

**To:** Superintendent Tommy Chang  
**From:** Steven Chen, Senior Equity Manager  
John Hanlon, Chief of Operations  
Becky Shuster, Assistant Superintendent of Equity  
**Date:** December 11, 2017  
**Subject:** 2018-2019 School Bell Times Equity Impact

As you know, the district's primary goal in changing bell times is to optimize conditions for learning and academic achievement by:

- 1) Maximizing the number of secondary students starting after 8 a.m.;
- 2) Minimizing the number of elementary students dismissing after 4 p.m.;
- 3) Wherever possible, assigning schools with higher concentrations of medically fragile students and/or students with autism or emotional impairments to bell times reflective of the needs of their student bodies; and
- 4) Where possible, do all of the above while maximizing reinvestment in schools.

To meet these objectives and improve academic outcomes for *all* students requires parity in the process of selecting start and end times for schools across the city. Because consistent principles and criteria were applied to generate the new bell time scenario, as detailed below, the results are more equitable than current bell times in terms of geography, race, ethnicity, socioeconomic status, and other factors.

Throughout the planning process, the district evaluated options based on equity impacts, particularly for students and families from historically marginalized groups. Steven Chen represented the Office of Equity as a member of the Bell Times Working Group, ensuring that an equity lens was central at every stage of scenario development and selection.

Following the Boston School Committee's approval of the proposed policy, the district chose one scenario out of the 30,000-plus that were fully generated by the MIT algorithm. The scenario that was chosen rose above the others in a number of categories, including equity. After that tentative selection was made, we immediately conducted an equity analysis to ensure that Black students, Hispanic students, and students from families with low incomes ("direct certification") would benefit at least equally from these changes consistent with the district's Racial Equity Impact Tool.

The selected scenario will result in:

- Tripling the number of secondary school students starting at or after 8 a.m. (an increase from 27% to 94%);
- Cutting in half the number of elementary school students dismissing after 4 p.m. (from 33% of elementary students to 15%);



- Continued choice in start times across areas of the city;
- Demonstrable improvements in levels of equity across bell times; and
- Savings to reinvest in schools.

### ***Degree of Change at Each School***

To even partially achieve the six objectives, the majority of schools and students must change their bell times, and some must shift earlier or later by two hours or more. The district will partner with schools to support families to help make the new bell times work for them, including supporting the expansion of free or low cost school-based before and after school programs where needed, and working with neighborhood partners to supplement school-based programs. For families unable to make their child's new bell times work, the district will assist them to explore other options available in their home-based assignment area (see "Geographical Equity," below).

At a given school that has been designated for a much earlier start time, one family may be happy because their children have always been early risers, while another may be upset that the new time is incompatible with a parent's work hours. The decision to proceed with these changes was rooted in decades of research about advancing academic performance for all, including closing opportunity and achievement gaps, but we recognize it will cause disruption for some families.

### ***Overall Equity Analysis***

An equity analysis of the new bell time scenario determined that the length of the average start (and end) time change is not correlated with the race or ethnicity of students, or whether they are special education students, English language learners, or from low income households. Any bell time change will impact families on a very individual basis in positive, neutral, or negative ways. Different bell times will work better for some families than for others without any known correlation to race, ethnicity, socioeconomic status, etc.

Based on the bell times policy, the district took steps to assign schools with the highest concentrations of medically fragile students, and/or students with autism or emotional impairments, to start and end times reflective of the needs of their student bodies. Individual students with special needs vary tremendously in their preferred times, and therefore the schools that serve them may not be able to arrive at a desired time as a whole. The district consulted closely with the Office of Special Education to assess student bodies' optimal or preferred bell times to the extent possible. In the new scenario, the district was able to adhere to the vast majority of these preferences, but was not able to grant all of them without significantly hindering other desired outcomes (e.g. the number of high school students beginning school after 8am).<sup>1</sup>

### ***Racial and Socioeconomic Equity***

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<sup>1</sup> In addition, meeting all of these requests would likely double the number of wheelchair-enabled buses needed.

The optimization model does not incorporate student race or other demographic factors, and therefore the new scenario was scrutinized to ensure there will be no disparate impact. The new scenario had consistent impacts for students in the four primary racial/ethnic categories based on the total number of students at schools starting before 8 a.m., between 8 and 9 a.m., and after 9 a.m.

The primary difference between current bell times and the new scenario is the significant increase in the number of students who will now start school in the 8 to 9 a.m. window. Today, the only racial/ethnic group with a plurality of students starting in that window are White students. The new scenario is more egalitarian based on race/ethnicity: 53 to 54% of students in each major racial/ethnic group will start between 8 and 9 a.m. (see Exhibit A).

Since elementary school choice is circumscribed by the home-based assignment system, equitable distribution of bell times is particularly important for K-6 schools. Looking solely at K-6 students, White students are the only racial group that starts primarily between 8 and 9 a.m. in the current start time configuration (53%). Hispanic students are only slightly lower, at 48%. As shown in Exhibit B, the new scenario shifts more K-6 students earlier, and results in a more racially balanced distribution.

