

February 5, 2023

START TIME COMMITTEE

RECOMMENDATION TO THE SUPERINTENDENT TO CHANGE SCHOOL START TIMES

Abstract

In the Fall of 2022, Lake Washington School District formed a committee to make recommendations on how to implement high school start times no earlier than 8:00 AM and move preschool start times earlier in the day. This committee echoes similar efforts from 2017-2019, where a committee was formed for the purpose of schedule changes in response to the new 24-credit graduation requirements. At that time, the committee made no recommendations with regards to start times, instead focusing on the implementation of the 7-period school day, with the intent to address start times in a later year. Now, in keeping with growing research around adolescent sleep and impact of school start times, the current committee was convened to make recommendations about how to best implement a later high school start time. Additionally, the committee quickly learned the interdependency of district operations for schools meant any change to one level would likely impact all others too.

The committee sought to establish guiding principles to inform any recommendation. The first of these was any recommendation made must be fiscally and operationally feasible for the district to implement and maintain. This was primarily based on current difficulties in hiring, training, and retaining bus drivers both in schools and municipal transportation; as well as operational concerns in these same areas related to the district's financial position. The second guiding principle was to do what was best for students. The inciting research around start times recommended high school start no earlier than 8:30, but also acknowledged the existence of exigent circumstances which could impact start times. The third principle was any recommendation be cognizant of equity. While the committee ultimately acknowledged any decision would impact families and staff in different ways, it was integral to the process that issues of equity be part of the guiding framework and conversation.

The committee examined 5 primary variables that contribute to school start times, with one becoming a prominent consideration as the others were investigated. The first was limits for earliest and latest start times, considering both high schools as the inciting focus but also other school levels in terms of what times are reasonable for all students. The second was length of the student day, which was previously addressed by the 2017-2019 committee. It was decided not to shorten the day, especially because of the work already done, while acknowledging Lake Washington School District currently meets minimum instructional time with a 13 hour cushion. The third variable was the district's transportation service model and use of alternative providers, specifically in consideration of nearby school districts who integrate much of their secondary transportation needs with

municipal providers. While this was considered, it was not feasible for Lake Washington School District as a whole. Similarly, the fourth variable considered district-provided transportation and acknowledged a major limiting factor in any final recommendation would be transportation.

The fifth variable, stakeholder engagement, explicitly helped guide the eventual recommendation. Stakeholders were presented with two ThoughtExchanges as well as three community meetings through which to openly share thoughts and concerns. While neither option presented to stakeholders was perfect, one option consistently received fewer concerns with the more support across all stakeholder groups and there did appear to be strong support for the change to high school start times. The impacts of any change or even status quo will vary for different families, students, and staff. **The recommendation from the committee is to accept Option 1 and immediately begin thoughtfully planning for a shift to begin the 2023-2024 school year.**

INTRODUCTION

This recommendation was produced through a committee process in the Fall of 2022 commencing in January of 2023. While the committee was representative of a broad range of interests and ideas from across the district, it is fully acknowledged there will be impacts from a change in school start times for people and voices not individually represented in this process. The committee also acknowledges changes of this magnitude have intended and unintended consequences, and those will vary in impact and severity for different families. There is no perfect solution to this complex problem, so it is fully understood the process resulted in a best-case option given the constraints under which the district operates. It is the hope of the committee that the community and school district work to mitigate impacts on families and staff as we work through the change process ultimately to better serve all of our students.

SYNOPSIS AND BACKGROUND OF COMMITTEE WORK

In Spring of 2022, the Lake Washington School District made the decision to take up the issue of high school start times once again in deference to the substantial body of research¹ around sleep deprivation in adolescent age children related to early school start times. This research has been the basis of a growing conversation in the region, state, and country for the better part of the last decade. In 2014, the American Academy of Pediatrics recommended school start times of no earlier than 8:30 AM for secondary students, although in that seminal article, the authors also wrote “exigent” circumstances for each school and district also need to be considered when making changes to start times. The body of work has continued to expand, and in fact, many districts in our region have already adjusted high school start times in response. The entire State of California shifted high school start times as mandated in State legislation for the 2022-23 school year. The issue continues to be a focus across our state as well on a national level.

Lake Washington last looked at this issue in 2017-2019 when a committee was formed to examine both school start times and ways to create student opportunities to meet the newly required 24 credits for high school graduation. That committee did not, at that time, recommend a change to school start times, largely because the recommendation was made to change high schools to a 7-period day to create opportunities for students to explore career and other interests through elective courses as



Figure 1

¹ LWSD Benchmarking High School Start Times (2015): https://www.lwsd.org/uploaded/Website/Community/Committees_and_Task_Forces/College-Career-Readiness-TaskForce/Benchmarking-High-School-Start-Times.pdf

American Academy of Pediatrics (2014): <https://publications.aap.org/pediatrics/article/134/3/642/74175/School-Start-Times-for-Adolescents>

Journal of Clinical Sleep Medicine, Delaying Middle School and High School Start Times Promotes Student Health and Performance: An American Academy of Sleep Medicine Position Statement, 2017 <https://jcsn.aasm.org/doi/10.5664/jcsn.6558>

Sleep Research Society, Later high school start times associated with longer actigraphic sleep duration in adolescents, 2018 <https://europepmc.org/article/MED/30395345>

Sleep Foundation, Teens and Sleep <https://www.sleepfoundation.org/teens-and-sleep>

Stanford Medicine, Among Teens, Sleep Deprivation an Epidemic, 2015 <https://med.stanford.edu/news/all-nl-toews/2015/10/among-teens-sleep-deprivation-an-epidemic.html>

Centers for Disease Control and Prevention, Sleep Duration and Injury-Related Risk Behaviors Among High School Students, 2016 <https://www.cdc.gov/mmwr/volumes/65/wr/mm6513a1.htm>

well as create opportunities within the school schedule for credit retrieval. The intent then was to implement the 7-period day and then again take up the issue of high school start times in a subsequent year.

Unfortunately, the COVID pandemic significantly impacted school operations between March of 2020 and June of 2022, which also disrupted continued progress on the issue of high school start times. In the Spring of 2022 as mandated pandemic restrictions eased and district operations stabilized to a new normal, the Lake Washington School District outlined the formation of a new committee and developed a timeline to consider this issue once again. A project charter was created including the hiring of an outside facilitator to facilitate the new committee's work and seven meeting dates were set for the Fall of 2022. Committee work would culminate in a recommendation to the superintendent not on whether to change school start times rather on how the Lake Washington School District could change school start times to better align with the body of research around adolescent sleep, particularly for students in high school.

A Start Time Committee was formed using volunteers in early September 2022 to create a broad representation of roles and interests from across the district including PreK-12 and beyond perspectives. There were several district representatives included on the committee as ad-hoc members charged with providing information, researching questions, and producing data to support the committee's deliberations.

