

Milton Public Schools
School Start Time Committee
Executive Summary

Committee Chair:

John P. Phelan

Committee Members:

Marcia Uretsky

Alan Cron

Lisa White

Mary Shapiro

Peter McLoughlin

Cathy Queally

Kristen Smith

David Mills

1. Introduction

The Milton Public School system has taken on the challenge of reviewing its school start times. The School Committee charged Superintendent Gormley to assemble a committee made up of administrators, faculty, and parents to review research literature, current practices and community feedback regarding this issue in preparation for the Milton Public School Leadership Team’s review of start times for the six schools.

2. Background

The Milton Public School system has experienced some transportation challenges in the last few years. These challenges primarily revolve around the start times of the six schools and the time it takes for the buses to service each school.

The start times of the six schools are

School	Start Time	Dismissal Time	Run #	
Milton High School	7:50 am	2:19 pm	1	
Pierce Middle School	7:48 am	2:21 pm	1	
Cunningham School	8:20 am	2:44 pm	2	
Collicot School	8:20 am	2:44 pm	2	
Glover School	8:50 am	3:14 pm	3	
Tucker School	8:50 am	3:14 pm	3	

The school start times are coordinated between two schools that share a “run.” This means these schools have nine buses that pick up students (during run # 1) for the Pierce and Milton High School and transport them to both schools at the same time for the sake of efficiency. The same fleet of buses then begins to service the next two schools (run # 2) for Cunningham/Collicot for an arrival time of 8:20 am and, finally, a third run for the Glover and Tucker Schools.

The challenge is that the same nine buses are responsible for the transportation to all six schools, and there is not enough time to drop off students at a school and then go back out to the community and begin their pick-up routes for the next run. The time currently available between each run is insufficient; this creates situations in which students are dropped off late for school in the mornings and buses are late picking up students from their schools in the afternoons.

The district had to reallocate resources to purchase one additional bus for the 2011–12 school year to attempt to remedy the situation. Also, after some analysis of the issue, it was determined that the overarching problem may truly be the lack of sufficient time in between the “runs”; thus resulting in the need to discuss what the start time for the schools should be in order to have our transportation services work effectively and efficiently.

3. The Problem

The Start Time Committee was charged with providing guidance to the Milton Public School’s Leadership Team on the significant issues surrounding the topic of school start times if, in fact, the school department were to change the start times of any and/or all of the six schools.

Therefore the “challenge” that was outlined for the Start Time Committee is the following:

“The committee will study the research on appropriate school start times for students at different ages. The group will review the recent research on the topic, review surrounding towns on their start times and summarize the results for the superintendent as the district prepares to investigate whether the Milton Public Schools may change it’s starting times for the 2012-2013 School Year.”

4. The Committee:

The Start Time Committee is made up of nine members. The committee is represented by every level of the school system (elementary, middle, and high school), faculty, administration, and parents. The Start Time Committee members are

Member	Level	Group Representation
Alan Cron	Milton High School	Administration
Marcia Uretsky	Tucker School	Administration
Lisa White	Pierce Middle School	Parent
Mary Shapiro	Pierce/High School	Parent
Peter McLaughlin	Cunningham	Parent
Cathy Queally	Milton High School	Teacher
Kristen Smith	Glover School	Teacher
David Mills	Pierce Middle School	Teacher
John P. Phelan	Central Office	Central Office

The Superintendent communicated the need for volunteers to serve on this committee through an announcement at a School Committee meeting and through her Superintendent’s EBlast. There was a good response and a list of potential volunteers was assembled. The members were chosen from a list of people (parent, faculty and administrators) with the goal of having the committee membership be representative of all three levels of the district and also balanced in the areas of teachers, parents and administration.

