



“Smarter School Spending” Resource Alignment Initiative

Board Working Session

September 16, 2013



THE PARTHENON GROUP

Objectives for Today

1. Project Update

2. Preliminary Resource Allocation Analysis

- Executive Summary of Key Findings
- District Financial Summaries: Central Office Spending
- Elementary School Resource Analysis
- High School Resource Analysis

3. Next Steps



Project Update

Knox County Schools has embarked on a resource alignment initiative to complement its strategic planning process

Objectives

- 1 Assess the alignment between human and financial resources and core instructional priorities by analyzing the performance and cost impacts of key functions related to:
 - Use of time
 - Human capital
 - Special programs/initiatives
- 2 Assess Central Office spending by analyzing the costs of key functions
- 3 Identify gaps in current planning, budgeting, and evaluation processes in order to develop and implement a district-wide continuous improvement process that becomes part of the district culture and is embedded in district leadership daily operations

Through the Gates grant, KCS has partnered with ERS and The Parthenon Group on the resource alignment initiative



Project Update

To meet these objectives, KCS identified 10 focus areas; the project has made progress against 9, with a survey effort launching to complement the analysis

Category	Focus Area	Status
Time	1. Instructional models, including high school block scheduling	
	2. Instructional coaching model utilization and effectiveness	
	3. Instructional aides' utilization and effectiveness	
Human Capital	4. Support for evaluation system, including Lead Teachers	
	5. Professional development supports, including the TAP model	
	6. Strategic compensation	
Programmatic	7. Special Education model	
	8. Early grade intervention programs	
	9. Personalizing student learning	
Overall Resource Allocation	10. Overall resource allocation: a) Central Office benchmarking b) Per pupil equity analysis c) School level resource organization	

Focus of today's presentation



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Executive Summary of Key Findings

To guide the implications of the work, KCS seeks to answer three key questions that will align investments to the right people, right work, and right supports

Are KCS investments **buying the right things**?

Is KCS making the **best use of its current investments**?

Does KCS have **processes and capacity** in place to continuously refine the work?



Right People



Right Work



Right Supports



Executive Summary of Key Findings

KCS has begun to identify opportunities to adjust how human and financial resources are allocated to support district priorities

Focus Area	Key Findings	Preliminary Implications
Overall district financial summaries	<ul style="list-style-type: none"> • KCS spends less per pupil than many other districts that ERS has analyzed in detail • Relative to districts with similar enrollment and per pupil funding, KCS tends to spend less on central administration; this is consistent across all major central spending categories • KCS spends significantly less than most comparison districts on school supervision and support 	<p>Functions where KCS spends significantly less than comparison districts may be targeted for investment or reallocation as part of internal capacity building</p>
Analysis of how elementary schools use resources to serve student needs	<ul style="list-style-type: none"> • KCS' invests in small class size, bringing in as many as 100 additional teachers <ul style="list-style-type: none"> – KCSs staffing formula and other policies produce investments in lower class size in high need schools – School size also results in an additional “non-voluntary” investment • Given current teacher effectiveness levels, this may not result in the highest quality resources allocated to high need schools 	<p>KCS seeks to identify ways to invest in higher quality teachers and other resources for high need schools</p>
Analysis of how secondary schools use resources to serve student needs	<ul style="list-style-type: none"> • There is significant variation in how KCS teachers utilize the block period • The block schedule is not being utilized consistently to differentiate time for struggling students • Relative to comparison districts, KCS high schools dedicate less time to core subjects overall • Elective classes generally have lower class sizes than core classes, particularly in 11th and 12th grade when overall enrollment declines 	<p>There may be opportunities to improve the scheduling model to increase differentiation for struggling students and increase time on core subjects for all students</p>



