

## **Table of Contents**

Introduction	3-7
Literature Review	7-9
Observations	9-13
Recommendations	14-17
Seattle Public School Stakeholders	17-19
Conclusion	19-20
References	21-23
Appendix 1: Kitchen Manager Survey	24
Appendix 2: Lunch Observation Tool	25
Appendix 3: Map of Seattle Public School District	26
Appendix 4: Handout for Wellness Committee	27

## Introduction

Seattle Public Schools (SPS) is the largest school district in the state of Washington. Located in King County and situated between the Shoreline School District (to the north) and Tukwila School District (to the south), SPS serves more than 51,000 students and employs more than 2,900 teachers. There are 69 elementary schools, and an additional 20 secondary (middle or high) schools. SPS has a diverse student population: 44% White, 13% Hispanic, 18% Black, 18% Asian/Pacific Islander and 18% Asian. Thirty-nine percent of students qualify for Free or Reduced (F/R) Priced Meals. Applications to qualify are provided in Amharic, Chinese, English, Oromo, Somali, Spanish, Tagalog, Tigrigna, and Vietnamese to accommodate the district's diversity. To qualify for free or reduced priced meals, a family of four must have a yearly gross income of less than \$43,500. At SPS schools with exceptionally high percentages (80% or above) of F/R eligibility, breakfast is provided free of charge for any child. All students in SPS who qualify for free or reduced priced meals (F/R eligibility) receive breakfast and lunch free of charge (1).

In December 2010, the US Congress and President Obama passed the Healthy, Hunger Free Kids Act of 2010 setting into motion major changes in the meal pattern and food available to students through the United States Department of Agriculture (USDA) National School Lunch Program (NSLP). The new guidelines set limits on calories and salt, included more whole grains, and required that students take fruits and/or vegetables at both breakfast and lunch (12).

Nutrition Services at SPS has been proactive and thorough in meeting new governmental and nutritional standards. For instance, Nutrition Services provides

students in the district with locally sourced, rBST hormone-free milk, in both low fat and fat free varieties. Nutrition Services has worked with local dairies for more than five years to reformulate chocolate milk for schools with less sugar, a step that some districts are only recently beginning. Nutrition Services also serves students with a variety of locally sourced fruits and vegetables, and many culturally/regionally appropriate dishes such as homemade hummus, fish tacos and vegetarian chili. In recent years they have also implemented a range of innovative programs designed to improve student food behaviors and nutrition, including partnering with local chefs (e.g., the Tom Douglas Restaurant Group), supporting breakfast campaigns, hosting Top Chef-style cooking competitions, promoting Harvest of the Month Produce programs, and introducing salad bars in most of the schools (2,3).

**Problem:**

Despite these positive programming changes, SPS parents have recently raised the concern that students are not receiving sufficient time to eat. Families are reporting that they are no longer participating in the school meal program due to decreased seated time to eat (seat time). If a student brings lunch from home, he/she can begin eating immediately without having to stand in line for lunch. Therefore, it is a concern for Nutrition Services at SPS that both families who are paying for lunches and families who would qualify for F/R lunch are choosing to opt out of the NSLP in order to ensure their children have adequate time to eat. Insufficient time to eat gives rise to two major problems: (1) Under nourished students, which is nutritionally problematic as students may not reach learning potential without proper nourishment during the school day and,

(2) under participation in the NSLP, which is economically problematic as SPS has the ability and capacity to feed many more students than it is currently serving.

Innovative, diverse school lunch programs (NSLP) require steady participation rates in order to properly nourish students during the school day and maintain economic sustainability. For example, NSLP only reimburses Nutrition Services for nutritionally adequate meals served to students who are eligible for F/R price meals. The success of Nutrition Services depends on the ability to meet the needs of the child, parental support, and support of the school administration. Nutrition Services cannot meet the needs of the child or garner support if students do not have adequate time to eat.

The environmental context in which this problem exists provides inadequate support. While the Healthy, Hunger Free Kids Act of 2010 made many positive changes, it did not include any enforceable guidelines for length of lunch. Current recommendations set forth by the USDA Food Nutrition Services, the American Academy of Pediatrics, and the National Alliance for Nutrition and Activity (5, 6, 7) are simply voluntary recommendations. Implementation depends entirely on the choices of each school administration, and typically each individual principal. Currently the Seattle School Board Adopted Procedure H61.01 states: “Meal periods shall be long enough for students to eat and socialize – a minimum of 10 minutes is provided to eat breakfast and 20 minutes to eat lunch with additional time, as appropriate, for standing in line” (4). According to the USDA Office of Research and Analysis, the national average for elementary school lunch is 30 minutes, with a range from 21-44 minutes (9).

#### Purpose:

Sufficient guidance regarding what constitutes adequate time for lunch is lacking in SPS's effort to face parental concerns. The purpose of this report is to provide the SPS Wellness Committee with preliminary observational lunchroom data as well as practical recommendations for the length of lunch to ensure equitable adequate time for lunch. The focus of this observation will be to determine how much time is needed to eat a well-balanced lunch with time for socializing and transition given environmental differences within each lunchroom.