5. The Process

The committee was given three main areas of exploration and data collection. The first was to do an in-depth research literature review (Appendix A) on the topic of school start times and any issues surrounding this area. One area in particular was the research on “sleep time” of children of different ages and its impact on students in school. The second area of exploration was a study of the “documents.” The documents reviewed (Appendix B) were gathered by Assistant Superintendent for Business Matt Gillis. These documents included information about school start times; bus policies, laws, costs, and fees charged; and after-school (extra-curricular) issues. So that comparisons could be made, information was provided from within the Milton Public Schools and from the surrounding communities. The last area of exploration was the input of our parents, teachers and students (Appendix C). The

information and input was solicited through a survey, customized to each group. The Start Time Committee also was the beneficiary of an expert on the topic of school start time and appropriate sleep time for children. Nancy Street of Regis College and a doctoral student at Harvard University, who specializes in this area, met with the committee during one session to outline the research, bring to life the issues and answer committee members' questions firsthand on the subject. Mrs. Street also made a significant contribution to the formation of questions for the three surveys conducted.

The information from each area of exploration was discussed, analyzed and summarized in this Executive Report, which will be presented to the Superintendent of Schools, Mary Gormley.

6. Review of the Literature/Documents/Survey Data

A. What did the research say?

The committee read and analyzed 25 research articles and executive studies (see Appendix A –List of Articles and Authors) on the impact of sleep and school start times on adolescents.

The research data strongly emphasizes the importance of an appropriate amount of sleep, for adolescents in particular, and its impact on student achievement. First and foremost, proper sleep directly impacts the student achievement of adolescents (Wolfson), the definition of “proper sleep” being approximately 9.2 hours per night (Wolfson). There was a correlation between longer and more regular sleep and higher grades (Wolfson, Lawton).

This often leads to the question, “Why don’t kids just go to bed earlier?” It is important to note that biological factors mean that adolescents have less control over the time they fall asleep than we have over the time they wake up (Black and Street). Because of adolescent biology, even students who go to bed earlier will likely not actually go to sleep until later. Therefore, the best remedy is to alter the time they need to wake up by changing school start time (Street, Black).

The research contends that positive outcomes are the norm for adolescents who get more sleep. Studies show that later start times correspond with students getting more sleep (Wahlstrom) and are associated with a decrease in the number of students seeking extra help and tutoring after school (Kubow, Wahlstrom, Bemis). There is also evidence that suggests that added sleep positively impacts student attention, explicit working and working memory, executive function, and social emotional health of students (Kirby et al.). In a more concrete example, one study found that schools that piloted later start times showed a 45 percent increase in first-period attendance and a reduction in tardiness (Owens et al.).

Conversely, a negative impact on achievement is seen in students who do not receive the proper amount of sleep. Sleep deprivation has significant implications in the classroom, since both achievement and behavior are affected by lack of sleep (Bergin and Bergin). People who are sleep deprived may not be aware that they are sleep deprived, since people adapt. Thus, they may not feel sleepy but their functioning level is diminished (Dahl & Levin). The lack of sleep during the week is compounded by the “jet lag” effect: students are unaware they’re sleep deprived, and the exhaustion accumulates. In a 2011 study entitled the Hamilton Project it was argued that the negative impact of early start times over the long term is larger (if measured in financial costs) than the savings that would be achieved when implementing a tiered transportation model.

B. What did the documents say?

The documents showed that in comparison to school districts in the area and in our Bay State League, Milton High School has the second latest start time, at 7:50 AM. The issue in Milton, as in most towns, is that start times of schools (mainly high schools) is heavily determined by finances, logistics and the need to not negatively impact the times of the other levels (elementary and middle) of schools in the district. The cost of each bus hired to transport students is approximately \$55,000–\$60,000. Since transportation costs are supplemented by user fees, any increase in the number of buses may need to be accompanied by an increase in the fee, which now is \$350.

C. What did the survey say?

The survey was emailed to the parents of all 4,000 students and to each staff person (teachers and other staff) of the Milton Public Schools. More than 900 parents and 200 staff completed the survey. We also surveyed 50 students from each grade (9–12) at Milton High School. There were three different surveys—one for parents, one for staff and one for students. Each survey included questions that solicited information that was common to the other two groups as well as information that was unique to their specific demographic group. Please see Appendix (D) for a copy of each survey.

The survey results from parents and staff were very clear in terms of whether or not they are happy with the current start times—they are. The majority of parents/guardians and staff reported that their start time (or their child's) is "ok as is" (Appendix C, Table 1 and Table 5).

