7:58 am Start Time



- Extra help for Student Athletes would be at 2:45- 3:25 pm prior to practice/games.
- Return to campus from away games may be as late as 9:30-10:00 pm.
- Practices are estimated to begin around 3:30pm/4:00pm on campus. Later practice times in the Fall season are available on the turf field for Boys and Girls Soccer, Field Hockey, and Boys and Girls Lacrosse during the Spring Season.
- Home/Away games for HS/MS may be necessary to begin at 5:00pm vs. the current 4:30pm start time. This may be a challenge to complete due to Daylight Savings.
- Elementary School Dismisses at 3:25pm for coaches on staff.



Next Steps for 23-24



- BOE indicates their support for Start Time Change
- Administration determines and finalizes
 - Budget
 - Transportation Arrangements/Costs
 - Morning PQ plan
 - After school tutoring
 - Wellness Presentations
 - Sleep research benefits