The SPS Wellness Committee will review these recommendations before presentation to the School Board for policy adoption. Strong wellness policies can promote environments that enhance nutrition integrity and help students to develop lifelong healthy behaviors (8). If successfully implemented, this policy would ensure SPS schools provide all students adequate time for lunch.

#### Plan:

This report has 6 sections. The introduction section, just presented, discussed the NSLP and problem of inadequate time for lunch that Nutrition Services, parents and students are currently facing. Second, a literature review lists the most current research regarding time needed for elementary school lunch. Third, the preliminary observational data shows what is happening now in SPS lunchrooms. Fourth, tailored recommendations are presented for the School Wellness Policy to increase overall lunchtime minutes. Fifth, a stakeholder review discusses decision makers and others who may be affected by an increase in lunch length. The sixth and final section is a

conclusion, emphasizing the recommendation for an increase in overall lunchtime minutes.

### Literature Review

National School Lunch Program (NSLP) operates in 94% of schools in the US, including Seattle Public Schools (SPS). Out of all of the meals served, 68% are served to students who qualify for free or reduced price meals (9). Research shows that students who participate in the NSLP are more likely to consume health-promoting foods like vegetables, fruit, fruit juice, milk and milk products and to have increased micronutrient intake relative to their non-participant peers (10). Increasing participation in school lunch programs has been recognized and recommended by the Center for Disease Control (CDC) as a way to address nutritional inequalities and improve disparities in children's health (11). Recent federal policy changes have improved the quality of meals served by increasing whole grains, fruits and vegetables, and by limiting the calories, fat, and sodium content of meals (12).

NSLP plays an important role in the nutritional health of America's children. Children spend over 900 hours in school every year, many developing lifestyle habits within the school environment (22). The challenge school children taking part in NSLP currently face is not low quality of food offered, but adequate time to eat the healthy food presented. The current literature shows:

- Students have identified short lunch periods as a barrier to healthy eating at school (13).
- Younger children take longer to eat school meals than older children (14).
- Elementary students had lower plate waste and consumed more health-promoting nutrients with a 30-minute lunch period compared to a 20-minute lunch period (14).

- Fruit, vegetable and milk consumption may be especially impacted by time constraints (15,16).
- Scheduling recess before lunch is associated with higher consumption of the food and nutrients offered at lunch and more efficient utilization of time given (17,18).
- Students need time for transit to the lunchroom, hand washing, and standing in the food service line (19).
- Students consuming lunch brought from home devote more time to eating than those consuming school lunch (20).
- Insufficient time for lunch may be associated with risk of childhood obesity and unhealthy eating patterns (21, 22, 23).
- Having adequate time to enjoy meals and eating slowly are positively associated with appetite regulation and healthy weight (24, 25).

A study out of central Washington shows that out of the 12 minutes a child was given the opportunity to eat, the child only ate for 8.5 minutes. In fact, that child spent the rest of the time socializing or taking breaks (20). Another study out of Sweden shows that out of 9 minutes given, students spent 7 minutes eating and 2 minutes talking to friends (26). And a national study conducted by the University of Mississippi reported students required approximately 10 minutes, on average, to eat their lunch, but this time did not include talking, laughing, or other types of appropriate social behavior with friends at the table. Additional time was needed for socialization, line time, travel time and clean up time (27).

#### Summary:

Some common themes that arose from the literature review included appropriate length of lunch, appropriate seat time needed for elementary students, transit time needed, difference between length of time to consume school lunch versus lunch brought from home, healthy lunchtime habits and appetite regulation, extra time to consume fresh fruits and vegetables, and the recommendation for recess before lunch. This literature review informed the questions asked and the data collection tools developed.

However, the literature review did not answer the question that is currently pressing for SPS, namely, how much time do elementary students in Seattle schools need to eat a well-balanced lunch? Like most school districts, SPS schools each have diverse needs and capacities. There are varying sized kitchens, kitchen equipment available, numbers of staff, F/R eligibility percentages, and lunchroom sizes. To ensure all students are given adequate time for lunch, SPS needs to know how to tailor length of lunch given environmental differences within the lunchrooms.

### Observations

#### Methods:

Two study methods were used to assess the current state of Seattle Public Schools (SPS) in regards to adequate time for lunch. First, a survey was distributed to all kitchen managers within the SPS to gather the most up-to-date information about the time intervals offered for breakfast and lunch, as well as other environmental conditions of the cafeteria. Each school has one designated kitchen manager who ensures lunch is served daily, lunchroom volunteers are managed, and other Nutrition Services staff is well trained. Questions included but were not limited to dining room seating capacity, needed changes recognized by the manager, number of serving lines, number of electronic key pads used, whether recess is before lunch, the start and end of both breakfast and lunches, and approximate number served at each lunch. All of these environmental factors influence how lunchtime is spent, from how long each student stands in line to how long each child has to eat. A shared SPS file was used to collect information. To ensure data



was accurate and collected in a timely manner, follow up calls were made and emails sent. See Appendix 1 for Kitchen Manager Survey.

