



School Start Time Committee

June 6, 2017

Newtown Board of Education

Committee Charge

The Board of Education charges the Superintendent to create a School Start Time Committee to research the possibilities of changing school schedules based on the Center for Disease Control and Prevention and American Academy of Pediatrics recommendation that middle and high schools start at 8:30 a.m. or later.

The Board of Education asks the School Start Time Committee to produce a report back to the Board of Education by June 1, 2017. The report should include the following items:

1. Research of medical & educational recommendations by age group, regional/national recent adoptions/drops of start time programs, and results of community survey.
2. Discussion of impact on sports, child care, and after-school activities including part-time employment.
3. Scenarios for transportation options including possible tier changes, detailing ride length, and financial impact.
4. Review contracts with our unions and vendors to make sure there will be no financial impact or ramifications with those contracts as a result of changing school start times.

The School Start Time Committee will be facilitated by the Superintendent and should include members of the district staff (chosen by the Superintendent), representatives from the Board of Education (assigned by the BOE Chair), and representatives from the community (appointed by BOE Chair and Superintendent).

Meetings will be open to the public but public participation will be included at the discretion of the Superintendent.

Committee Members

Dr. Joseph Erardi, Jr.

Ellen Aho

Alan Colangelo

Daniel Cruson, Jr.

Jean Evans Davila

Richard Dufour

Thomas Einhorn

Jessica Fonovic

Dr. Kathy Gombos

Trent Harrison

Kimberley Joyce

Dr. Michelle Ku

Matthew Memoli

David Roach

Dr. Lorrie Rodrigue

James Ross

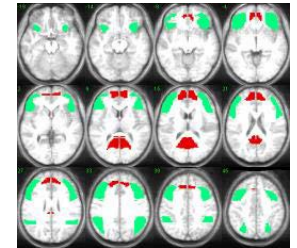
John Vouros

Heidi Werner



Research: Sleep Facts

- Sleep and Biology
 - Teens require 9 hours of sleep
 - Circadian rhythm shifts later in the teen years
 - Sleep drive takes longer to build
 - 5:00 a.m. or 6:00 a.m. wake-up time interrupts teens' REM cycle
 - REM sleep cycle required for neuronal remodeling
- Impact of Sleep Deprivation
 - Decline in learning, engagement, and memory
 - Delayed response time
 - Inability to restore baseline response with weekend recovery
 - Increase in risk-taking behaviors



Research: Reported Associations

- **Adverse Impact of Sleep Deprivation**
Obesity, depression, suicide, smoking, promiscuity, decreased life expectancy, increased automotive crashes, increased risk-taking behavior
- **Advantages of Later School Start Times**
Reduced absenteeism and tardiness, improved mood, indication of increased academic performance in struggling students
- **Linear Relationship**
The later the school start time, the more sleep students report getting

Research: Gaps

- Sleep deprivation in elementary students
- Optimal elementary school start times
- Causal links – Later start times and adolescent health, crash incidences, and academic outcomes