The parent/guardian survey also suggests that the parents feel that their child has an adequate amount of time to prepare for his/her day. Roughly 90 percent of elementary parents reported this to be true while only 70 percent of middle and high school parents/guardians stated this was true (Appendix C, Table 2). This is a majority in all three levels of data; however, there is a slight decrease in the middle and high school parents/guardians who feel their child has time to be prepared each morning. Consistent with students having plenty of time to prepare in the morning is the fact that the majority of parents/guardians report having no problem getting their child to school in the morning (Appendix C, Table 3).

All parents/guardians of elementary students report their child gets enough sleep during a school week. At the middle school, 64 percent of parents/guardians report their child is getting enough sleep, while 36 percent do not. At the high school, 54 percent report their child is getting enough sleep, while 46 percent do not (Appendix C, Table 4).

The majority of staff is happy with their school's current start time, with a slight variation for staff at Glover and Tucker (Appendix C, Table 5). Staff perceives tardiness to be an issue at four out of the six schools (High School, Middle School, Glover and Tucker) (Appendix C, Table 6). This data could be considered in conflict with the parent responses reflected in Appendix C, Tables 2 and 3, which represent time to prepare and time to get to school. When it comes to staff's impression of the benefits to students if there were a later start time, 44 percent of high school staff believe their students would benefit academically from a later start time. The majority of elementary staff disagrees that a later start time would benefit their students academically (Appendix C, Table 7).

At the secondary level 91 percent of high school staff do not believe an earlier start time would be beneficial for their students academically, and 85 percent of middle school staff do not believe an earlier start time would be academically beneficial. The majority of Collicot/Cunningham staff disagree that an earlier start time would benefit their students academically (Appendix C, Table 8). The Glover/Tucker staff is relatively split on the merits of an earlier start time.

The survey attempted to gain insight into whether parents and educators felt that students were “alert” first thing in the morning. There is an interesting point of view from an elementary and secondary faculty. The majority of elementary staff reports that their students are alert and ready to learn at the beginning of the school day. The elementary staff is relatively split in terms of the “alertness” of students at the end of the day. At the secondary level 40 percent of high school staff reports that their students are not alert and ready to learn at the beginning of the day, as compared to only 11 percent of elementary, and 26 percent at Pierce.

7. Summary and Recommendations

The Start Time Committee strongly feels that if and when the Milton Public Schools considers the topic of changing the start times of its schools, it should take into account this report and the research included. It was clear in our literature review that there were significant advantages to students in upper middle school and high school that experience a “later” start time. These advantages are in students getting more sleep each night and each week, which the research states is good for their social-emotional state, for their achievement and for getting to school on time. The documents that were reviewed demonstrated that the start time of Milton High School was the second latest in the Bay State League. The majority of parents and staff surveyed expressed contentment with the current start times. As the committee reviewed this data and analyzed the information, it was clear that this report should be made available to parents and staff to educate them about the positive outcomes when students (middle and high) get more sleep. Also, if, in fact, the district were to contemplate a time change for the entire district, the research strongly indicates that the middle and high school start times should be later, or at least stay the same, but certainly not made earlier.

Appendix A**Research Documents**

Article #	Title of Article	Author
1	Changing Time: Findings From the First Longitudinal Study of Later High School Start Times	Wahlstrom
2	Giving our Students the Time of Day	Holloway
3	Organizing Schools to Improve Student Achievement	The Hamilton Project
4	School Start Times and the Sleep-Wake Cycle of Adolescents	Kirby, Maggi, D'Anguilli
5	When Worlds Collide	Carskadon
6	Interview with Mary Carskadon	Carskadon
7	Impact of Delaying School Start Time on Adolescent Sleep, Mood and Behavior	Owens, Belon, Moss
8	Dissimilar Teen Crash Rates in Two Neighboring Southeastern Virginia Cities with Different High School Start Times	Vorona, Szklo-Coxe, Wu, et al.
9	Sleep: The E-Z	Bergin, Bergin
10	Sleep and Adolescents	Dawson
11	Sleep Schedules and Daytime Functioning in Adolescents	Wolfson, Carskadon
12	Sleepless in Chicago	Fredriksen, Rhodes Reddy, et al.
13	When School Schedules Collide with Biological Clocks	Monk
14	School Start Time and Teen Sleep	Wahlstrom
15	The Impact of Sleep on Learning and Behavior in Adolescents	Mitru, Millrood, Mateika
16	Summary of Research on School Start Time and Adolescent Sleep Trends	Heurich
17	Advice for the Sleep-Deprived	Wolfe
18	A Survey of Factors Influencing High School Start Times	Wolfson, Carskadon
19	Sleep Tight	Black
20	For Whom the School Bell Tolls	Lawton
21	Giving Students the (Right) Time of Day	Callan
22	Starting Times and School Life	Kubow, Wahlstrom, Bemis
23	Working Group Report on Problem Sleepiness	National Institutes of Health