Second, 10 lunchroom observations were completed. Because the majority of schools in the district are elementary and because younger children tend to need more time to consume lunch than older children (14), elementary schools were the focus of this report. Secondary school lunches were not surveyed because they have a different set of factors that impact their lunch schedules like the privilege of on or off campus lunch.

These 10 observations were made from October 16, 2013 through October 29, 2013. Observations in late October were representative of the school year. Staff and students had settled into the flow of lunchtime routine by early fall and there were no intervening major holidays. The goal was to observe all lunch periods scheduled at each school, so the visits ranged from one to two hours. Variables measured included the Delay of Lunch (from the start of scheduled lunch to the time a student gets into the lunch line), Line Time (the time students gets into lunch line to the time a student reaches the cash register), and Seat Time (the time students sit down to the time a student leaves their seat).

The last two students served in each lunch period were observed. For most schools this meant collecting data on six individual students at three separate lunches. Measuring the worst-case scenario on an average day facilitated the comparison of minimum seat times among the most vulnerable students at each school. Observing the last two students as the sample helped to ensure that the proposed minimum recommendation accounted for all students in the lunch line rather than just the middle or

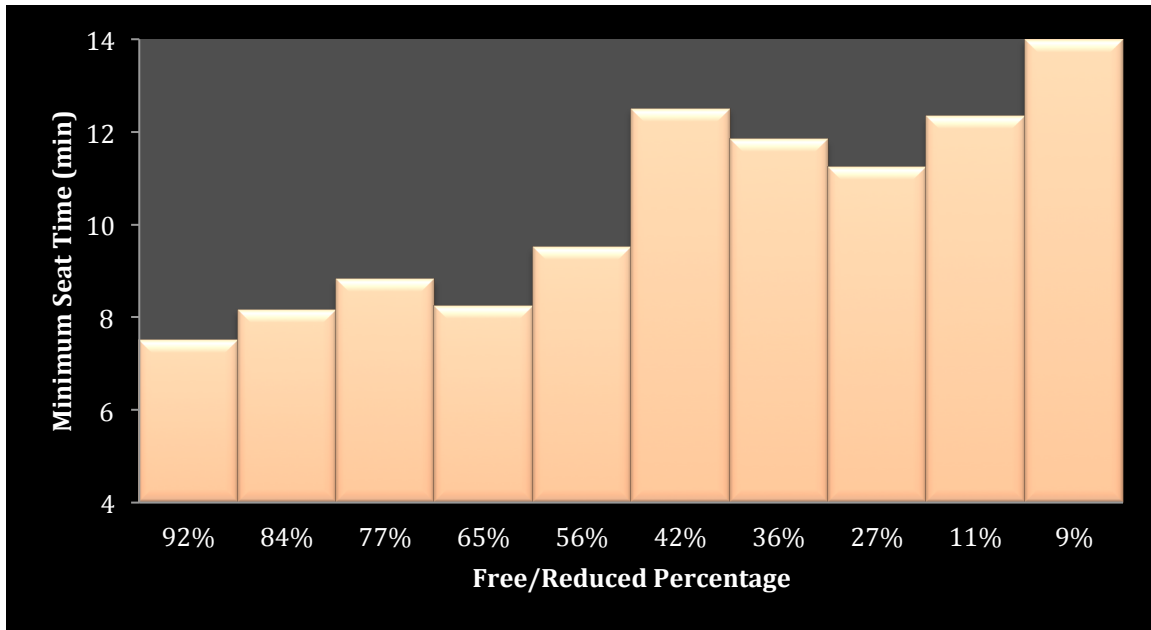
average student participating in the National School Lunch Program. See Appendix 2 for the Lunch Observation Tool.

The schools chosen for observation represented all geographical areas of the district and spanned from 9% to 92% free and reduced percentage. See Appendix 3 for Map of District and marked schools.

#### Results:

The kitchen manager survey showed the average amount of time given for elementary lunch was 22.6 minutes. The most frequent time given for lunch was 20 minutes, the shortest time was 13 minutes, and the longest time was 40 minutes. When kitchen managers were asked which change would facilitate a smoother lunch, 23 out of 69 or 33% reported needing more time for lunch. In addition, 28 out of 69 or 41% of elementary schools provided recess before lunch. The average lunchroom seating capacity was found to be 250 students. The largest seating capacity was 680 students, and the smallest was 75 students. Forty-eight out of the 69 schools or 70% used more than one electronic keypad at the cashier's stand.