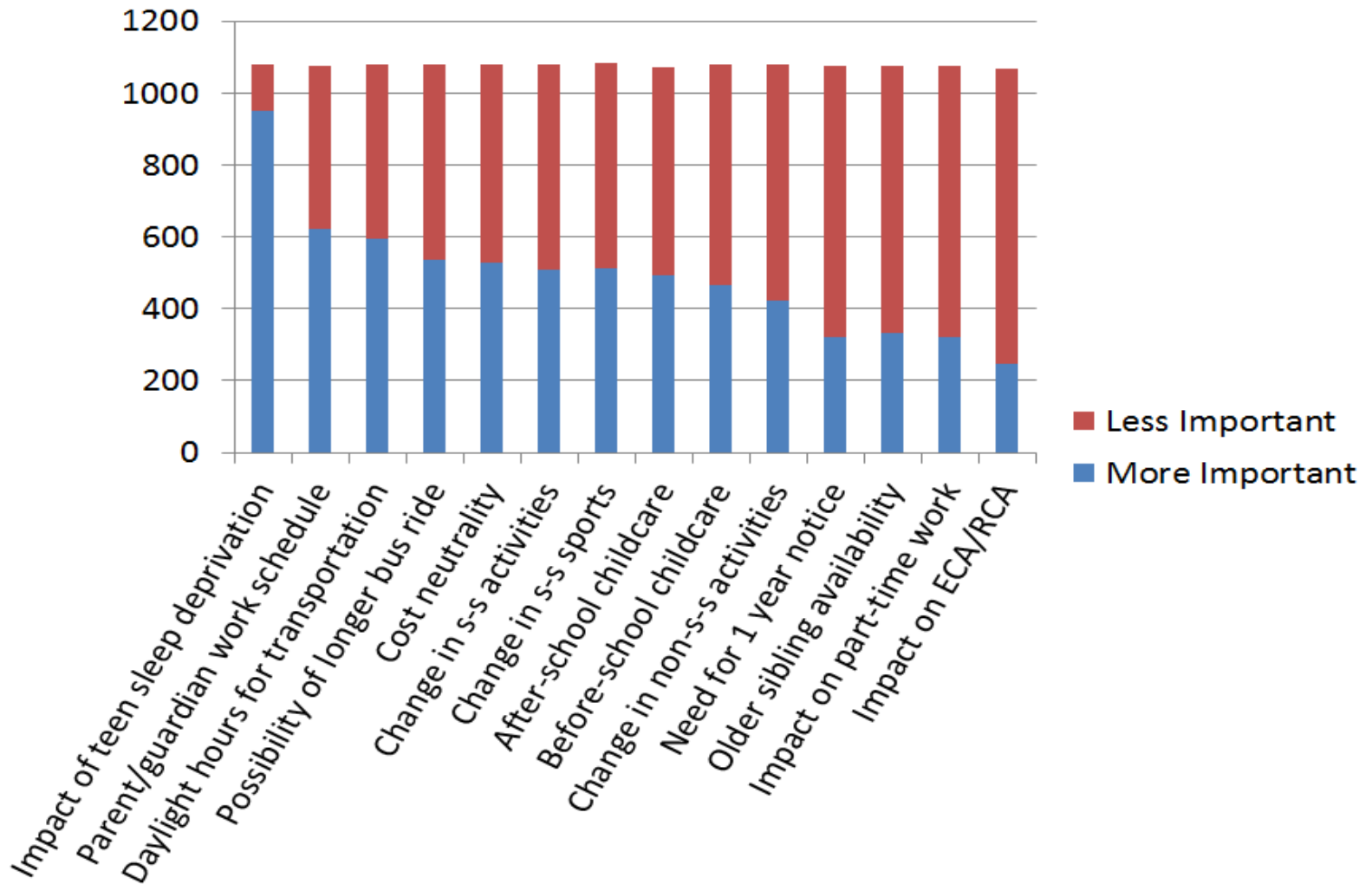
Newtown – Specific Considerations

- Influence of geographic size on District's bus routes
- Parent concern about darkness at bus stop