Appendix B

Transportation Research

Provided by Matthew Gillis, Assistant Superintendent for Business Affairs

FY12 Milton Big Bus Transportation

We currently have 1,127 seats reserved for our k-12 students. We currently operate 10 full size buses that perform multiple runs and one trip shuttle bus for the kids in East Milton assigned to Tucker.

For FY 12, we collected \$153,565 from paying riders. There are 581 children approved to ride for free and the balance pay to ride, but 127 children receive a discount because their family hit the cap with a 3rd and/or 4th rider.

The \$350 fee, where applicable has a family cap of \$850, so some children receive a discount or ride free pending on the size of the family. There is also a \$210 East Milton “shuttle” bus for the Cunningham Collicot kids that reside on the other side of the interstate.

FY12 Milton Big Bus Budget Summary

FY12 Big Bus Budget		
Big Buses	\$	529,740
E. Milton/Tucker Shuttle	\$	32,400
Additional Bus (October)	\$	52,320
Subtotal Big Bus Exp	\$	614,460
Bus Revolving Chargeback	\$	(165,000)
FDK Revolving	\$	(58,860)
SPED Bus Transfer	\$	(52,320)
Subtotal Big Bus Rev	\$	(276,180)
Net Big Bus Expense	\$	338,280

User fees make up 36% of the revenue for FY12.

FY12 Ridership by Grade

Grade	Count of First Name	Sum of Amt Paid
K	112	\$0
1	95	\$9,335
2	110	\$12,370
3	116	\$11,495
4	105	\$6,670
5	103	\$11,685
6	132	\$9,900
7	84	\$21,020
8	86	\$22,640
9	67	\$14,890
10	51	\$15,070
11	48	\$15,210
12	18	\$3,280
Grand Total	1127	\$153,565
7-12 Total	354	\$92,110

FY12 School Transportation Laws And Regulations

MGL Ch.71 Sec 68 governs the transportation of public school children. Since we are not a regional school district we do not have to provide transportation. However, since we do provide transportation, the law begins prescribing what we can and cannot do, with DESE "policing" the adherence to the law.

Who must we transport for free?

Answer: The law states, "In the case of transportation provided to students that is not required by this section or by any other general or special law, a school committee may assess fees to the transported student up to an amount sufficient to cover the costs incurred by the district; provided, however, that no student eligible for free or reduced lunch, under the federal school lunch program, shall be required to pay the fee; and provided further, that a school committee may choose to exempt families at other income levels as it may determine."

The law also indicates we must transport students in grades k-6 where the distance from the home is more than two miles from school. That legal language takes up a page, but that is the effect.

The law also mentions the bus stop should be no more than one mile from the student’s home, and regulations expand on that to indicate it must be a reasonably traveled route, not as the crow flies.

Is it Cost effective to have 7-12 Transportation when we legally are not required too?

Answer: In short, yes it is cost effective. And it is probably educationally effective for some of those riders who may not get to school as consistently if bus service was not available.