Parent / Community Members	District Staff
<ul style="list-style-type: none"> • PreK-2 Parent – JHS • 3-5 / 6-8 Parent – JHS • 6-8 / 9-12 Parent – EHS • 9-12 Parent – RHS • K-2 / 3-5 / 9-12 Parent – RHS • 6-8 / 9-12 Parent – RHS • 3-5 / 6-8 / 9-12 Parent – JHS • K-2 / 9-12 Parent – LWHS • 9-12 Parent – LWHS • <i>Dr. Spencer Welch – outside facilitator*</i> 	<ul style="list-style-type: none"> • HS Principal • HS Associate Principal • Elem Associate Principal • Director of Secondary Education • Director of Early Childhood • Executive Director of Special Education • Director of Athletics • <i>Director of Transportation*</i> • <i>Associate Superintendent of Finance and Operations*</i> • <i>Deputy Superintendent*</i>

**Nonvoting committee members*

The scope of work given to this committee differed slightly from previous iterations of this work. This committee was not specifically charged with investigating or providing rationale for a change in high school start times. Rather, this committee was tasked with a narrower scope of work: move high school start times to 8:00 AM or later and move preschool start times earlier. An outcome of the change in start times necessitated by the move to the 7-period day in 2019 was a shift in preschool start times that made Lake Washington School District preschool the latest dismissing preschool in the region. This late dismissal resulted in unintended consequences and complications for the district's youngest learners that included impacts to program efficacy. The committee met a total of 7 times beginning in September and culminating in January, resulting in this recommendation. A high-level synopsis of the meeting agendas and timeline of work is included below. More detail on individual agendas can be found on the district website.

September 22, 2022 - 4-7 PM (Resource Center)

- Committee's scope of work
- Building background knowledge of variables and constraints

October 6, 2022 - 4-7 PM (Resource Center)

- Tiered transportation systems
- Developing guiding principles
- Generating what if questions
- Revisit options
- Stakeholder engagement and awareness

October 27, 2022 - 4-7 PM (Resource Center)

- ThoughtExchange data
- Transportation tiers
- New options
- Additional questions
- Guiding principles

November 10, 2022 - 4-7 PM (Resource Center)

- Scope review
- Committee's revised options
- New options
- Consensus exercise
- Additional change requests

December 1, 2022 - 4-7 PM (Resource Center)

- Revised options
- Discussion
- Review of scope
- Questions
- Consensus exercise

December 15, 2022 - 4-7 PM (Teams Meeting)

- Stakeholder engagement strategy
- Committee's role in engagement process

January 12, 2023 - 4-7 PM (Resource Center)

- ThoughtExchange stakeholder feedback
- Discussion
- Consensus exercise
- Final recommendation
- Next steps

As part of the early work, the committee sought to establish criteria or guidelines to help in discussions about various scenarios presented during the deliberations. The first guideline used by the committee was any option recommended would need to be fiscally and operationally feasible for the district to implement and sustain. While it appears on the

surface the district could create additional flexibility in the start and end times for schools by adding dozens of additional bus routes, the reality is that solution is not feasible from a fiscal or operational standpoint. The Lake Washington School District, like most others, continues to struggle with a tight labor market to attract, hire, train, and retain school bus drivers, and that was certainly a factor to consider in committee discussions. Additionally, the operational costs including capital outlay necessary to add additional equipment was considered in deliberations. While technically a capital levy to purchase school buses would be an option the district could put before voters, that is not a guarantee of funding. In addition, those levy dollars could be used to purchase the buses, but they could not be used to cover operational costs. Those costs would have to be absorbed into the existing enrichment levy.

The second guiding principle was the committee sought to do what was best for students. The catalyst for this change was outlined in the scope of work given to the committee, which was to move high school start times later and preschool start times earlier, and the committee kept that as a focus throughout the process. The research around adolescent sleep disruption draws a direct line to early school start times as a primary factor. Additional exigent circumstances are also noted in the research base too which must be factored into decision by districts to shift school start times. Many of those are the variables discussed by this committee.

The third guiding principle was the option recommended must consider issues of equity. How students get to and from school is an important consideration, especially involving district provided transportation, for many families. The committee sought to not create intentional or unintentional inequities in the recommendation for this reason. The committee did have discussions about issues of equity pertaining to start and end times too. The impact of a change in start times is likely to impact some families more than others, and the district will need to thoughtfully plan mitigation strategies to communicate and support families through any changes.

The work of the committee focused on managing the tension between the guiding principles and the interdependence of the many variables that impact school start times. Because of this interdependence, a small change in one variable could have cascading impact on others, and the committee worked to balance the competing interests while finding a compromise to reach consensus on a final recommendation. It is important to acknowledge there is no simple solution to this complex problem. Additionally, it is important to note that district context plays a very large role in each district's solution, so while the committee did study how other districts have solved this specific challenge, those districts exist in different contexts and thus have different options to reach a solution. For example, the density of community transit options in the Lake Washington School District is very different than it is in more urban areas including Seattle and Bellevue. That density allowed options for Bellevue and Seattle Schools at a scale that was not feasible or practical in Lake Washington's context, so the solution in this district was necessarily different.

The committee examined multiple variables that contribute to school start times over the course of the work, but there are 5 that really became the primary focus of committee work and one specifically that became a prominent consideration.

Earliest and Latest Start Time of Schools

The committee examined the start and stop times of comparator districts, because this is a variable other districts also must reconcile. The data suggest the individual contexts of the districts, which can include geography, location, and numbers of schools, as well as labor and operations impacts really drive different solutions in the different districts. The tables included are start times of the comparator districts for the 22-23 school year. All comparator districts had already shifted school start times to accommodate an 8:00 AM or later high school start time. Each district did so in different ways based on those individual district contexts.

Preschool Start Times (PS-preschool, HS-Headstart)

	LWSD	Bellevue	Issaquah	Northshore
Start	9:00 a.m. (HS) 10:00 a.m. (PS) 12:30 p.m. (HS) 1:30 p.m. (PS)	8:00 a.m. 9:00 a.m. 11:30 a.m. 12:30 p.m.	9:15 a.m. 12:45 p.m.	8:00 a.m. 11:45 a.m.
Dismissal	12:30 p.m. (HS+PS) 4:00 p.m. (HS+PS)	11:00 a.m. 12:00 p.m. 2:30 p.m. 3:30 p.m.	12:15 p.m. 3:40 p.m.	10:30 a.m. 2:15 p.m.

Table 1

The first variable involved establishing early and late limits for starting and ending the school day for each level of students. The scope of work of the committee reflected some of this consideration. High school start times had an early limit of 8:00 AM as defined by the scope of work, The conversation played out similarly in an early study session with district staff and the Board of Directors as it did with the committee.

Elementary Start Times

	LWSD	Bellevue	Issaquah	Northshore
Start	8:50 a.m. (11) 9:05 (2) 9:20 a.m. (19)	8:00 a.m. (6) 8:05 a.m. (2) 8:40 a.m. (2) 9:00 a.m. (5) 9:05 a.m. (4)	9:15 a.m. (16)	9:00 a.m. (1) 9:05 a.m. (2) 9:10 a.m. (4) 9:15 a.m. (2) 9:20 a.m. (1) 9:25 a.m. (3) 9:30 a.m. (7)
Dismissal	3:20 p.m. (11) 3:35 (2) 3:50 p.m. (19)	2:30 p.m. (6) 2:35 p.m. (2) 3:10 p.m. (2) 3:30 p.m. (5) 3:35 p.m. (4)	3:40 p.m. (16)	3:30 p.m. (1) 3:35 p.m. (2) 3:40 p.m. (4) 3:45 p.m. (2) 3:50 p.m. (1) 3:55 p.m. (3) 4:00 p.m. (7)

Table 2

The question became does a small shift to an 8:00 AM start time for high school really address the research, which recommends 8:30 AM or even later to better align with sleep patterns for adolescent children? And if not, then is the significant disruption caused by a change of this magnitude warranted by a small change to start times? The answer to those questions really evolved to a lower limit for high school becoming 8:30 AM. The conversation played out again for both elementary and middle school age students. Is 7:30 AM, the start time for high schools currently, too early for, as one example, elementary students? An option other districts have attempted is swapping elementary start times, which tend to start later, with high schools, which tend to start early. The committee debated and discussed this issue throughout the process, and it is a debate that plays out in the stakeholder engagement process also. The minimum and maximum times really come into play though by setting the window of elapsed time necessary to move students to and from the various schools.