Newtown Parent/Guardian Survey

n = 1,083

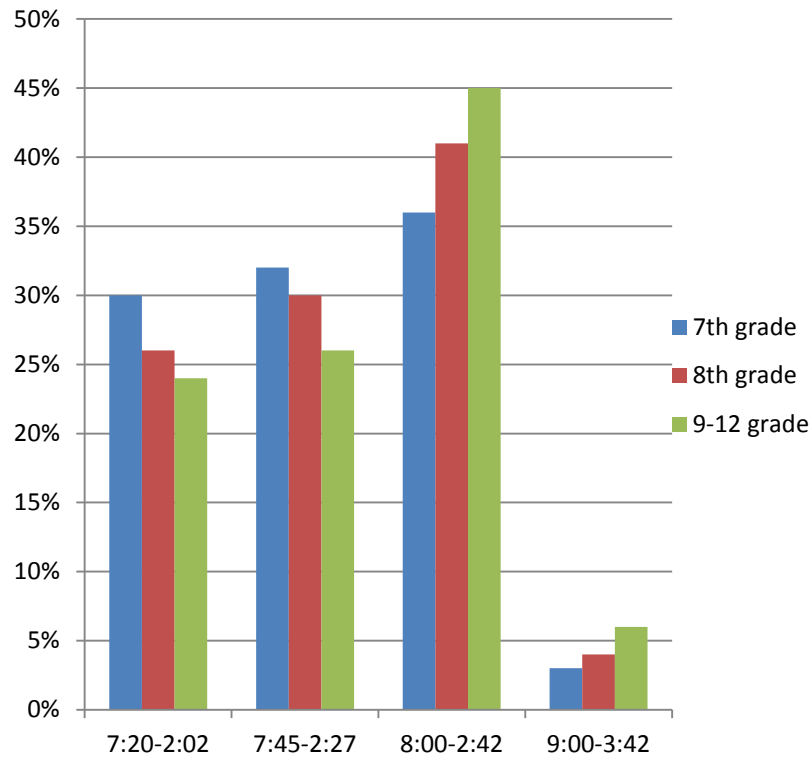


Suggested Follow-up

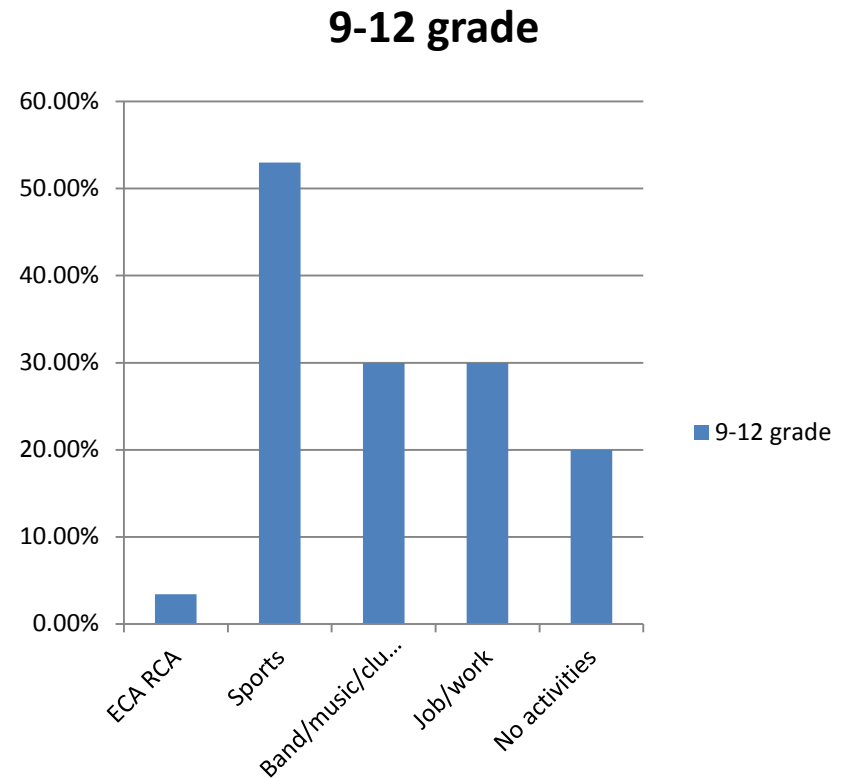
- Review the District homework policy
- Consider limits on end times for school-sponsored activities
- Examine measures of success
- Educate families and students – Strategies to help students achieve optimal sleep time of 9 hours/night

When would you like to go to school?