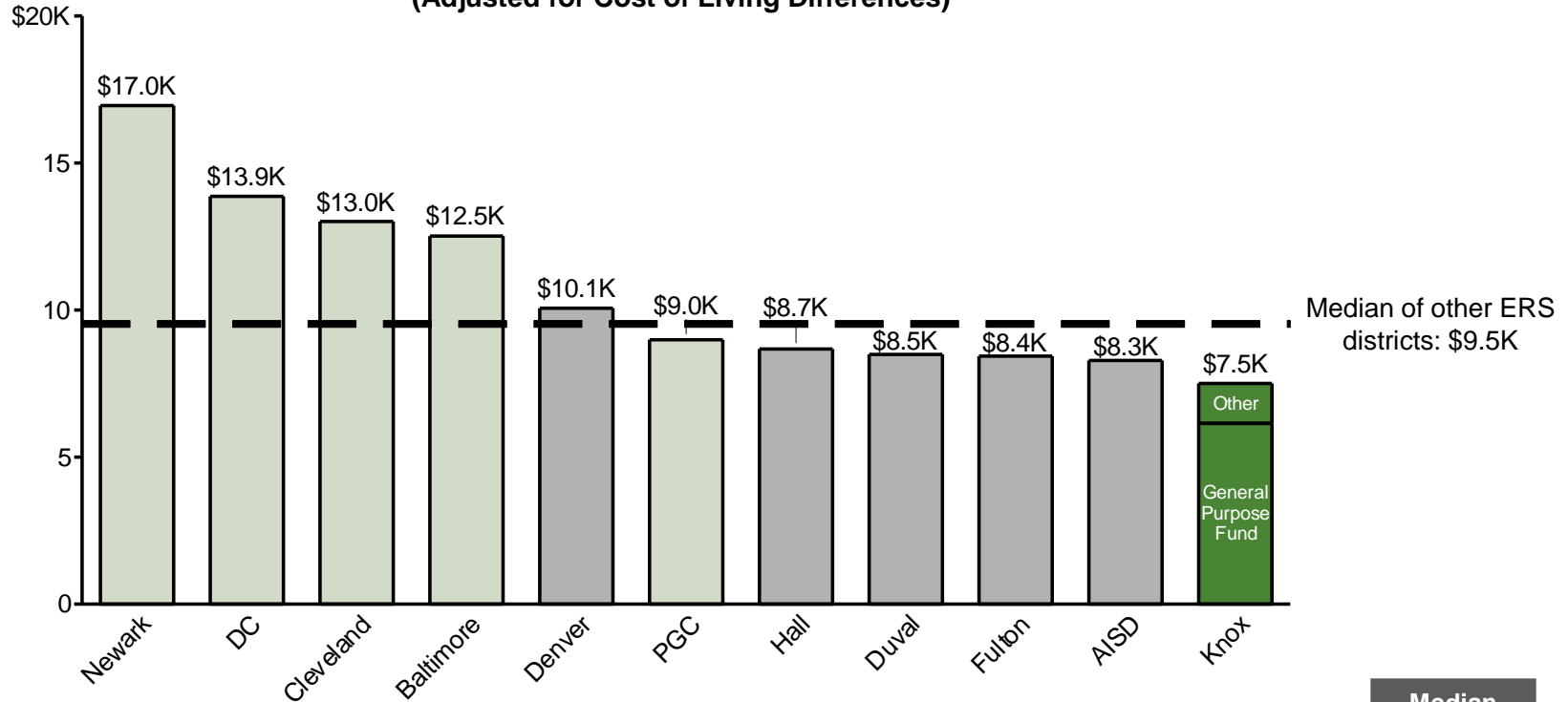
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KCS spends less per pupil than many of the other districts that ERS has examined

**Cross-District Comparison of PreK-12 Operating Expenses Per Pupil
(Adjusted for Cost of Living Differences)**



Enrollment	37.6K	44.1K	40.1K	83.8K	68.7K	123.5K	25.9K	120.8K	88.3K	86.5K	58.0K
% Free or Reduced Lunch	86%	56%	100%	77%	70%	60%	58%	53%	42%	64%	47%
% Proficient + on State Test	46%	45%	50%	63%	43%	71%	85%	58%	88%	86%	57%