Middle School Start Times

	LWSD	Bellevue	Issaquah	Northshore
Start	7:30 a.m. (2) 7:50 a.m. (1) 8:00 a.m. (2) 8:10 a.m. (2) 8:25 a.m. (1) 8:30 a.m. (1) 8:35 a.m. (3)	7:45 a.m. (2) 8:15 a.m. (1) 8:30 a.m. (1) 8:38 a.m. (1) 8:45 a.m. (1)	8:10 a.m. (5) 9:15 a.m. (1)	8:00 a.m. (6)
Dismissal	2:05p.m. (2) 2:20 p.m. (1) 2:30 p.m. (2) 2:40 p.m. (2) 2:55 p.m. (1) 3:05 p.m. (4)	2:30 p.m. (2) 3:00 p.m. (1) 3:30 p.m. (3)	2:35 p.m. (5) 3:40 p.m. (1)	2:35 p.m. (6)

Table 3

High School Start Times

	LWSD	Bellevue	Issaquah	Northshore
Start	7:30 a.m. (4) 7:50 a.m. (2) 8:00 a.m. (2)	8:00 a.m. (5) 8:15 a.m. (1)	8:00 a.m. (3) 8:50 a.m. (1)	8:10 a.m. (1) 8:15 a.m. (3) 8:20 a.m. (2)
Dismissal	2:05 p.m. (1) 2:20 p.m. (3) 2:40 p.m. (2) 2:50 p.m. (2)	3:00 p.m. (5) 3:15 p.m. (1)	2:55 p.m. (2) 2:52 p.m. (1) 3:50 p.m. (1)	2:55 p.m. (1) 3:00 p.m. (1) 3:15 p.m. (3) 3:20 p.m. (1)

Table 4

Nearly 70% of our middle school students and 50% of our high school students participate in extracurricular activities, including athletics, which became a primary topic of conversation in these minimum and maximum start and end time conversations. Many middle school after school activities, particularly athletics, depend on daylight, because most of the facilities do not have lights. This is also true for many high school opportunities, for example golf and tennis. Middle school competitions are a little more flexible in terms of scheduling because we only play within our district, but high school competitions are part of conferences including other districts, and those are negotiated between schools within the conference. While it is true schools exist primarily as academic institutions, for many students, extracurricular activities are what connect students to schools and ultimately leads them to academic success. These are the “exigent” circumstances referenced in research around school start times that play into decisions about start and end times, and the committee necessarily considered this, especially given the region in which we live, as it deliberated options. What is too late to dismiss middle and high school, given the potential impact on these opportunities for students?

Length of the Student Day

The next variable was the length of the student day. One way to create capacity in school start times is by staggering the start and end times, thereby creating a wider window of time between when levels start and end. This can be done in part by varying the length of the student day. Other districts employ this strategy, and it is one the committee considered. Currently, the high school student day in Lake Washington is 20 minutes longer than the middle and elementary student days. 20 minutes was added in 2019 to accommodate the 7 period day implemented then. In some districts, each level is different while in others it is the same. Ultimately, the committee did not recommend changes in this regard. There was unanimous consensus not to shorten the

District	Elem	Middle	High
LWSD	6 hr 30 min	6 hr 30 min	6 hr 50 min
Bellevue	6 hr 30 min	6 hr 50 min	7 hr
Issaquah	6 hr 25 min	6 hr 25 min	6 hr 55 min
Northshore	6 hr 30 min	6 hr 35 min	7 hr

day, and adding time adds additional complexity without commensurate benefit for the specific scope of work for this committee. In other words, changing the length of the student day did not create sufficient capacity to meet the objectives of the committee.

It should also be noted districts are required to meet a minimum threshold of instructional hours in a minimum 180 days each year. That minimum is set by level but also can be met by an average of 1,027 instructional hours across grades 1-12. Currently, Lake Washington meets this requirement with a 1,040 average, creating some cushion for things like a late start due to snow that does not then mean additional days added to the school year. The span of the day at any given level contributes to the elapsed time window necessary for moving students to and from schools at the various levels utilizing a tiered transportation system, which will be discussed later in this report. Lunches, breaks for recess, and non-instructional times during the day do not count towards the 1,027 hour minimum.

Transportation Service Model and Alternative Providers

Another primary variable explored by the committee really involved two different variables, changing the service model for school transportation and the use of alternative transportation options. The committee posed many questions about the service models for transportation used in most districts including fee for service, limiting service by need, and other creative ideas. State law allows local school boards to establish the criteria for district provided transportation. Additionally, the only transportation the district is obligated to provide by statute is transportation for students requiring it based on qualifications for special education services. However, most districts choose to provide significantly more student transportation than what is minimally required. In the event a district does choose, like Lake Washington, to provide student transportation beyond the minimum, the state funding mechanism, administered by the Office of the Superintendent of Public Instruction, defines parameters for the funding that require a geographic model of eligibility not to exceed 2 miles from a given school. This effectively made a lot of the creative solutions impossible given our current constraints. The committee spent time early in the process developing what if scenarios and questions, for example could we have a fee for transportation or could we only transport students who demonstrate a need, however most of those options either violated current regulations or created other consequences that rendered them unfeasible.

The district currently sets the transportation eligibility parameter at a 1-mile radius for all levels. The committee investigated changes to the service model by expanding the walk zone, particularly for secondary schools. While there was some potential savings, there were also consequences not the least of which would be increased traffic and parking pressure on already burdened school parking lots and city streets. Additionally, potential savings generated did not create enough capacity to tighten the elapsed window of time necessary to positively impact school start times. The net gain was approximately 10 runs spread across the high school and middle school tiers, which was not enough capacity to consolidate the transportation tiers to create capacity to move a level without impacting

others. Additionally, the committee felt reduction or limits in service created inequities in the system, because limits to service would impact families with more limited options more than others who had greater flexibility to transport their children or walk to school.

The district has experience using alternative providers for student transportation both contracting with out of district providers and in using community transit options in the form of King County Metro. Some students receiving services through Special Education and additional students qualifying for transportation under the McKinney Vento act are transported using two outsourced services. The routes run by these services are small, frequently individual service provided by car or van. Scaling these types of services to provide greater coverage or replace a transportation tier is inefficient and consequently cost prohibitive at larger scale. The district continuously examines this need, and when possible, moves this specialized transportation service back to district provided options. Our students also tend to be better served by our own experienced staff.

Several school districts in the region, specifically Seattle and Bellevue, have been able to outsource their entire high school tier in their tiered transportation systems which in turn created flexibility to make changes to school start times independent of other levels. Lake Washington High School in our district currently uses Metro provided transportation for students to and from school. When use of Metro went into effect, there were three pre-existing Metro routes servicing the school and the district pays for two additional Metro routes to provide additional coverage. While the two district funded routes initially provided a cost savings, the cost has escalated beyond our internal route costs, although the total cost is still a net savings when accounting for the 3 Metro provided routes.