Student Preferred Start Time

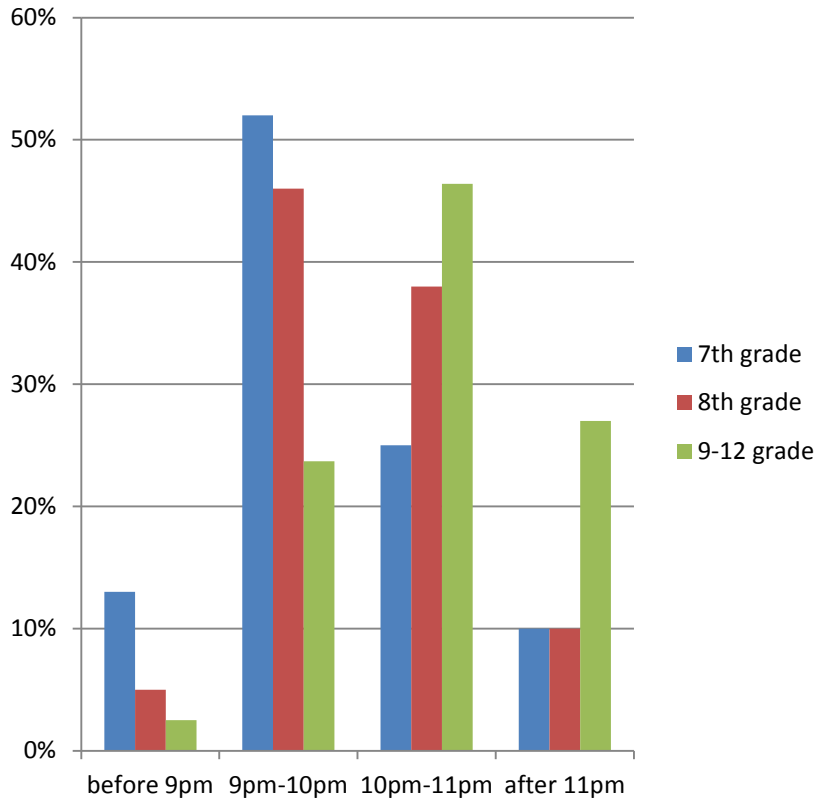


After School Activities

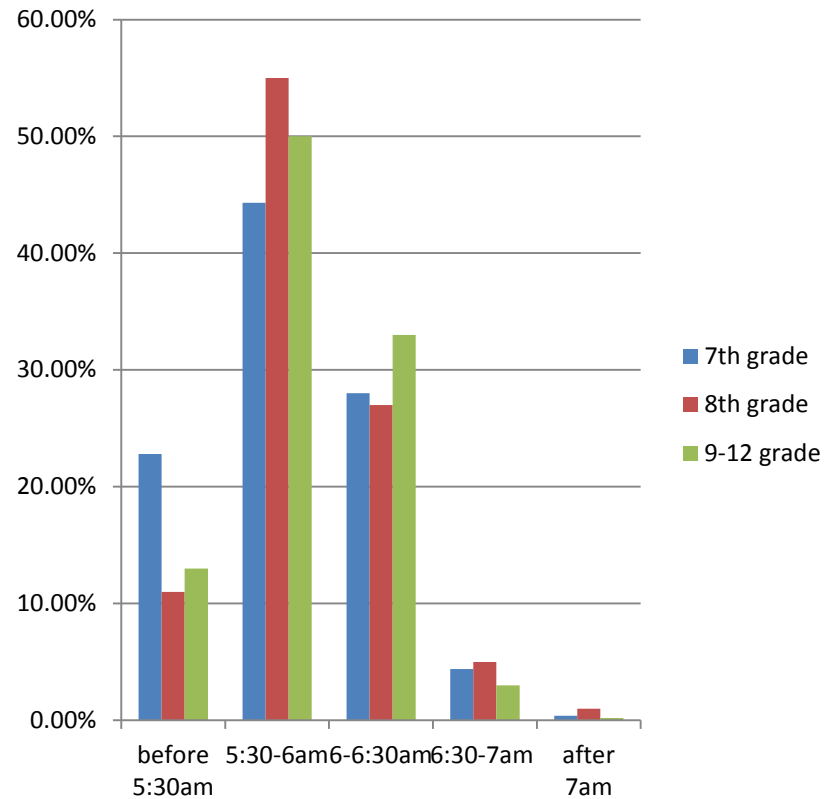


Student Sleep

Off to Bed



Rise and Shine

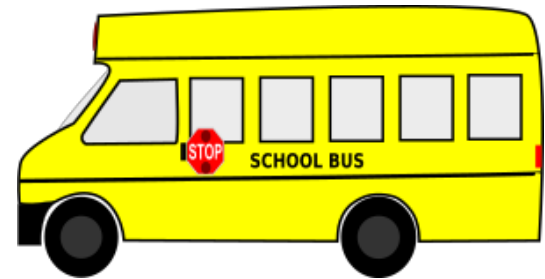


What does this all mean for our students?

- High School students are receiving less sleep than they did in Middle School
- The student preferred start time is 8:00 a.m. and end time around 2:30 p.m. due to sports, work, and other school related activities
- A 30 minute schedule shift has a minimal effect on interscholastic athletics while promoting increased sleep time

Transportation

Options and Opportunities



Transportation Subcommittee Action Steps



Purpose:

To review transportation options in alignment with potential changes to Newtown school start times

- Committee members reviewed a variety of transportation options
- Options included both current three-tier as well as two-tier busing
- A total of 8 options were developed, discussed, and brought forward to the committee-at-large
- Options were eventually narrowed down to “most favorable” after discussions with the larger committee and based on survey feedback
- Option 5 was deemed “most favorable”

Transportation Options

- ❑ Option 1-4 and 6-8 were developed, discussed, and reviewed with the committee-at-large
- ❑ Options included both two and three-tier busing
- ❑ Options 1-4 and 6-8 deemed less favorable due to times, logistics, and/or prohibitive cost