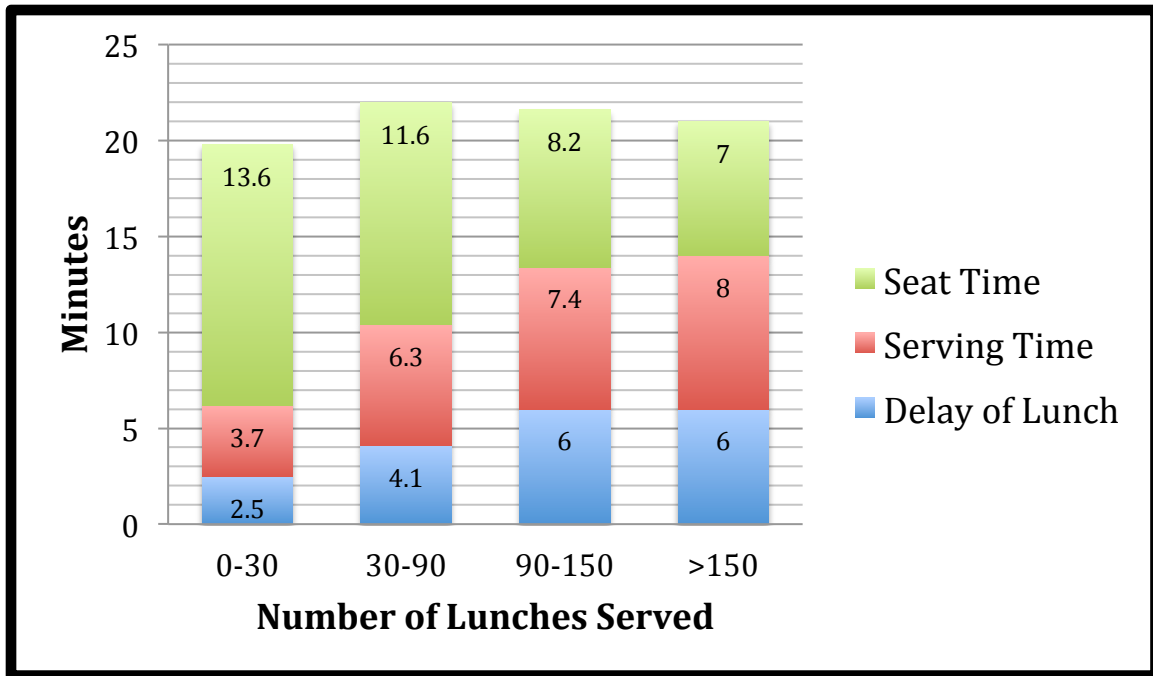
The lunchroom observation data displayed the disparities between schools with differing percentages of F/R eligibility. Where a low rate of F/R eligibility was found within a school, a higher minimum seat time was observed (14 minutes minimum seat time with 9% F/R eligibility). Where a high rate of F/R eligibility was found within a school, a lower minimum seat time was observed (7.5 minutes minimum seat time with 92% F/R eligibility). See Chart 1 below for more details.



**Chart 1: Seattle Public Schools Seat Time based on Free/Reduced Percentages**

This same inverse relationship exists between total number of meals served and seat time that is offered to the students. Total number of meals served in a Seattle school has a direct relationship to the percentage rate of the school's F/R eligibility. So when students are held up in line because many lunches need to be served (serving line time), lunchtime minutes are lost. If classes come into the lunchroom after the official start time in efforts to reduce line time (delay of lunch), lunchtime minutes are also lost.