Committee and Metro representatives met to discuss potential partnerships for the other high school programs in the Lake Washington School District, however there is insufficient Metro route coverage for other schools to viably supplant district provided transportation. For example, one route services the Redmond High School area, and a single route services Redmond Ridge. One route also serves the plateau, but that is it currently. Juanita had two potential routes, and Metro was amenable to shifting times and potentially a few stops to support student use, but not in adding additional capacity. There is not a current plan by Metro to increase service in the areas surrounding high schools sufficiently to supplant district provided options. Metro is struggling with many of the same labor conditions impacting school districts, namely the challenge in hiring, training, and retaining drivers, so even adding district funded routes was not feasible at this time. In conclusion, while sharing an interest in students utilizing community transit options, there is insufficient service now or in the short to medium term for Metro service to be operationally feasible as an alternative to district transportation of high school students.

District Provided Transportation

The variables discussed thus far all point to a primary driver of school start times, which is district provided transportation for students. Most districts, including Lake Washington, utilize a tiered transportation system for transporting students. Tiers are a bus run for a

single level of school, elementary, middle, or high school, and a bus route is made up of multiple tiers to create efficiency and maximize use of labor and equipment. In our current system, a driver and bus would first run a high school tier, then typically a middle school tier, and then end the morning with an elementary tier. The same bus and driver would then repeat the sequence again in the afternoon, resulting in a single bus and driver being utilized across multiple tiers, creating a more efficient use of both the equipment and labor. The efficiency created by tiered transportation systems comes at a cost, however, in terms of the flexibility to start the different school levels, preschool, elementary, middle, and high schools in a consolidated window of time.

The district's current transportation system is a 4.5 tier system demonstrated in Table 5. The current district schedule results in a total of 98 routes, drivers, and buses, needed to transport nearly 7,000 students to and from school every day. The total routes needed is determined by the largest single tier added to the number of buses need to make the runs for students qualified for special education. A half tier is created by splitting the elementary school tier into an A and B group. A single elementary tier would require 28 additional bus routes, which would not then be utilized for high school or middle school tiers. Routes are optimized for efficiency, limiting the time spent with empty buses moving between tiers. Shuttles and other program routes are worked into the schedule where there is flexibility.

Buses Start the Tier					98 routes total
Tiers	6:30-7:00	7:00-8:00	8:00-9:00	9:00-9:20	
High School / ICS / MS 45 minutes	61 Buses →				
Middle School 30 - 45 minutes		61 Buses →			
Elementary School 15 minutes X 2			61 Buses →	28 Buses →	
Special Education	37 Buses →				

Table 5

This reality that much of the conversation around school start times is driven by transportation constraints is something the committee wrestled with in every meeting. Ideally, start times of schools would be set optimally for each level of schooling independent of other variables and schools, and in fact, this is something that was intentionally discussed.

Level	Tier Length	7:45 AM	8:00 AM	8:30 AM	Start
High	45 min	61			8:45 AM
Middle	30 min		61		8:45 AM
Elementary	15 min			89	8:45 AM
SPED		37			8:45 AM

$$61 + 61 + 89 + 37 = 248$$

Table 6

The second guiding principle developed by the committee, operational and fiscal feasibility became the primary barrier to this approach. Currently, the school district receives funding for only 83% of the actual cost of running the existing transportation system. That means 17% of the funding for our existing system must come from local levy dollars, and additional expense by adding significantly more routes will create negative pressure on existing budgets. Table 6 illustrates what a single tier system would look like, where all schools begin in the same window of time.

District	Riders	Students	% Riders	# Buses
LWSD	8908	31264	29%	94
Bellevue	7263	21748	33%	100
Issaquah	8943	20961	43%	131
Northshore	9177	23067	40%	120
Edmonds	7791	21364	37%	137
Kent	9617	27215	35%	131
Renton	4517	16334	28%	89

Table 7

In comparison to other districts in the region, the Lake Washington School District runs a relatively efficient system. Table 7 provides a 2019 comparison of LWSD's transportation system to several other regional districts. Note districts with smaller ridership utilize similar numbers of buses as Lake Washington. While some of that difference is attributable to geographical characteristics of

districts, Table 7 does show a favorable comparison in terms of efficiency of the LWSD transportation system. It is also important to note ridership is down from the pre-pandemic peak, and there is route variability from year to year based on a variety of other factors.

The committee's guiding principal of fiscal and operational feasibility became central to this discussion. Since the district's current system is already underfunded, additional expense was likely to add additional pressure to already allocated locally funded resources,

so setting optimal start times for every school and building a single tier system to accommodate that really was not financially or operationally feasible. This meant the committee needed to find a compromise that worked within the tiered system without adding undue additional cost burden.

Stakeholder Engagement

As part of the process, two different ThoughtExchanges were used to gather community stakeholder sentiment around changes to school start times. The first opportunity was run early in the process in October 2022 and was designed to elicit interests and impact from the broader community as well as to raise awareness of the issue. In this first exchange, there were 3,281 participants, 2,367 thoughts shared, and 50,376 ratings applied to thoughts. A primary consideration in using this tool was to keep the conversation open ended. Additionally, ThoughtExchange provides two-way translation of both the survey question and individual response, and in this first exchange there were 13 different languages represented in the sample.

The highest rated themes that emerged from the first exchange were around impacts to students' physical and mental health and aligning start times with research on the matter. However, while there was not unanimous acknowledgment in the sample of a need to change start times, there was strong support for later start times demonstrated in this early data collection effort, illustrated in Figure 2

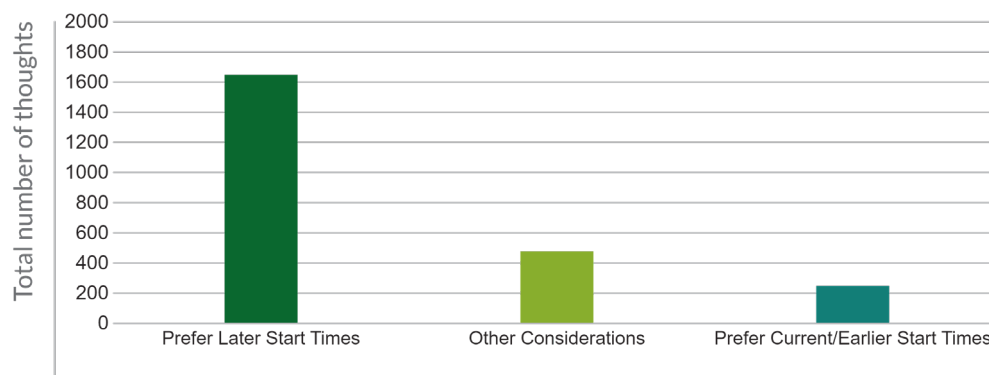


Figure 2

This first exchange did not garner as much information about impacts of a change, largely due to the fact there were not proposals to use as a basis of comparison to current state. Some themes did emerge that carried into the second exchange opportunity, primarily concerns around activities and work schedule impacts. This data was used by the committee to make refinements to previous draft proposals resulting in two options that were presented to the community for additional engagement in December 2022.

Options Published for Stakeholder Engagement

Option 1 moves high school start times to 8:30 AM with dismissal at 3:20 PM. STEM would follow the high school schedule. ICS would follow the middle school start time but dismiss 25 minutes later to align with the length of the high school day for ICS high school students. Middle schools would consolidate to the 7:50 AM start time and 2:20 dismissal.

Elementary schools continue to be grouped into two groups with group A starting at 8:40 AM and group B starting at 9:20 AM with dismissal at 3:10 PM and 3:50 PM respectively.