- 1.) The majority of the bus fee collected is from these students and they are the minority of the riders.
- 2.) Theoretically, by cutting one bus run, we would save \$34.31 per day per bus, for 10 buses per day is a total contract price avoided of \$61,758; less than the fees collected for providing the service 7-12.
- 3.) The law is bit complex, once we provide transportation service; we have to provide those services K-6. Grade 6 for Milton, and many communities, we put students at the middle school with a different start time than the elementary schools.
- 4.) Providing transportation to students in Grade 6, but not for students in Grade 7 and 8 may be cumbersome to manage and explain to the public.

Bay State League High Schools and Comparables

Bay State League HS	Start	Dismissal
Braintree	7:35	2:05
Brookline*	8:20	2:45
Dedham	7:35	2:10
Framingham	7:25	1:55
Natick	7:30	2:17
Needham	8:00	2:35
Newton North	7:50	2:30
Walpole	7:20	2:05
Weymouth	7:30	2:15
*Some classes start at 7:30 – Orchestra, Some PE, Some Arts		

Milton's Common Comparable High Schools

Comparable HS	Start	Dismissal
Andover	7:45	2:05
Belmont	7:35	2:25
Hingham	7:48	2:32
Norwell	7:25	2:07
Wayland	7:30	2:15
Weston	7:38	2:50
Westwood	7:25	2:02
Winchester	7:45	2:15

Appendix C

Parent/Guardian Survey Results

Table 1

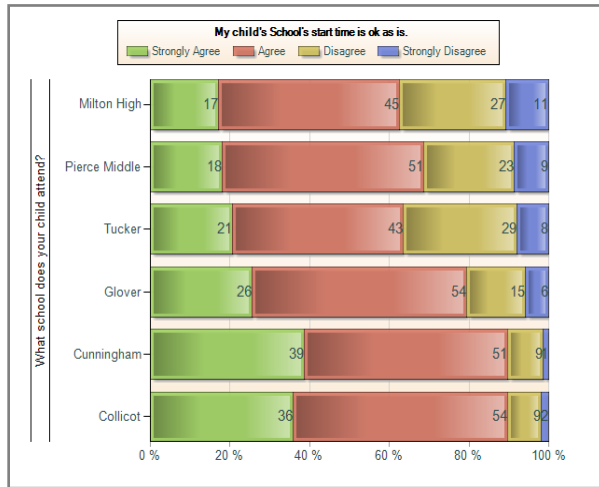


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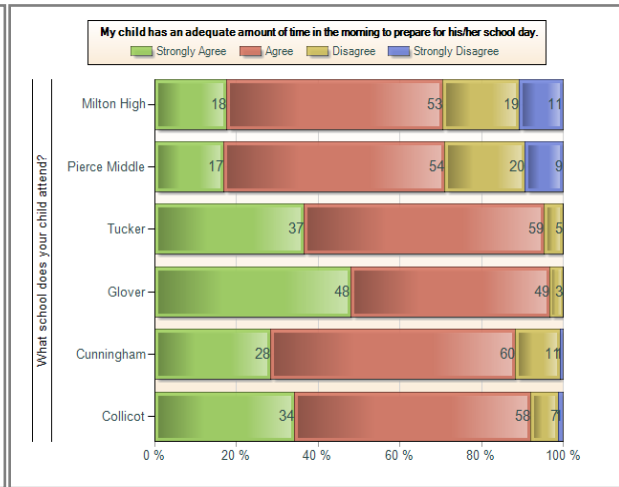