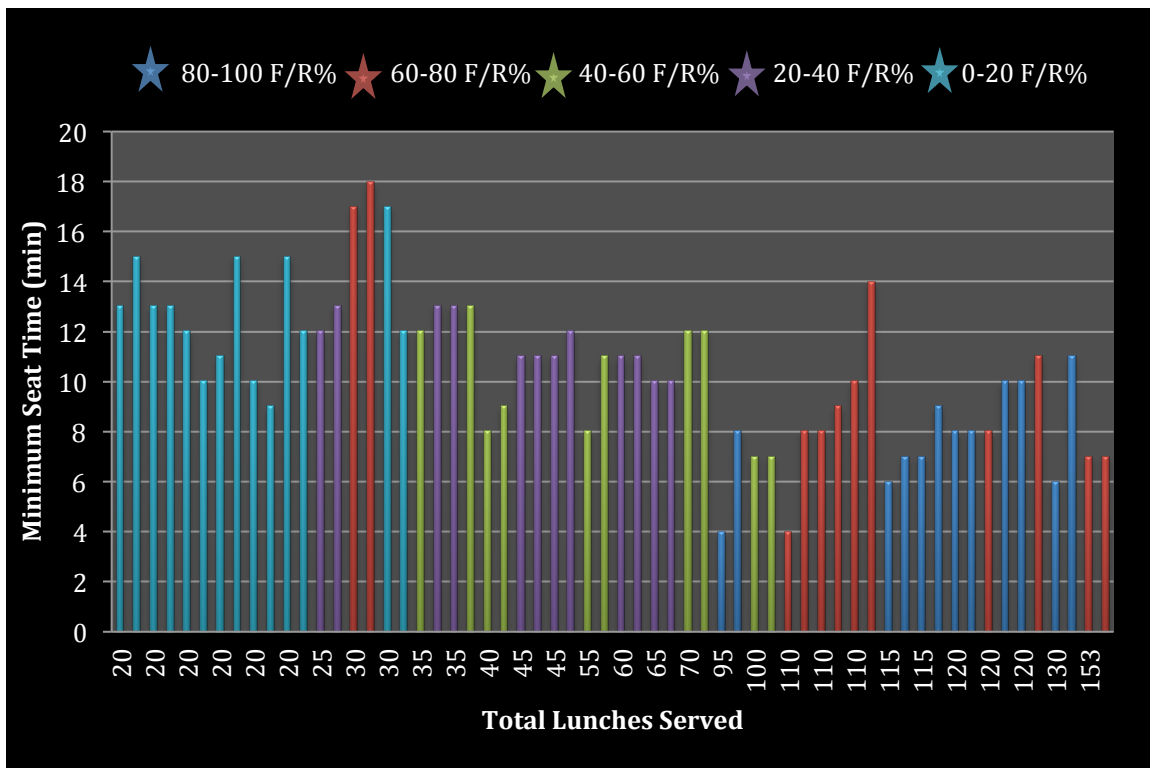
The observations showed the following results for schools that served more than 150 students on average at one lunch: 6 minutes of their lunch was taken away by a delay of lunch, another 8 minutes was used for serving line time, and only 7 minutes were left for seat time. However, in a school serving less than 30 students on average at one lunch, only 2.5 minutes were taken away by delay of lunch, 3.7 minutes were used for serving line time, and the students were left with 13.6 minutes of seat time. See Chart 2 for this breakdown.



**Chart 2: Seattle Public School Lunch Breakdown based on Number of Lunches Served**

Due to the need for cleanup after each lunch period, some students were encouraged to leave their seats before the official end to the lunch period. Teachers and school staff wanted to ensure that students are responsible for cleaning their areas before the next lunch begins.

Chart 3 below shows individual observations, not averaged results. The worst-case scenarios include a minimum of 4-5 minutes of seat time, and the best-case scenarios include a minimum of 16-18 minutes of seat time.



### Chart 3: Seattle Public Schools Seat Time based on Number of Lunches Served

## Recommendation

Seattle Public School's (SPS) mission is to enable all students to achieve to their potential through quality instructional programs and a shared commitment to continuous improvement. Core beliefs include; equitable access to quality programs, all students will achieve their potential, the achievement gap will be eliminated, and that quality leadership, effective support structures, and efficient operations will directly impact student performance (28). Ensuring students are nourished will help ensure students are reaching their potential. For SPS to meet each part of their mission, the district must ensure all children have equitable and adequate time for lunch.

Three types of recommendations emerged from the data collected: (1) universal recommendations, (2) time recommendations based on lunches served, and (3) recommendations for the number of lunch periods for schools with high F/R eligibility.

First, observations indicated that some behaviors promoted healthy eating habits. These practices allowed lunchtime to run smoothly and made for a calmer, less interrupted, less chaotic, eating environment. These practices are recommended to all schools, no matter the scheduled lunch length.

#### Universal Recommendations

- School administration encourages teachers to review lunchtime rules and procedures before entering the lunchroom.
- At the beginning of the school year, teachers must model proper lunchroom behavior by sitting with the class.
- Kindergarten classes are given a separate lunch period, and supervising staff provide verbal cues to focus on eating throughout the lunch period.
- School provides proper supervising staff for the lunch line and dining area.
- The amount of lunchtime provided is not decreased for either punishment or reward.
- Students are not asked to leave their seats for recess or to head back to class before the end of the lunch period.
- Teachers do not delay in bringing students to the lunchroom.
- Students who are only buying milk are invited to the lunch line after all students buying a full lunch have gone through line.
- The schedule allows for 5-10 minutes between lunches for staff to re-stock fresh items like the salad bar, or hot items such as the entrees.
- Recess is scheduled before lunch (students eat better, are not rushed to socialize, are allowed to expend energy before of the lunch period, and are provided with a better transition to classroom learning).

Second, to address the specific SPS problems associated with limited time for consuming school lunch, a variable lunchtime is recommended depending on the number of students served. Out of all of the school specific variables analyzed, the data showed the total number of students served made the largest difference in seat time allowed.

Listed below are all of the unique school-specific variables analyzed that influence adequate time for lunch.