Option 1

Level	Start	End
Middle	7:50 AM	2:20 PM
ICS	7:50 AM	2:45 PM
High	8:30 AM	3:20 PM
Stem	8:30 AM	3:20 PM
Elementary A	8:40 AM	3:10 PM
AM PreK/HS	8:40 AM	11:10 AM / 12:10 PM
PM PreK/HS	12:10 PM	2:40 PM / 3:40 PM
Transition	9:20 AM	3:50 PM
Elementary B	9:20 AM	3:50 PM

Table 8

AM preschool programs would start at the same time as the host elementary school. Preschool start times would move to 8:40 AM and 12:10 PM with dismissal at 11:10 AM, 12:10 PM, 2:40 PM, and 3:40 PM depending on the program. The length of the school day is not changed for any level.

Modeling using current ridership data for the 22-23 school year suggests Option 1 would require approximately 10 additional bus routes. Route optimization of this model could reduce the number of additional routes needed to between 6 and 9.

Option 2

Level	Start	End
Elementary A	7:40 AM	2:10 PM
AM PreK/HS	7:40 AM	10:10 AM / 11:10 AM
PM PreK/HS	11:10 AM	1:40 PM / 2:40 PM
Elementary B	8:05 AM	2:35 PM
AM PreK/HS	8:05 AM	10:35 AM / 11:35 AM
PM PreK/HS	11:35 AM	2:05 PM / 3:05 PM
Middle	8:25 AM	2:55 PM
High	8:50 AM	3:40 PM
ICS/STEM	8:50 AM	3:45 PM
Transition	9:00 AM	3:30 PM

Table 9

Option 2 would move high schools to start at 8:50 AM with dismissal at 3:40 PM. STEM and ICS would dismiss 5 minutes later at 3:45 PM. Middle schools would move to an 8:25 AM start time and a 2:55 PM dismissal. Elementary schools continue to be grouped into two groups with group A starting at 7:40 AM and group B starting at 8:05 AM with dismissal at 2:10 PM and 2:25 PM respectively.

Preschool start times would align to the elementary school host location.

Start times for AM sessions in group A schools would be 7:40 AM. Dismissal from AM in group A schools would be 10:10 AM or 11:10 AM. Group A preschool afternoon session

would start at 11:10 AM with dismissal at 1:40 PM or 2:40 PM. For preschool programs located in group B schools, morning session would start at 8:05 AM with dismissal either at 10:35 AM or 11:35 AM, depending on program. Afternoon session located in group B schools would start at 11:35 AM and dismiss at either 2:05 PM or 3:05 PM depending on program.

Modeling using current ridership data for the 22-23 school year suggests Option 2 would require approximately 11 additional bus routes. Route optimization of this model could reduce the number of additional routes needed to between 4 and 7.

There are positives and challenges with each proposal, evident both in the committee discussions and in the second community engagement opportunity that was reflected in the strong participation.

The proposals were published to the district's website and communication was distributed through multiple district channels to engage the community. The timing was a bit unfortunate, given the last committee meeting in December was only one day prior to the start of Winter Break, however the opportunity for engagement intentionally stretched into January to accommodate broader participation, and multiple reminders were sent to stakeholders to encourage participation. A video was created outlining both the process and options being presented and published along with written materials. Three community information nights were held on the evenings of January 3-6 in various locations. Originally, only the first night was intended to be a Teams Live event, but due to power outages, the second night was adjusted at the last minute from Lake Washington High School to a Teams event resulting in by far the strongest attendance of the three nights. The final evening was held in the Board Room at the Resource Center. Nearly 1,000 participants attended a community information night over the course of the three days. All questions from the events were collected and posted along with responses to the district website.

The committee also ran a second ThoughtExchange during this time asking participants "what are the positive impacts of changing to one of the presented start time options? What concerns do you have about changing school start times to one of the options?" This second exchange garnered very strong participation with 9,776 participants including 7,239 parent / community members, 1,548 students, and 989 staff members. 19 different languages were represented in the 8,429 thoughts shared, and 157,539 ratings were given to thoughts. ThoughtExchange uses a ratings ratio and alignment score to give a sense of both engagement with the Exchange by participants as well as alignment in how thoughts shared are rated. The second ThoughtExchange, much like the first, demonstrated a high engagement ratio of 19. Anything above 15 for an exchange with more than 30 thoughts is considered high engagement. The alignment score was low in both exchanges, indicating polarization of how scores were allocated to different thoughts. This is also not surprising given both the data collected and the reality of a change of this nature.

The artificial intelligence keyword theming was not particularly helpful in producing discernible community sentiments, largely due to the size of the sample and prevalence of specific keywords in the sample, "sleep" for example, which is not on the surface an

expression of sentiment towards a change in start times. In response, a custom theme set was developed using concepts from the committee discussion as well as thoughts expressed in the first ThoughtExchange. All 8,429 thoughts were read and themed using the custom theme set, resulting in the total thoughts by theme distribution outlined in Figure 3. A single thought could have up to two themes, so the total will not equal the total of 8,429 thoughts shared. There were also some omissions from the dataset related to either vulgar or inappropriate language, duplicate thoughts from the same user flagged by the system, or empty submissions.