Median
76,230
62%
61%

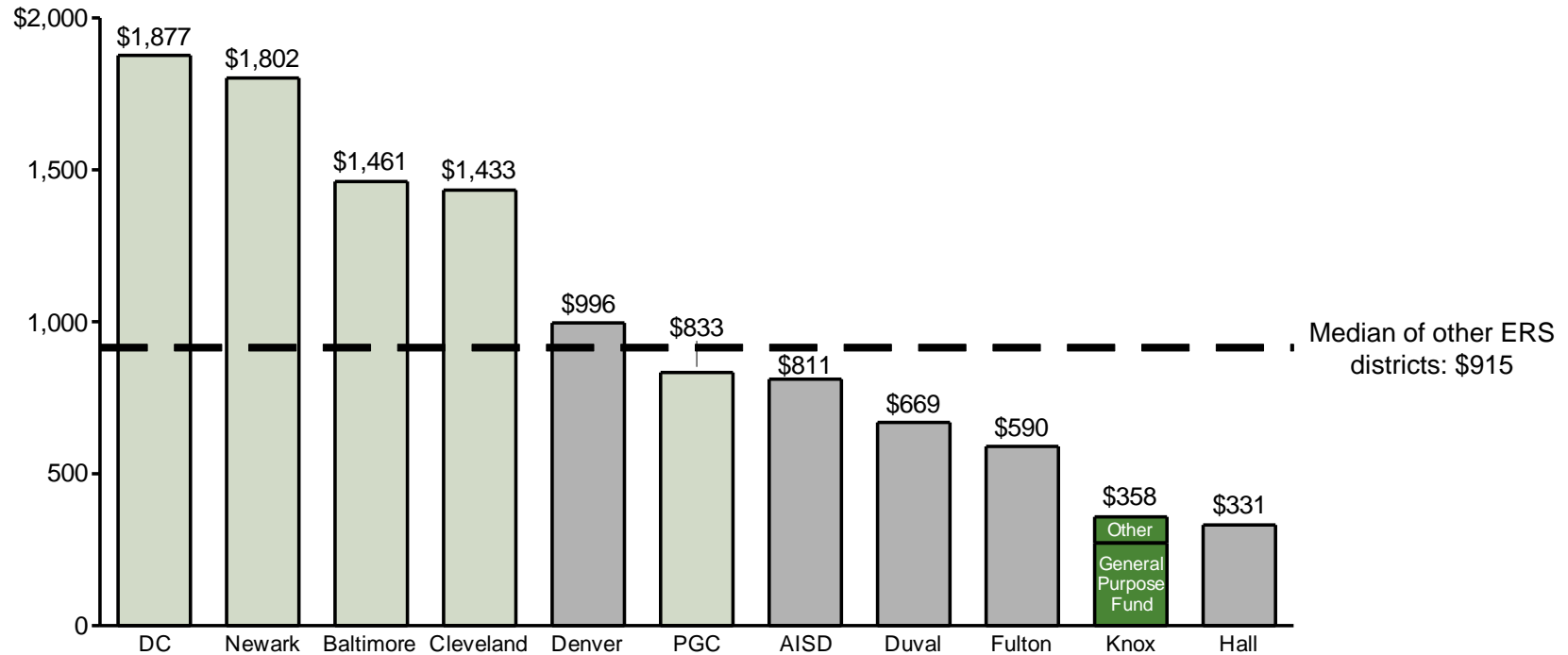
Selected as comparison districts based on \$PP and student enrollment, need and achievement



*Note: Approximation of passing rate using weighted average of pass rate by grade and enrollment
Source: KCS 2011-12 expenditure data; ERS analysis

Relative to comparison districts, KCS spends less per pupil on Central Office uses and functions

**Cross-District Comparison of Central Office Operating Expenses Per Pupil
(Adjusted for Cost of Living Differences)**



Enrollment	44.1K	37.6K	83.8K	40.1K	68.7K	123.5K	86.5K	120.8K	88.3K	58.0K	25.9K
% Central Office	9.9%	8.5%	10.6%	10.6%	9.3%	8.5%	8.7%	7.9%	6.3%	4.7%	3.9%
% Central Positions	6.6%	5.8%	6.3%	4.8%	7.1%	5.7%	6.0%	4.2%	3.4%	3.6%	3.0%

Median
76,230
8.6%
5.7%

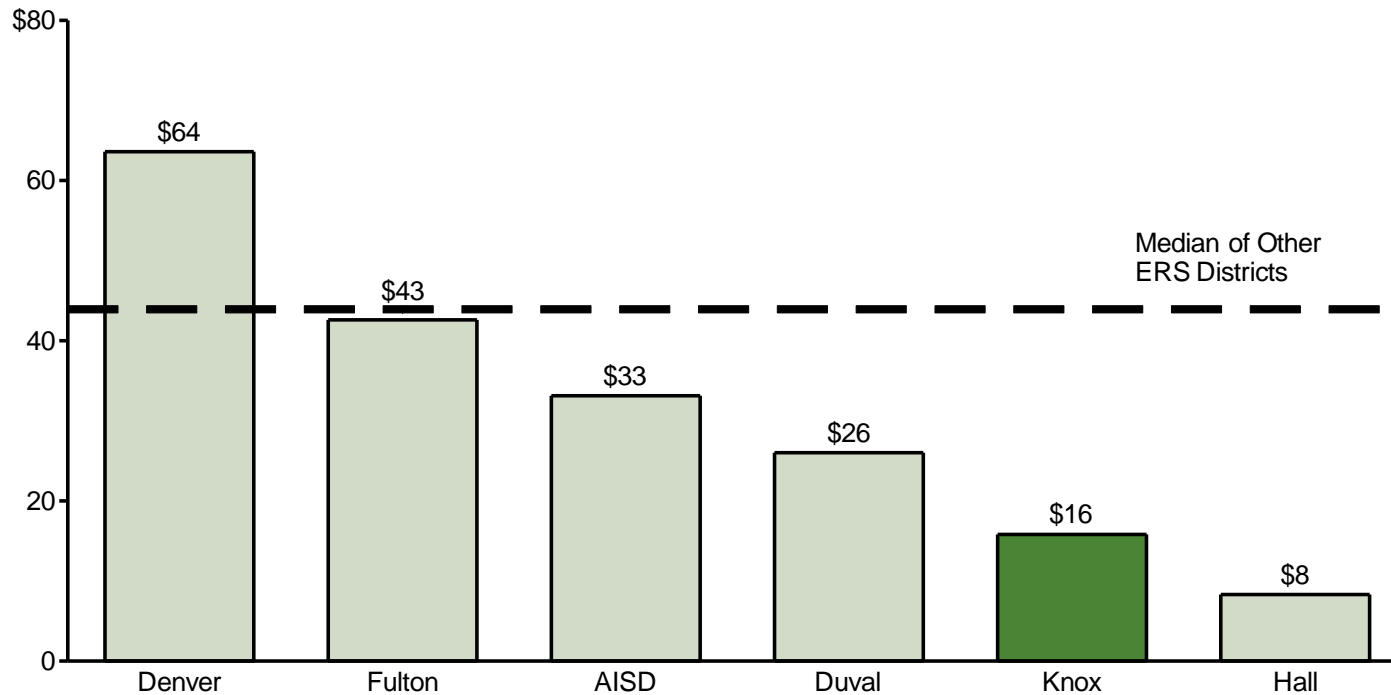
Selected as comparison districts based on \$PP and student enrollment, need and achievement