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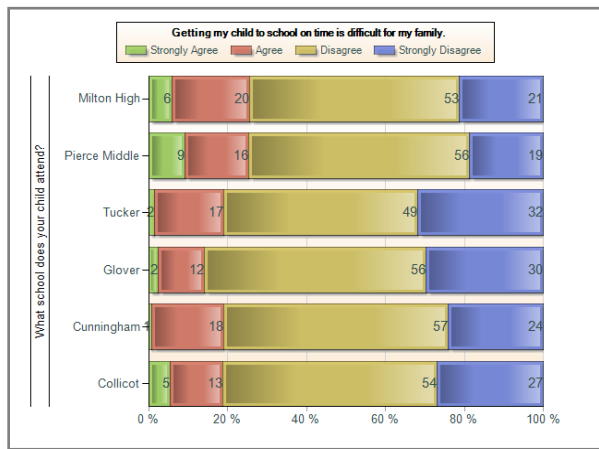
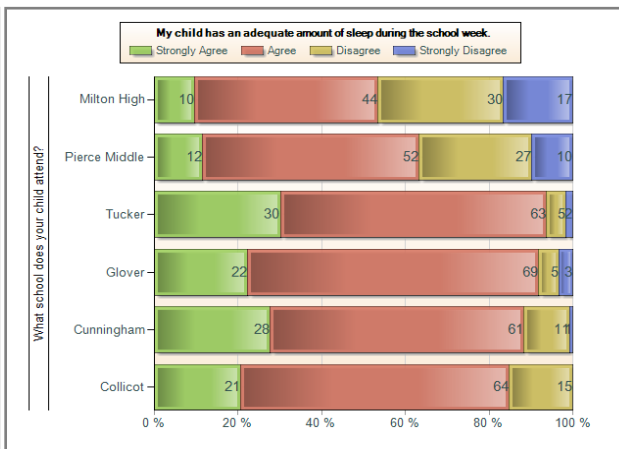


Table 4



Faculty/Staff Survey Results

Table 5

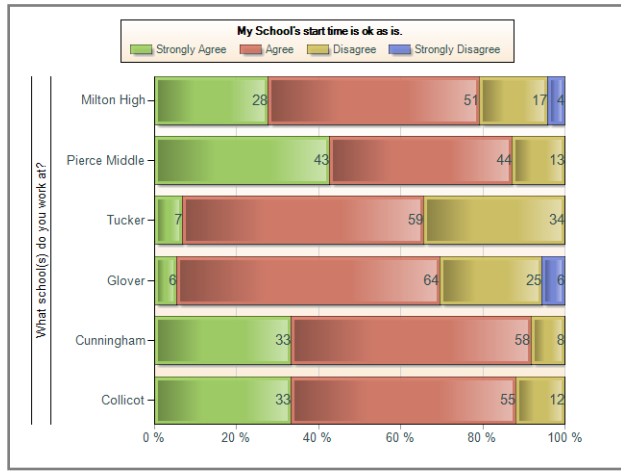


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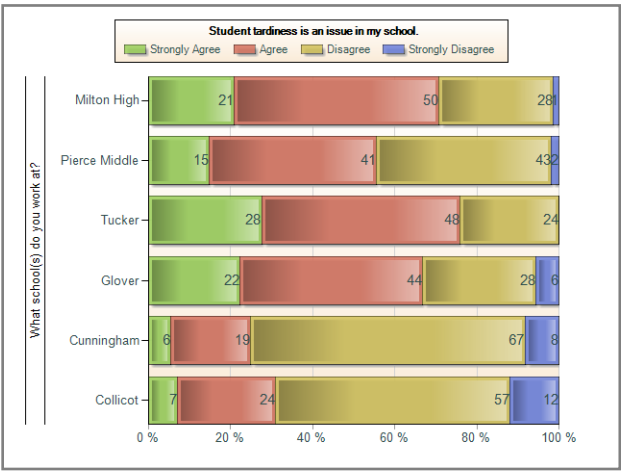