Total Thoughts by Theme - All Participant Groups

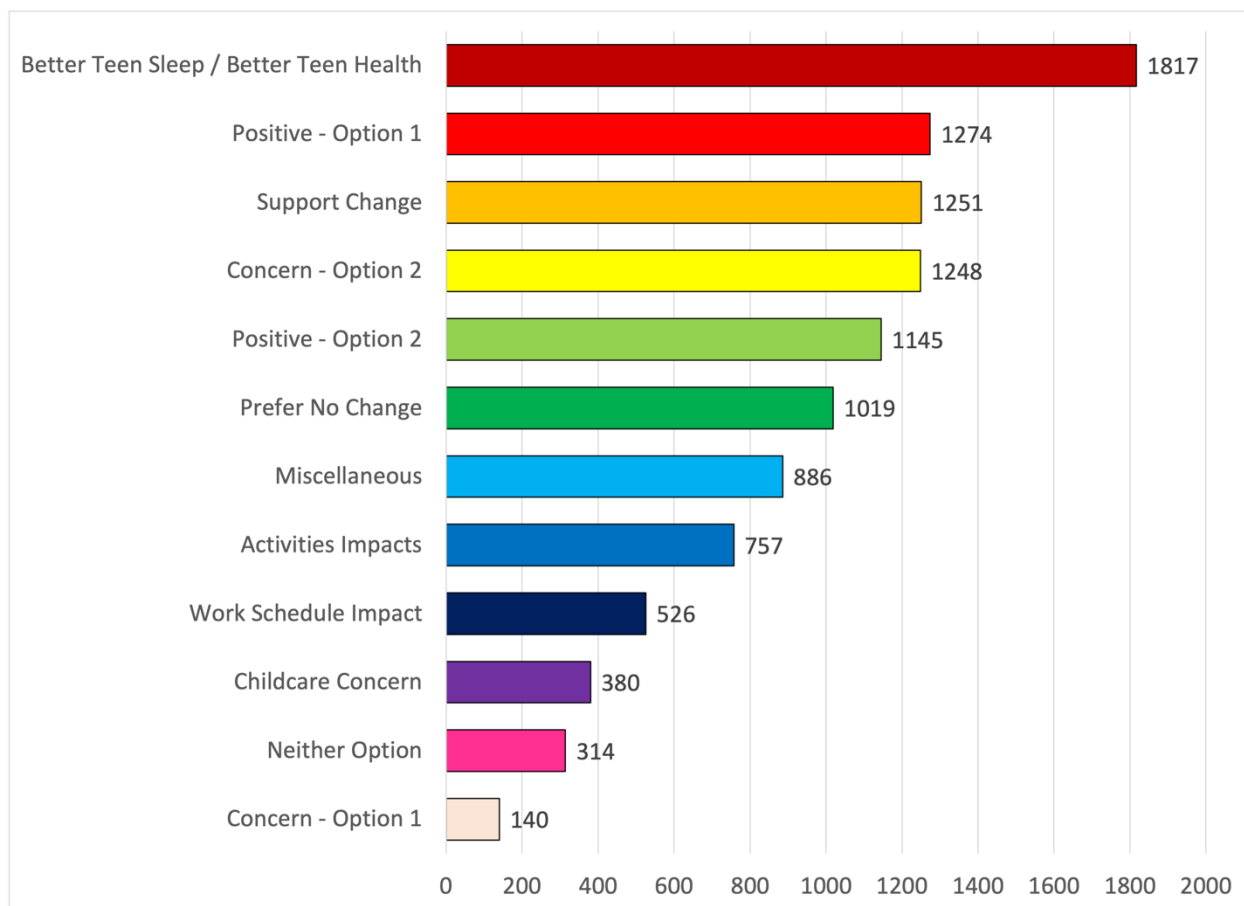


Figure 3

The distribution of thoughts in the dataset from the second ThoughtExchange would imply continued understanding and support for a change in school start times to accommodate a later high school start time. However, there are a few interesting sentiments appearing in the data. The binary options presented by the committee allowed preferences to be expressed by participants, and the data shows almost an identical preference for Option 1 and 2 in the overall dataset. Due to the short timeline associated with the close of the data and the last committee meeting, the initial polar analysis based on the highest and lowest rated thoughts demonstrated a wider gap between those options than was discovered in

the total data set implying a polarity in the preferences expressed through star score ratings of individual thoughts. Option 1 preferential statements rated higher than Option 2 and the polar ends of the dataset when ranked by star score. That polarity based on thought frequency wasn't prevalent in the full dataset as was found in the polar analysis.

It is interesting to note the frequency of thoughts expressing concerns for Option 2 were dramatically different than concern for Option 1, implying Option 2 was perhaps more polarizing overall than Option 1. A significant portion of the overall dataset also preferred either no change or expressed support for change but not for either option, further demonstrating the polarizing nature of this issue.

Different participant groups, as expected, also produced different data distributions, shared below, beginning with the largest group.

Total Thoughts by Theme – Parent / Caregiver / Community Members

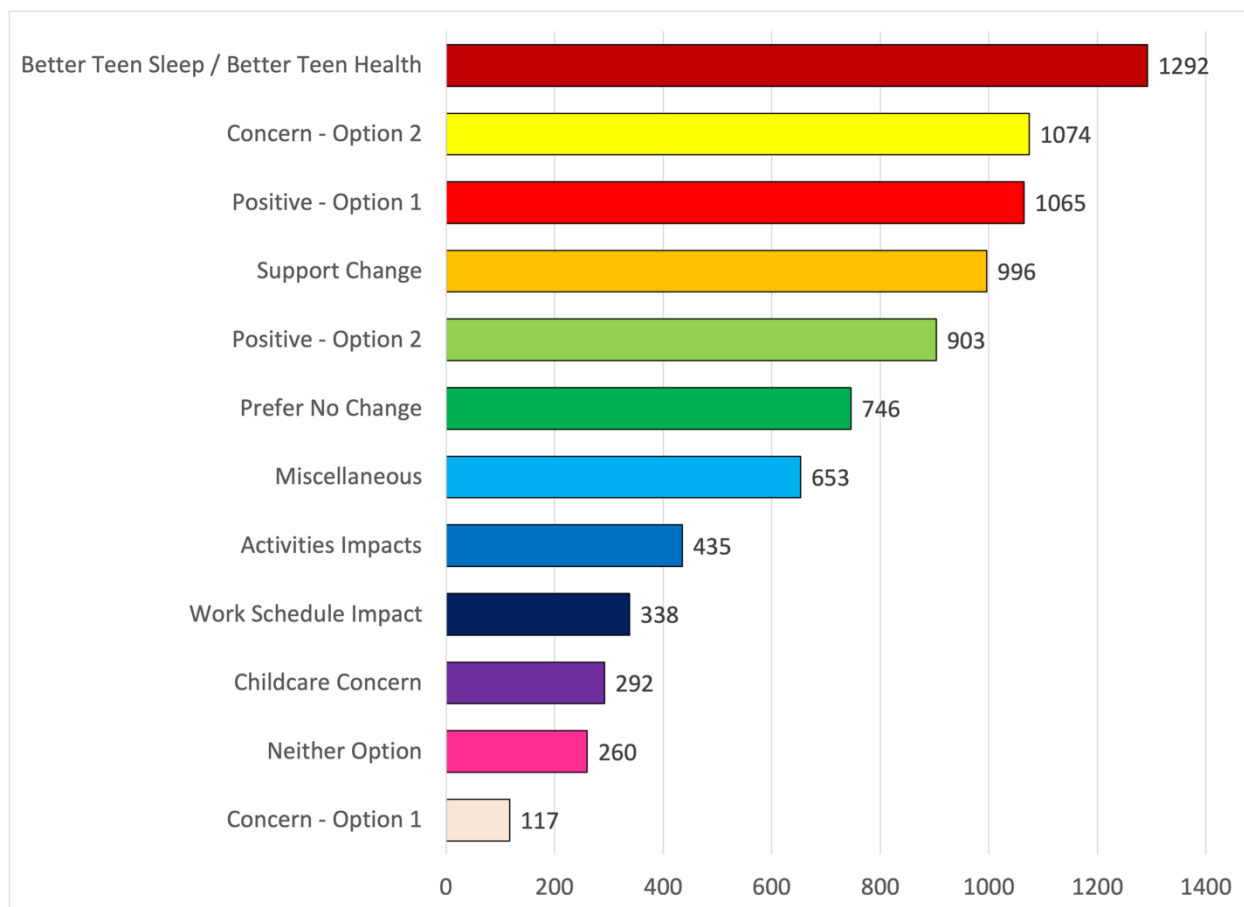


Figure 4

Figure 4 demonstrates the thought distribution of the parent / community member group, which mirrors the total for the All group, largely because there were more parents and community members participating than other groups. There were some differences

emerging in the data. Option 1 had a slightly larger margin of positive thoughts than Option 2. The concern polarity mentioned previously persisted though in this group. Opposing thoughts were prevalent in the data set. One participant might express 7:40 AM was too early for elementary to start, referring to Option 2, and another would express 7:40 as an ideal time for their elementary student. Some participants commented on work schedule impacts that could be positive while others were equally concerned about negative work schedule impacts. Childcare access and cost was a common theme expressed both in favor of and in opposition to specific both options. Impacts both positive and negative on afterschool extracurriculars were frequently mentioned in opposing thoughts too. The differences related to a specific participant group's primary concerns.

In Figure 5, students expressed concern around after school time and the impact both on time to complete homework but also in potential negative impacts to afterschool extracurricular activities. The student group was also the only group with a higher number of thoughts preferring not to change the start times over either one of the options, and another frequent concern expressed was work load overall doesn't change, rendering start time of school less important in overall sleep than research might suggest, according to some student participants in the ThoughtExchange.