- F/R Eligibility Percentage of School
- Style of Meal Service
- Location of Cafeteria and Transit Time Needed
- Size of Cafeteria
- **Number of Meals Served**
- Number of Children Assigned to each Lunch
- Number of Supervisory Adults in the Lunchroom
- Number of Lunchroom Volunteers

For SPS, a 20-minute lunch is recommended when less than 30 meals are served. For lunches serving 30-90 meals, a 25-minute lunch is recommended. For lunches serving between 90-150 meals, a 30-minute lunch is recommended. And for lunches serving more than 150 students, a 35-minute lunch is recommended. The foundation of this recommendation is a minimum of 15 minutes of seat time. Seat time includes both time for consumption and socialization. The additional minutes recommended account for delay of lunch, time spent in the lunch line, and cleanup time, all, which vary depending on how many meals are served and the school itself.

Third and finally, for many schools with a high F/R eligibility, the final recommendation of adding an additional lunch period may be the best. By adding an additional lunch period, the number of meals served per period would decrease, allowing for shorter lunch periods while still allowing children time to eat. For example, if a school schedule now allows for two lunch periods, each serving 125 students, they might adapt their schedule to include a third period so each lunch serves 85 students and is 25 minutes long. Variation in school schedules is already common and typically accepted,

so recommending a variable lunchtime should not be disruptive. See Chart 4 for recommendation.

<30 students served	20 minute lunch
30-90 students served	25 minute lunch
90-150 students served	30 minute lunch
>150 students served	35 minute lunch
<i>OR</i>	
Add Additional Lunch Period	

**Chart 4: Recommendation of Lunch Length by Number of Meals Served**

As stated above, the national recommendation is for 20 minutes of seat time. In the sample observed the average seat time was 10.5 minutes with no single value reaching the recommendation. For SPS elementary schools, the average total lunchtime was 22.6 minutes with a range from 13-40 minutes, so it is reasonable to guess that none or very few schools meet the seat time recommendation of 20 minutes. By recommending a minimum seat time of 15 minutes, the majority of students will be receiving more. And, in fact, the majority might actually meet the national recommendation.

#### Seattle Public School (SPS) Stakeholders

Many SPS principals expressed difficulty in changing the school schedule. To increase the length of lunch or to add an additional lunch period, the whole day's schedule would change. The schedule takes many people and programs into account and typically hours to finalize. Communication to school staff, parents and students during any transition has to be their number one concern, but can make change very costly and labor intensive. School officials are hesitant to change for just this reason. This hardship is partly due to the large number of key stakeholders involved. At individual schools,



these stakeholders include the principal, the administrative staff of the school, the teachers, the kitchen staff, the janitorial staff, parents and students, all of whom - depending on the school – can act as either barriers or facilitators of change.

Depending on training, experience and focus, staff at the schools may not see the need to increase time given for lunch. For example, if a teacher simply drops the students off at the lunchroom, takes his/her lunch, and picks them back up 15 minutes later, they may not see what is going on inside. Alternatively, a janitor whose focus is to keep the lunchroom as clean as possible may see extended seat time as extended mess time. These are good examples of potential barriers to change. On the other hand, many school staff can help facilitate change. A lunchroom monitor who sees children dumping nearly whole sandwiches on the way out to recess, or the kitchen manager who notices a child only eating half an apple, clearly see the lack of time for lunch as a problem.

Many individuals and organizations have an impact on staff activities and responsibilities at the schools. These key organizations include the school district administration, the teachers union, and the international union of operating engineers (nutrition services and janitorial employees). To a lesser extent, professional organizations such as the Seattle Educators Association, Association of American Educators, National Association of Elementary School Principals and the School Nutrition Association impact staff activities and responsibilities at the school.

Changing school schedules or adding additional lunches can also impact labor hours and labor contracts. Unions are very hesitant to add more responsibilities to a contract without proper compensation (with good reason). But change can be a very slow process, and making sure children get enough time to eat is a time sensitive issue. By

working with these organizations and thinking outside the box, adjustments can be made to provide children with adequate time for lunch. It is hard to anticipate how stakeholders will play into this change, but as the Wellness Committee moves forward it is important to understand the varying points of view represented and consider this stakeholder analysis.

### Conclusion

As stated above, the USDA Office of Research and Analysis reports the national average for elementary school lunch is 30 minutes, with a range from 21-44 minutes (9). The Seattle Public School's (SPS) average for elementary school lunch is 22.6 minutes, with a mode of 20 minutes. For the national average, all values equal or less than 20 minutes were considered implausibly short and all values over 45 minutes were considered implausibly long. If the national sample included SPS schools, most values would be excluded. It is time for SPS to provide more than implausibly short lunches to its students.

Every child deserves the right to a nutritious lunch while at school to facilitate learning and playing. This report has demonstrated a clear course of action for administrators to take to address the problem of inadequate time for lunch by presenting current research, preliminary observational data, a stakeholder analysis and SPS specific recommendations. While schedule changes of this scale are difficult to execute and require multiple stakeholders to buy in, the proposed changes can ensure equitable adequate time for lunch. The SPS Wellness Committee will review this report before presentation to the School Board for adoption. See Appendix 4 for Wellness Committee

Handout. The recommendations provided will help to increase the length of lunch for all schools and ensure a minimum seat time of 15 minutes. Good eating habits can last a lifetime and it is important to instill them at an early age.