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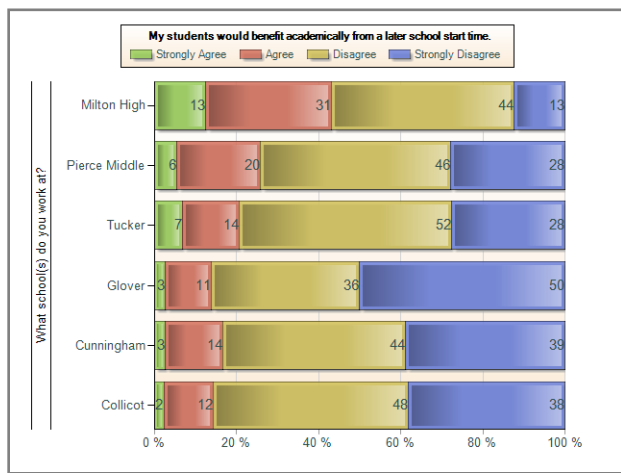
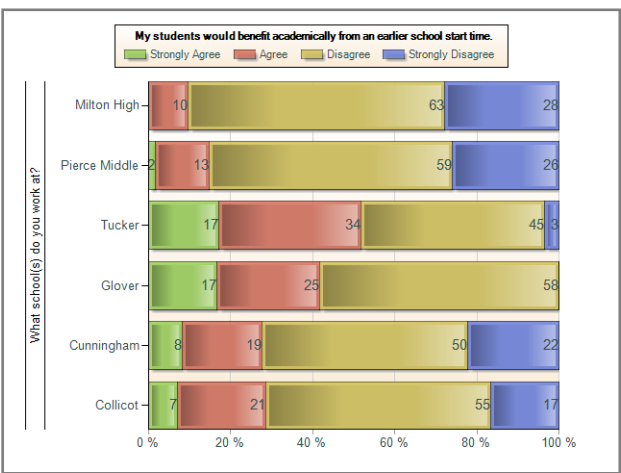


Table 8



Student Survey Results

Table 9

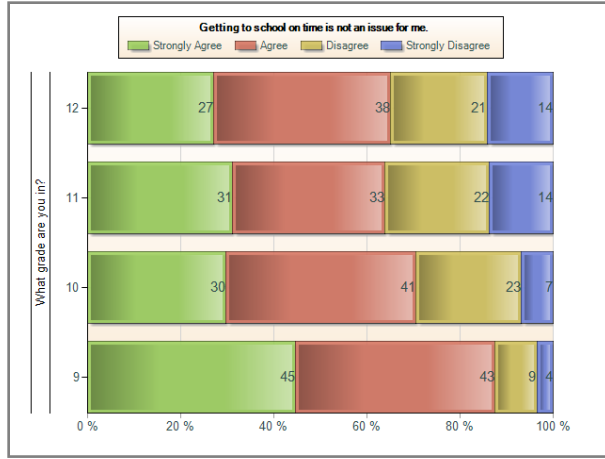


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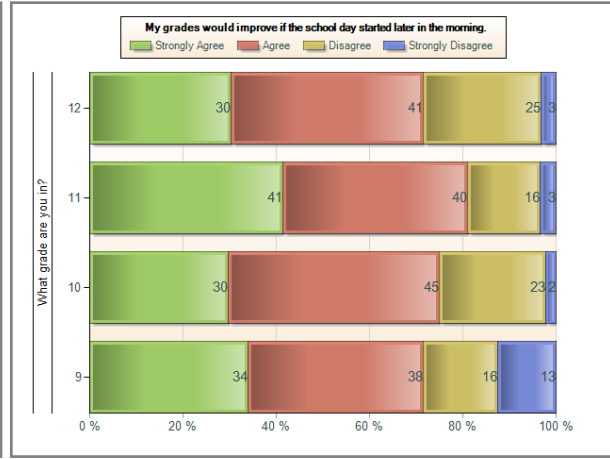


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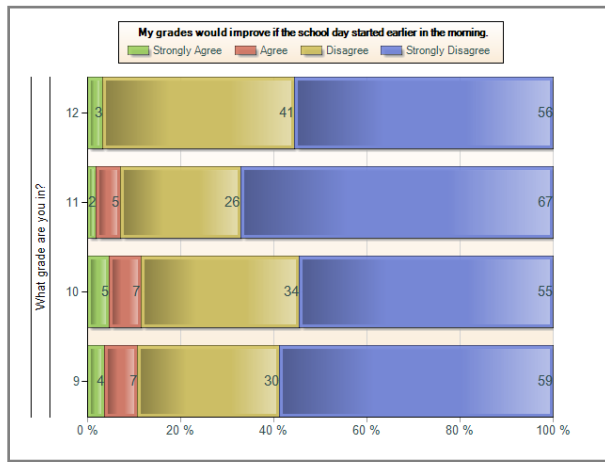
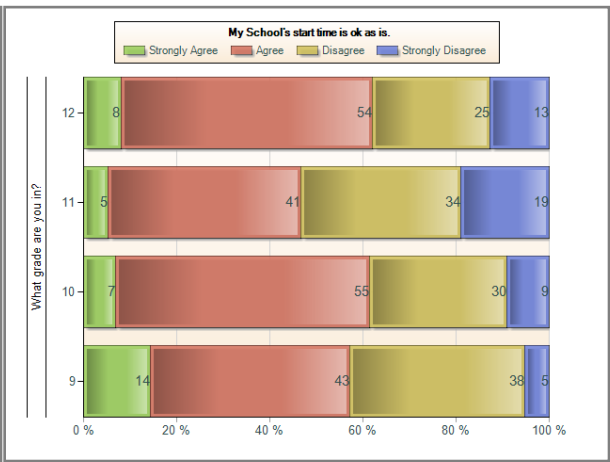