Total Thoughts by Theme - Students

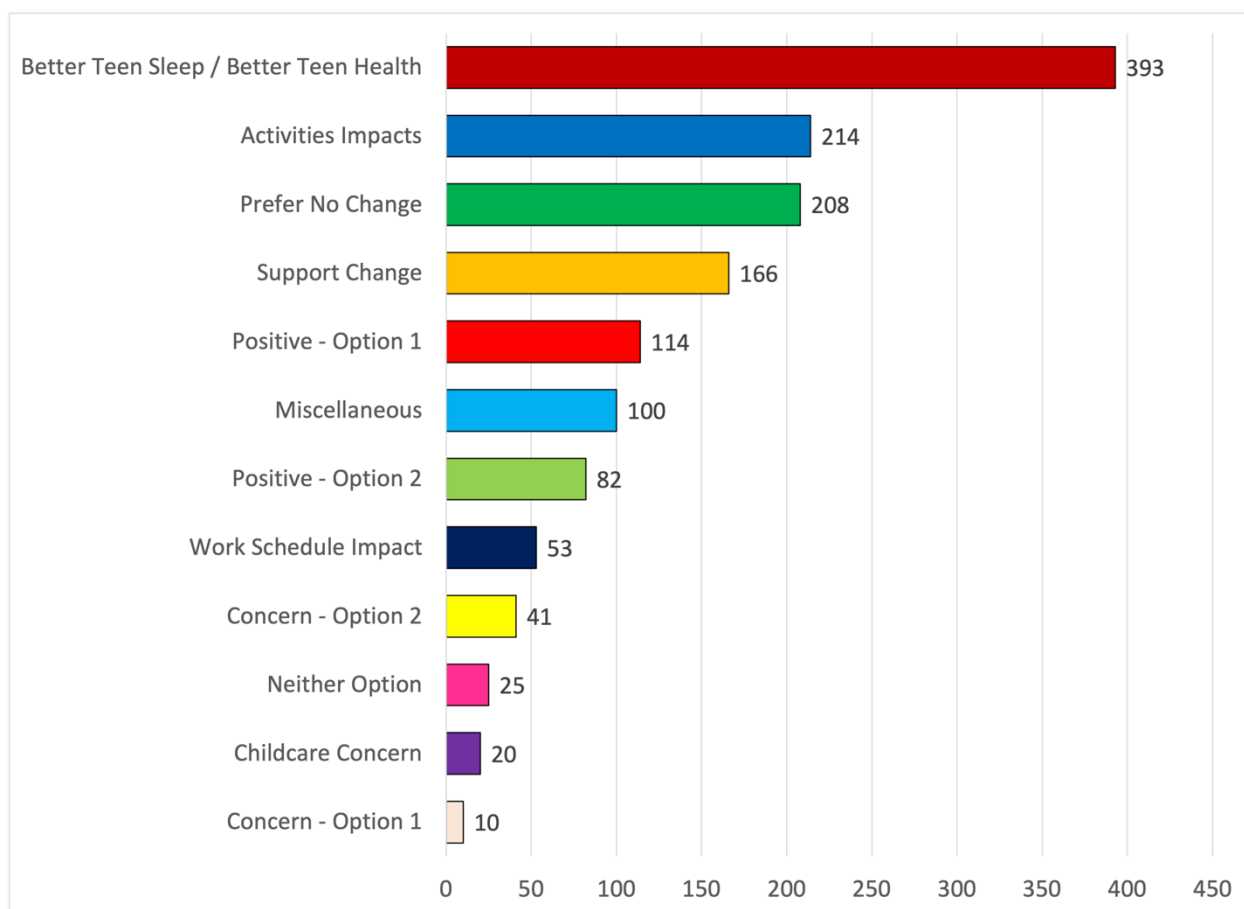


Figure 5

The remaining participant groups were the administrators, staff, and teachers which have been combined in this report. This group demonstrated a higher response favoring Option 2, which was unique in the dataset, but Option 2 also had a high prevalence of concern, not surprisingly, for impacts to work schedules. There were many questions from staff pertaining to the periods of time prior to and immediately after the student contact day. Administrative staff at the elementary level shared concerns around the impact of the late start elementary group while other staff shared thoughts around the early start elementary in Option 2 being inappropriate for younger students too.