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## Appendix 1: Kitchen Manager Survey

School Name: \_\_\_\_\_

- 1) What is your dining room seating capacity?
- 2) In your opinion, which of the following would make lunch service run more smoothly.  
(Choose 1)
  - A) Additional lunchroom supervision
  - B) Additional lunch period
  - C) More Keypads
  - D) More Time for lunch
  - E) No change needed
- 3) Is recess before lunch?  
(Please indicate which grades your response applies to)
- 4) How are the kids dismissed from lunch?  
(As a class or individually)
- 5) How many serving lines do you use?
- 6) How many Electronic Key Pads\* do you use?
- 7) What time is your breakfast? (start and end times)
- 8) Typically, how many do you serve at breakfast?
- 9) What time is your 1st lunch? (start and end times)
- 10) Typically, how many do you serve at your 1st lunch?
- 11) What time is your 2nd lunch? (start and end times)
- 12) Typically, how many do you serve at your 2nd lunch?
- 13) What time is your 3rd lunch? (Start and end times)
- 14) Typically, how many do you serve at your 3rd lunch?

If you have more than 3 lunches, please include all times and typical number of students served.

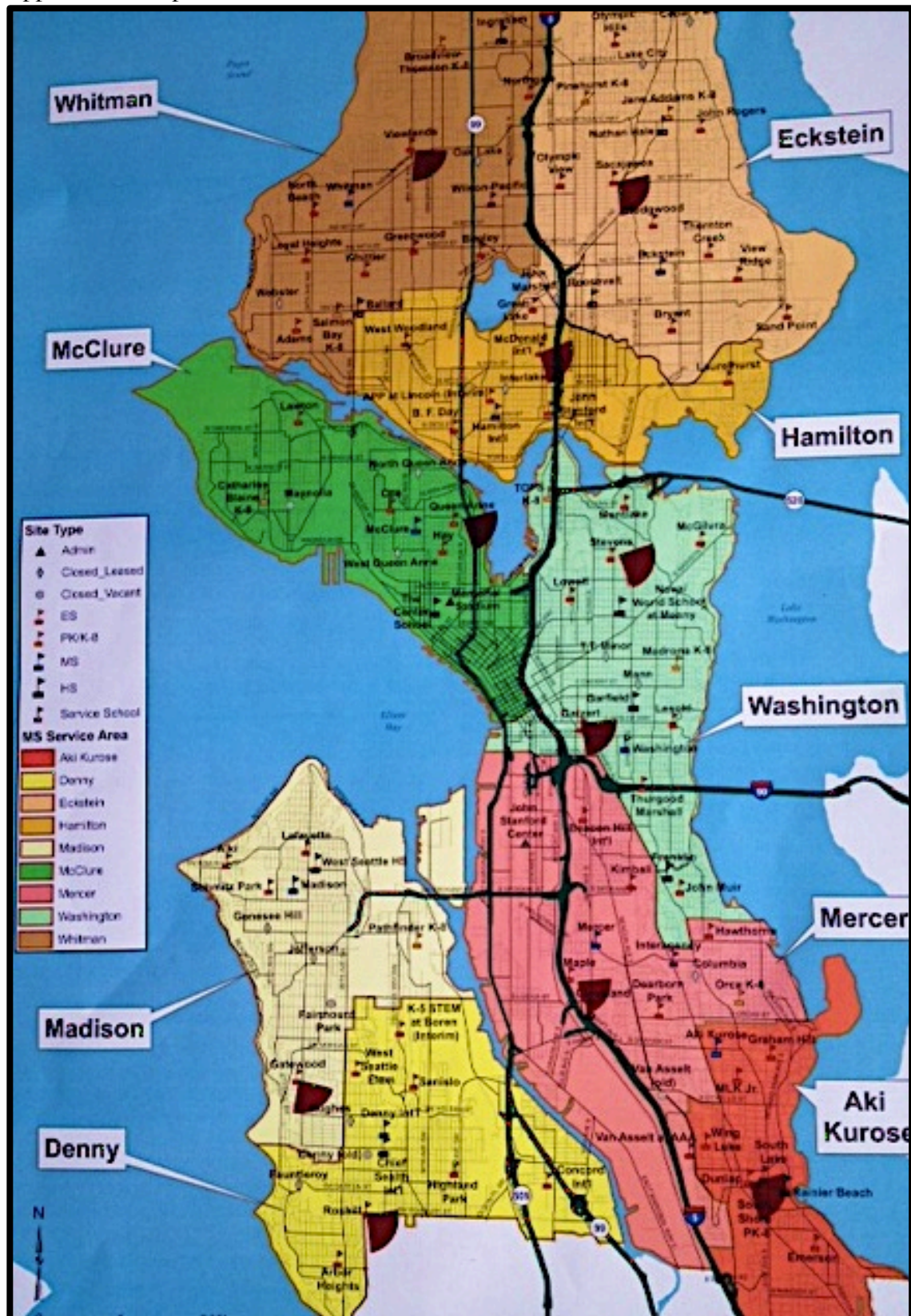
*\*Electronic Key Pads are used at the cashier stand to access student's nutrition services account. Each student is issued a 4-digit code that they are expected to memorize and enter as they go through the lunch line.*