Current bell times are similarly imbalanced for K-6 students based on socioeconomic status. While 74% of BPS students are eligible for direct certification (low income), currently, 83% of students who start school before 8 a.m. are eligible, while only 72% of those who start between 8 and 9 a.m. are eligible. The new scenario results in *fewer* total students starting after 9 a.m. *and* the largest proportion of low income K-6 students starting school in the 8 to 9 a.m. range (see Exhibit F).

### ***Geographical Equity***

To ensure that all families have nearby school options with a variety of bell times, the district took precautions to ensure the new bell times are distributed as evenly as possible across the city. While not formally included in the policy as an objective, the new scenario ensures that each area of the city retains a variety of bell time options. While current bell times are not perfectly balanced across neighborhoods, new bell times will give as many families as possible a range of choices. Furthermore, because the new scenario increases the number of seats available at what our survey results indicate are the most desirable bell times, we believe that this shift will benefit families in every neighborhood.

In the context of the district's home-based school assignment system, determining whether each individual student has the option to attend a school at a variety of bell times is extremely complex. Therefore, we have not been able to produce this data. Varying bell times across all areas of the city was the closest proxy we could identify and implement.

### ***Impact on Working Students***

Concerns have been raised that later secondary school start times could limit students' opportunities to work after school, particularly low income students. To mitigate this, the Office of Expanded Learning Time and others are already engaged in expanding work-study programs

that offer students the opportunity to earn academic credit at job placements.

### ***Ongoing Equity Analysis***

We look forward to continually assessing the equity implications of the new start and end times.

Key indicators will include:

- Student transfer rates and shifts in enrollment, particularly at the schools with the largest schedule changes;
- Student achievement across the district assessed through a range of measures, including test scores and graduation rates; and
- Other indicators of student success, such as rates of tardiness, attendance, violence, obesity, diabetes, depression, and drug use.

## Appendix

**Exhibit A: Bell Time Distributions of All Students by Race, Current and New**

	Current					New				
	Black	Hispanic	White	Asian	Other	Black	Hispanic	White	Asian	Other
Before 8 a.m.	49%	45%	37%	47%	39%	28%	31%	32%	22%	32%
8 - 9 a.m.	31%	38%	39%	27%	35%	53%	54%	53%	53%	49%
After 9 a.m.	20%	17%	24%	26%	25%	19%	15%	14%	25%	18%

**Exhibit B: Bell Time Distributions of K-6 Students by Race, Current and New**

	Current					New				
	Black	Hispanic	White	Asian	Other	Black	Hispanic	White	Asian	Other
Before 8 a.m.	31%	27%	10%	14%	20%	44%	48%	49%	39%	46%
8 - 9 a.m.	37%	48%	53%	37%	42%	28%	32%	31%	21%	29%
After 9 a.m.	31%	26%	37%	49%	38%	29%	20%	20%	40%	25%

**Exhibit C: Current and New Bell Time Distributions by English Language Learner Status (All Students)**

	Current			New		
	Learner	Former	Native	Learner	Former	Native
Before 8 a.m.	42%	65%	43%	35%	12%	30%
8 - 9 a.m.	36%	28%	36%	47%	77%	51%
After 9 a.m.	22%	6%	22%	18%	11%	18%

**Exhibit D: Current and New Bell Time Distributions by English Language Learner Status (K-6 Only)**

	Current			New		
	Learner	Former	Native	Learner	Former	Native
Before 8 a.m.	27%	29%	23%	49%	37%	45%
8 - 9 a.m.	43%	48%	44%	29%	39%	29%
After 9 a.m.	29%	22%	33%	22%	24%	26%

**Exhibit E: Amount of Change by Selected Demographics**

	Change from Current to New Scenario by Selected Groups				
	% Changing	Average Move	Median Move	7:15 a.m. Schools	9:30 a.m. Schools
Black	94%	0:52	0:45	26%	16%
Hispanic	96%	0:55	1:00	31%	14%
White	98%	0:52	0:45	37%	10%
Asian	99%	0:50	0:45	34%	12%
Other	97%	0:55	1:00	33%	13%
Low Income	95%	0:54	1:00	29%	15%
Not Low Income	96%	0:51	0:45	34%	12%
Special Ed. Students	97%	0:58	1:00	33%	4%
Gen. Ed. Students	95%	0:58	1:00	30%	14%
English Language Learner	96%	0:54	1:00	32%	12%
Former ELL	95%	0:51	1:00	30%	16%
Native English Speaker	96%	0:53	1:00	30%	15%

**Exhibit F: Current and New Bell Time Distributions by Socioeconomic Status (K-6 Only)**

	Current % Low Income	New % Low Income
Before 8 a.m.	83%	75%
8 - 9 a.m.	72%	74%
After 9 a.m.	74%	77%