Total Thoughts by Theme – Staff, Administrators, Teachers

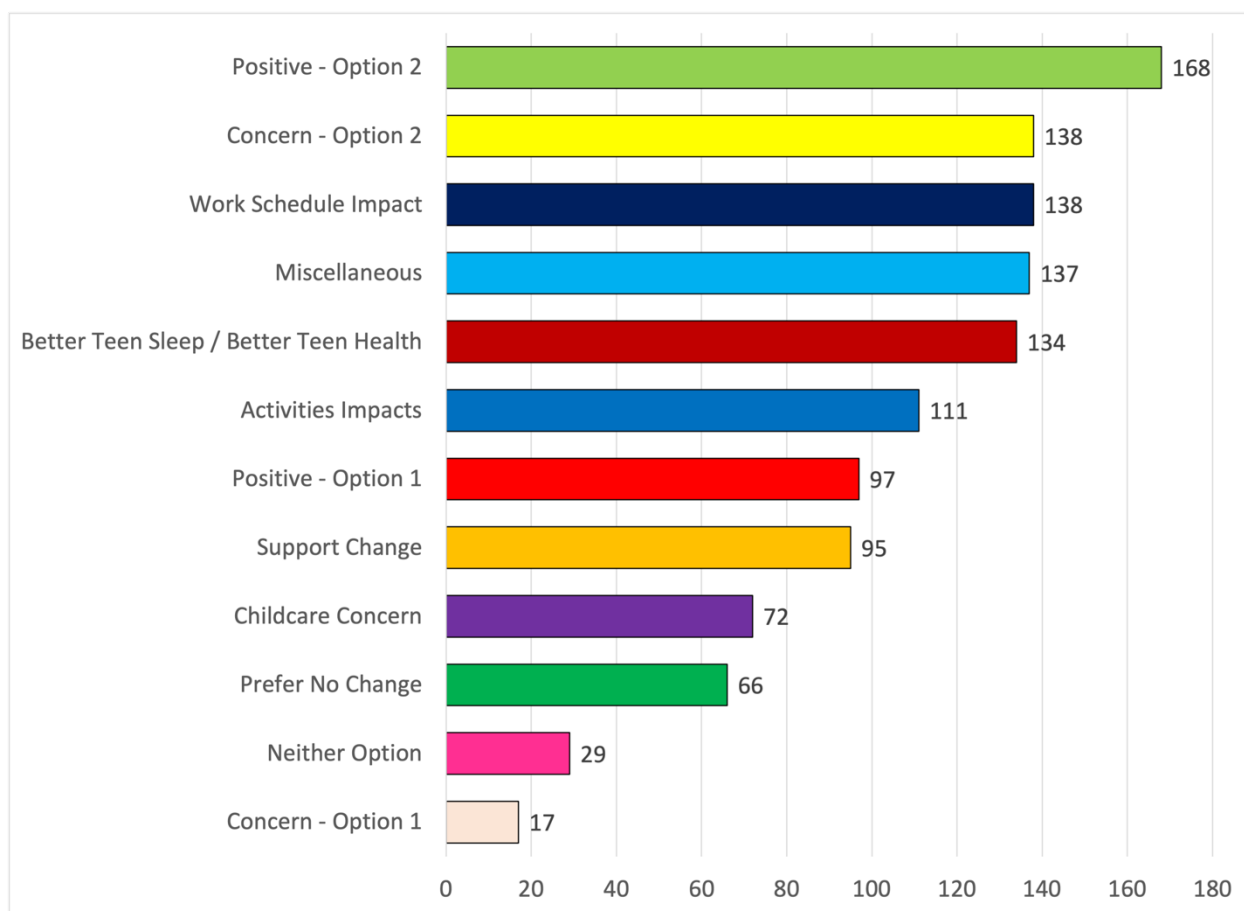


Figure 6

One additional way ThoughtExchange presents data is using star scores of highest and lowest thoughts generated by participant interactions with submitted thoughts. These scores are generated as additional participants interact with a randomized presentation of thoughts from prior participants rating those thoughts high or low on a 5-point scale. The ratings ratio of 19 for the second exchange demonstrated a high interaction rate in the Exchange. Anything over 15 for an exchange with greater than 30 submissions is considered high interaction. What is interesting to note is that even with high interactivity, the alignment of the ratings was low indicating there really wasn't a wide swing between favorable and not favorable themes.

Figure 7 shows the custom themes distributed by star score with a high of 3.8 and a low of 3.1. The distribution of scores along the midpoint of the scale demonstrates the low alignment of the data.

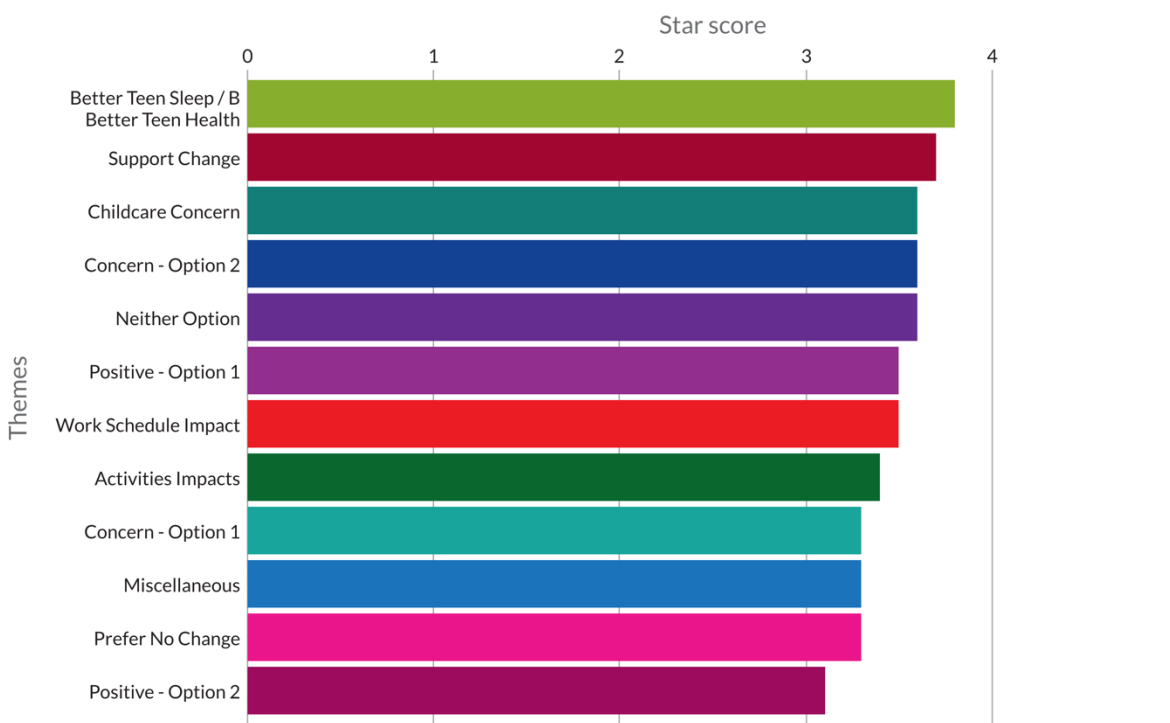


Figure 7

For individuals, the impacts are very individualized to their context. The questions posed in the ThoughtExchange specifically asked for individual impacts, and that appears to be exactly what was shared. One interpretation of the data could be that there isn't a theme that stood far and away above the others over the broad community, although the themes of better sleep and support change did score higher. That score distribution was a relatively small change, indicating to others themes rated either really high or really low, depending on the context for that individual. It is also important to note that while the scores were relatively similar across themes, the number of thoughts scored was not similar, so it is important to couple this data with the data presented above examining the frequency of themes in the data set.

The polarized data was not lost on the committee and in fact was present in nearly every discussion. The committee realized early that families and staff would be impacted differently by whatever the recommendation. What was preferential or impactful for one family was a different impact or benefit for another, and that is certainly what played out in the dataset. The committee also recognizes that for each family, those varying perspectives are valid, and this was very evident in the final community information night.

At the last information night prior to the ThoughtExchange closing, there were only 6 attendees. Four separate families were represented, and there was one committee member

and a board member in attendance. Each family present represented a very different perspective on the same question surrounding school start times. One family advocated for no change, because their work schedules and childcare options were not flexible. Either option would be to this family an unwelcome change. To another family, the early elementary option worked better, because it better aligned with the single parent's work schedule, but it would also mean longer afternoon childcare. To another family, the early start elementary was not preferable because the 7:40 start time was too early for their schedule. The final family was a high school parent and child who shared deep concern for the health impacts of early start high schools and would support any change that remedied that. Four different families, each with a valid perspective, all of which would be impacted in different ways from either of the options including not changing anything.

Conclusion and Recommendation

The committee considered all data from the ThoughtExchange coupled with the work to understand the variables associated with school start times and arrived at a single recommendation to move forward to the superintendent. The committee acknowledged arguments for both options presented by members and the thoughts expressed in the ThoughtExchange as well as in the community information nights. There was not a perfect solution that could accommodate a change for high school and preschool that did not impact other levels due to the interdependence of factors, not the least of which was the tiered transportation system. Coupled with the tight labor market and fiscal reality of transportation funding, the committee sought to find an option that accomplished the scope without inordinate impact to both families and district operations. In the end, there was only one option the majority of committee members felt would be viable, Option 1.

Option 1 accomplishes the scope presented to the committee, change high school start times to no earlier than 8:00 AM and move preschool start times earlier, with potentially the least overall impact, although there will still be significant impact for stakeholders. The committee did attempt one more time to shift the middle school start time to 8:00, however that pushed the whole window by that 10 minutes and created undesirable impact on the release time of high school. The recommendation therefore is Option 1 as presented.

Option 1

Level	Start	End
Middle	7:50 AM	2:20 PM
ICS	7:50 AM	2:45 PM
High	8:30 AM	3:20 PM
Stem	8:30 AM	3:20 PM
Elementary A	8:40 AM	3:10 PM
AM PreK/HS	8:40 AM	11:10 AM / 12:10 PM
PM PreK/HS	12:10 PM	2:40 PM / 3:40 PM
Transition	9:20 AM	3:50 PM
Elementary B	9:20 AM	3:50 PM

The committee acknowledged arguments for both options presented by members as well as in the thoughts expressed in the ThoughtExchange by various stakeholder groups and recommends the district utilize the data in planning for further mitigation of impacts on families and staff. The nature of a change of this magnitude will require thoughtful planning and regular communication.