## Appendix 2: Lunch Observation Tool

2013-2014 Seattle Public Schools Elementary Lunch				
School: _____		Date: _____		Free/Reduced Percentage: _____
1 <sup>st</sup> Lunch Period (Scheduled Time): _____ - _____			Typical # Students Served: _____	
Student 1	Delay of Lunch		Total Serving Line Time	
Grade	Lunch Line	Cash Register	Sits Down	Leaves Dining Table
Student 2	Delay of Lunch		Total Serving Line Time	
Grade	Lunch Line	Cash Register	Sits Down	Leaves Dining Table
2 <sup>nd</sup> Lunch Period (Scheduled Time): _____ - _____ Typical # Students Served: _____				
Student 1	Delay of Lunch		Total Serving Line Time	
Grade	Lunch Line	Cash Register	Sits Down	Leaves Dining Table
Student 2	Delay of Lunch		Total Serving Line Time	
Grade	Lunch Line	Cash Register	Sits Down	Leaves Dining Table
3 <sup>rd</sup> Lunch Period (Scheduled Time): _____ - _____ Typical # Students Served: _____				
Student 1	Delay of Lunch		Total Serving Line Time	
Grade	Lunch Line	Cash Register	Sits Down	Leaves Dining Table
Student 2	Delay of Lunch		Total Serving Line Time	
Grade	Lunch Line	Cash Register	Sits Down	Leaves Dining Table
Delay of Lunch = Start of Scheduled Lunch -- Time student gets into lunch line Total Serving Line Time = Time students gets into lunch line -- Time student reaches Cash Register Total Seat Time = Time student sits down -- Time student leaves seat				



Appendix 3: Map of Seattle Public School District



## School Wellness Policy Model Language

### Adequate Time for Lunch

#### Background:

While the Healthy, Hunger Free Kids Act of 2010 made many positive changes to the National School Lunch Program (NSLP), it did not include any enforceable guidelines for length of lunch. The current Seattle Public Schools (SPS) policy states: "Meal periods shall be long enough for students to eat and socialize—a minimum of 20 minutes to eat lunch with *additional time* for standing in line." Unfortunately, most SPS schools have not adopted this policy.

The most frequent length of lunch is 20 minutes—an implausibly short lunch according to the USDA Office of Research and Analysis. In a sample of SPS elementary schools, the average seat time observed was a short 10.5 minutes. Nutrition Services and SPS parents are very concerned with the insufficient time given to students for lunch. Children spend more than 900 hours in school each year, many developing lifestyle habits within the school environment. NSLP plays an important role in the nutritional health of America's children and has been recommended as a way to address nutritional inequalities in children's health. Nutritional Services cannot meet the needs of the child or garner proper support from the community if students do not have adequate time to eat.

*Most frequent length of lunch in SPS is 20 minutes. USDA Office of Research and Analysis reports this as implausibly short.*

#### Proposed Sample Language:

Seattle School District will support equitable adequate time for lunch by ensuring all children receive a minimum of 15 minutes of seat time for eating and socializing. Additional time recommended varies dependent on number of students served per lunch period and accounts for transit time to the lunchroom, serving line time and clean up time. Schools can add additional lunch periods to decrease the number of students served per lunch and overall length of lunch.

<30 students served	20 minute lunch
30-90 students served	25 minute lunch
90-150 students served	30 minute lunch
>150 students served	35 minute lunch
OR	
Add Additional Lunch	

#### Resources:

Bhatt R. The Impact of School Lunch Length on Children's Health. Andrew Young School of Policy Studies Research Paper Series. 2009.

Centers for Disease C. Prevention. School health guidelines to promote healthy eating and physical activity. MMWR Recommendations and reports: Morbidity and mortality weekly report. Recommendations and reports/ Centers for Disease Control. 2011:60.

Conklin M, Lambert L. Eating at School: A Summary of NFSMI Research on Time Required by Students to Eat Lunch. [11/2/13]; Available from: <http://www.nfsmi.org/documentlibraryfiles/PDF/20080221023914.pdf>.

National Alliance for Nutrition and Activity. Model School Wellness Policies. [11/2/13]; Available from: <http://www.schoolwellnesspolicies.org/>.

United states Department of Agriculture ENS. Changing the Scene-Improving the School Nutrition Environment. [11/2/13]; Available from <http://www.fns.usda.gov/tn/resources/changing.html>.