- ❑ **Option 5 deemed most favorable based on times for Middle School and High School with minimal cost**

Option 1

2 Tier System 50 Units

Tier 1

<u>School</u>	<u>Start/End</u>	<u># of Units</u>
NHS	8:00 – 2:42	25 Units – 65/bus
NMS & RIS	8:00 – 2:42	<u>25 Units – 52/bus</u>
		50 Units

Tier 2

HAW	9:05 – 3:37	9 Units
HOM	9:05 – 3:37	9 Units
MGS	9:05 – 3:37	10 Units
SHS	9:05 – 3:37	10 Units
Magnet	8:35 – 3:35	1 Unit
FWS/HVWS	8:15 – 3:00	<u>2 Units</u>
St. Rose	8:30 – 3:20	8-9 Dedicated Units

This option meets the objectives of having the High School and Middle School start at 8:00 a.m. or later. There is no disruption to the school day for Reed or the Elementary schools. This option is not cost neutral with an increase to transportation cost of \$244k. The option does not support the direction of St. Rose administration.

Option 2

Reconfigured 3 Tier System with Middle School to Tier 2. Listed below are suggested start and end times. High School, Middle School & Reed would be shortened by 10 minutes to 6 hours 32 minutes – lines up with Elementary.

Tier 1

<u>School</u>	<u>Start/End</u>	<u># of Units</u>
NHS	7:35 – 2:07	42.50 Units

Tier 2

NMS & RIS	8:15 – 2:47	30 Units
St. Rose	7:50 – 2:50	8-9 Units
Magnet	8:35 – 3:35	1 Unit
No NMS/RIS due to length		<u>3 Units</u>
		42Units

Tier 3

Elementary	9:05 – 3:37	34-38 Units
Danbury Magnet	8:35 – 3:35	1 Unit
No Elementary due to length		<u>5 Units</u>
		42 Units

This option did not allow for later start time at the High School.