Table 12



Appendix D

School Start Time Committee

Surveys

Students

1. Please select your gender.
2. What is your age?
3. What grade are you in?
4. Do you participate in any of the following:
 - a. Athletic Team
 - b. Club/Activity
 - c. Afterschool job
5. How do you get to school?
 - a. Bus
 - b. Walk
 - c. Driven
6. Do you take care of a younger sibling after school?
7. How would you best describe your grades?
 - a. A's
 - b. A-B's
 - c. B's
 - d. B-C'S
 - e. Etc....
8. Do you have siblings in the MPS?
 - a. If yes, which school(s)
9. On a typical night I sleep...
 - a. 5 hours
 - b. 5.5
 - c. Etc..
 - d. 10
10. On a typical day I eat breakfast
 - a. At home
 - b. At school
 - c. Not at all

Please select one of the following answers to each following question:

Strongly Agree

Agree

Disagree

Strongly Disagree

1. I typically feel awake and alert in my first class of the day.
2. Getting to school on time is not an issue for me.
3. My grades would improve if the school day started later in the morning.
4. My grades would improve if the school day started earlier in the morning.
5. My School's start time is ok as is.
6. My School's start time is too early.
7. My School's start time is too late.
8. I eat breakfast most days.
9. At some time during the school day, I often feel sleepy.

Parents/Guardians

1. Please select your gender.
2. What school do your children attend?
3. What grade are your children in?
4. Do your children participate in any of the following:
 - a. Athletic Team
 - b. Club/Activity
 - c. Afterschool job
5. How do your children get to school?
 - a. Bus
 - b. Walk
 - c. Driven
 - d. Car pool
6. If bus, do you pay for the bus?
7. Do you utilize child care before school?
8. If yes,
 - a. Sibling
 - b. Other Family Member
 - c. Baby-sitter
 - d. Milton Public School Before/After Childcare
9. Do you utilize child care after school?
10. If yes,
 - a. Sibling
 - b. Other Family Member
 - c. Baby-sitter
 - d. Milton Public School Before/After Childcare

11. What is the make- up of your family:

- a. 2 parents
- b. 1 parent
- c. Grandparents
- d. Etc...

12. My typical work day starts at:

13. My typical work day ends at:

Please select one of the following answers to each following question:

Strongly Agree

Agree

Disagree

Strongly Disagree

My child(ren) have an adequate amount of time in the morning to prepare for their school day.

My child is rested and alert most mornings.

Getting my children to school on time is difficult for my family.

My child has an adequate amount of sleep during the school week.

My child often naps after school.

My child's School's start time is ok as is.

My child's School's start time is too early.

Staff

Please select your gender.

What school do you work at?

What grade do you service?

Are you a coach or a club/activity advisor?

How many years have you been working/teaching in education?

Do you have a child/children living at home?

If yes, are you responsible for transporting them to school?

Do you have a child or adult at home that you care for before or after school?

Do you have an additional job during the work week?

Please select one of the following answers to each following question:

Strongly Agree

Agree

Disagree

Strongly Disagree

My students are alert and ready to learn at the start of the day.

My students are alert and ready to learn at the end of the day

Student tardiness is an issue in my school.

My students would benefit academically from a later school start time.

My students would benefit academically from an earlier school start time.

My School's start time is ok as is.

My School's start time is too early.

My School's start time is too late.