Option 3

Reconfigured 3 Tier System with Elementary to Tier 1. Reed & Middle School to Tier 3. Below are suggested start and end times.

Tier 1

<u>School</u>	<u>Start/End</u>	<u># of Units</u>
HAW	7:50 – 2:22	9 Units
HOM	7:50 – 2:22	9 Units
MGS	7:50 – 2:22	10 Units
SHS	7:50 – 2:22	10 Units
Magnet	8:35 – 3:35	<u>1 Unit</u> 39 Units

Tier 2

St. Rose	7:50 – 2:50	8-9 Dedicated Units
NMS & RIS	8:35 – 3:17	32 Dedicated Units
Magnet	8:35 – 3:35	<u>1 Unit</u> 42 Units

Tier 3

NHS	9:20 – 4:07	41 Units (or Less)
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This option was ruled out due to logistics of having the High School end at 4:07 p.m.

Option 4

2 Tier System with High School & Middle School on Tier 1 and Reed & Elementary School on Tier 2.
Requires 4-5 additional units.

Tier 1

<u>School</u>	<u>Start/End</u>	<u># of Units</u>
NHS	7:50 – 2:32	43 Units
NMS	7:50 – 2:32	Shared High School & Middle School
HVWS/FWS	8:15 – 3:00	3 Units
HAT	7:20 – 2:10	<u>1 Unit</u> 47 Units

Tier 2

Reed	8:55 – 3:27	38 Units
Elementary	9:05 – 3:37	Shared Reed & Elementary
St. Rose	8:40 – 3:40	8 Units
Magnet	8:35 – 3:35	<u>1 Unit</u> 47 Units

Option only moves start time 30 minutes later for Middle School and High School.
Option is not cost neutral with \$40k to \$62k additional cost for transportation.
Combines Reed and Elementary on same buses. The option does not support the direction of St. Rose administration.

Option 6

2 Tier System with Reed & Elementary on Tier 1. High School & Middle School on Tier 2. **Requires 7.5 additional units approximate \$160k.**

Tier 1

<u>School</u>	<u>Start/End</u>	<u># of Units</u>
Reed	7:30 – 2:02	39 Units
Elementary	7:40 – 2:12	Shared Reed & Elementary
St. Rose	7:20 – 2:10	8 Units
HAT AM	7:20 – 2:10	1 Unit
Nonn AM	7:25 – 2:15	<u>2 Units</u> 50 Units

Tier 2

NHS	8:30 – 3:12	44 Units
NMS	8:30 – 3:12	Shared High School & Middle School
Danbury Magnet	9:00 – 3:30	1 Unit
VOAG-Nonn	7:25 – 2:15	2 Unit
HVWS/FWS	8:15 – 3:00	<u>3 Units</u> 50 Units

Tier 1 pickups would start around 6:30 a.m. which is 1 hour before sunrise (7:31 a.m.) in early November with twilight at 7:02 a.m. and 45 minutes before sunrise (7:19 a.m.) in mid-January with twilight at 6:48 a.m. before in mid-January.

Option 7

Same as Option 6 except start times moved forward 30 minutes for Reed & Elementary Schools and 20 minutes for High School & Middle Schools. **Requires 7.5 additional units approximate \$160k.**

Tier 1

<u>School</u>	<u>Start/End</u>	<u># of Units</u>
Reed	8:00 – 2:32	39 Units
Elementary	8:10 – 2:42	Shared Reed & Elementary
St. Rose	7:50 – 2:40	8 Units
HAT AM	7:20 – 2:10	1 Unit
Nonn AM	7:25 – 2:15	<u>2 Units</u>
		50 Units

Tier 2

NHS	9:00 – 3:42	44 Units
NMS	9:00 – 3:42	Shared High School & Middle School
Danbury Magnet	9:00 – 3:30	1 Unit
VOAG-Nonn	7:25 – 2:15	2 Units
HVWS/FWS	8:15 – 3:00	<u>3 Units</u>
		50 Units

Same as Option 6 except start times moved back 30 minutes for Reed and Elementary Schools and 30 minutes for High School and Middle School.

Option 8

Same as Option 5 except St. Rose moves back to Tier 1 with no change to their schedule. **Requires 12.5 additional units approximate \$484k.**

Tier 1

<u>School</u>	<u>Start/End</u>	<u># of Units</u>
NHS	8:00 – 2:32	43 Units
NMS	8:00 – 2:32	Shared High School & Middle School
HVWS/FWS	8:15 – 3:00	3 Units
St. Rose	7:50 – 2:50	8 Units
HAT	7:20– 2:10	<u>1 Unit</u>
		55 Units

Tier 2

Reed	8:55 – 3:27	38 Units
Elementary	9:05 – 3:37	Shared Reed & Elementary
Magnet	9:00 – 3:30	<u>1 Unit</u>
		39 Units

Option 5

2 Tier System with High School & Middle School on Tier 1 and Reed & Elementary Schools on Tier 2.
Requires 4.5 additional units approximate \$62k.

Tier 1

<u>School</u>	<u>Start/End</u>		<u># of Units</u>
NHS	8:00 – 2:32	(6.32 hrs)	43 Units
NMS	8:00 – 2:32	(6.32 hrs)	Shared High School & Middle School
HVWS/FWS	8:15 – 3:00		3 Units
HAT	7:20– 2:10		<u>1 Unit</u> 47 Units

Tier 2

Reed	8:55 – 3:27	(6.32 hrs)	38 Units
Elementary	9:05 – 3:37	(6.32 hrs)	Shared Reed & Elementary
St. Rose	8:40 – 3:40		8 Units
Magnet	9:00 – 3:30		<u>1 Unit</u> 47 Units

REVISED Option 5

2 Tier System with High School, Middle School and St. Rose on Tier 1 and Reed & Elementary Schools on Tier 2. **Requires 4.5 additional units approximate *\$62k.**

Tier 1

<u>School</u>	<u>Start/End</u>		<u># of Units</u>
NHS	8:00 – 2:32	(6.32 hrs)	36 Units
NMS	8:00 – 2:32	(6.32 hrs)	Shared High School & Middle School
** St. Rose	7:50 – 2:50		8 Units
HVWS/FWS	8:15 – 3:00		<u>3 Units</u> 47 Units

Tier 2

Reed	8:55 – 3:27	(6.32 hrs)	40 Units
Elementary	9:05 – 3:37	(6.32 hrs)	Shared Reed & Elementary
Magnet	9:00 – 3:30		<u>1 Unit</u> 41 Units

* Ongoing work on bus routes/configurations may potentially eliminate an additional bus and make this option cost-neutral.

** St. Rose was put back to Tier 1 – which puts them on their current school start/end time schedule.

Revised Option 5

- PRO

- Meets the objectives of the original committee's purpose – regarding health and welfare of adolescents
- Moves High School and Middle School start 40 minutes later
- Least disruptive to after school activities and sports
- Least disruptive to Magnet Arts schedule
- No change for St. Rose
- Later start time reduces issues of students waiting in the dark
- Potential cost neutral (if a bus can be removed after reconfiguring/combining of routes)

- CON

- \$62k additional cost for transportation
- Combines Reed and Elementary Schools on same buses; lengthens ride times by 10 – 20 minutes for elementary students, 10 minutes for Reed (afternoon only with shuttle buses)
- Decreases High School and Middle School day by 10 minutes *
- Decreases Reed School day by 12 minutes *

* Decrease in minutes will be implemented to achieve minimal impact to instructional time (ex: Advisory at High School, homeroom at Reed, other changes in non-instructional at Middle School).

Final Thoughts

- Implementation
- Recommendation
- Next Steps
- Dr. Ku, Mr. Cruson, Mr. Vouros