Note: Central Office spending is defined as district governance and management of support services provided to schools. It includes personnel who report to work at the Central Office and non-personnel "overhead" costs that cannot be attributed to schools in any way
Source: KCS 2011-12 expenditure data; ERS analysis

Relative to comparison districts, KCS spends below the median on School Supervision

Cross-District Comparison of Central Office School Supervision Spending Per Pupil



Employees PP	0.93	0.42	0.26	0.22	0.14	NA
Average Salary	\$59K	\$81K	\$95K	\$106K	\$109K	NA
NPS \$PP	\$9	\$8	\$9	\$3	\$1	NA



Note: Employees PP = Employees per 1000 students
Source: KCS 2011-12 expenditure data; ERS analysis

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Elementary School Resource Analysis

In order to accurately identify the investments KCS has chosen, the class size and use of time analysis begin with state and district policy

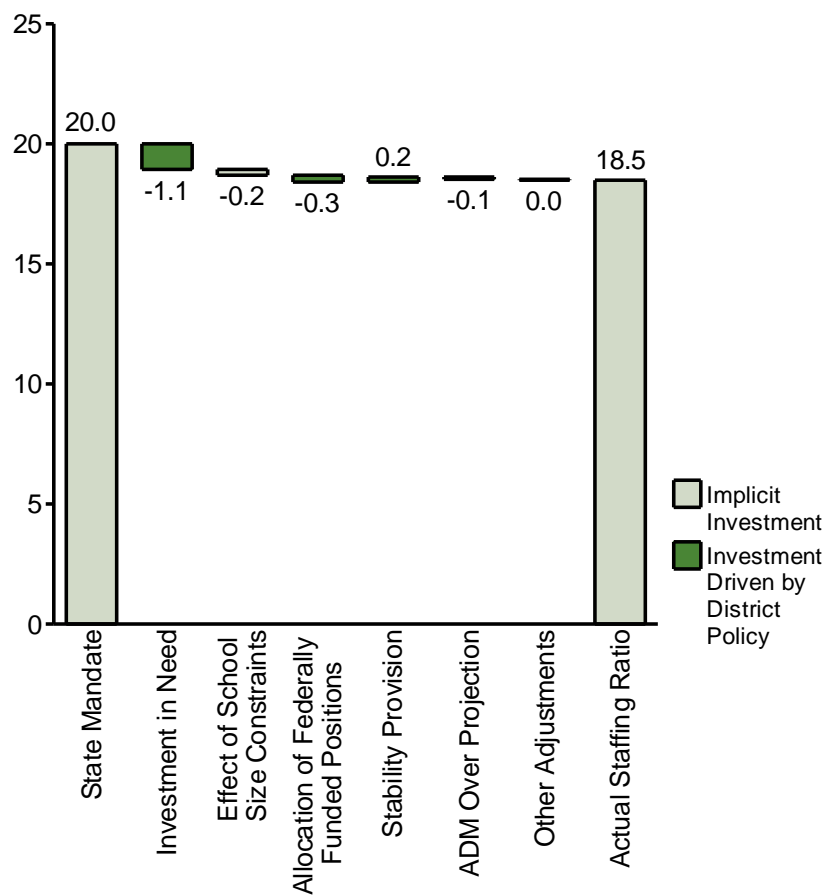
1. What are the state mandated policies for class size (maximums) and graduation requirements (core vs. non-core)?
2. What additional policies has KCS instituted and what drives those policies (student need)?
3. How do structural realities (school size, teacher certifications) interact with the policies?
4. What does the ultimate investment buy KCS?
5. Is this investment effective in meeting district priorities?



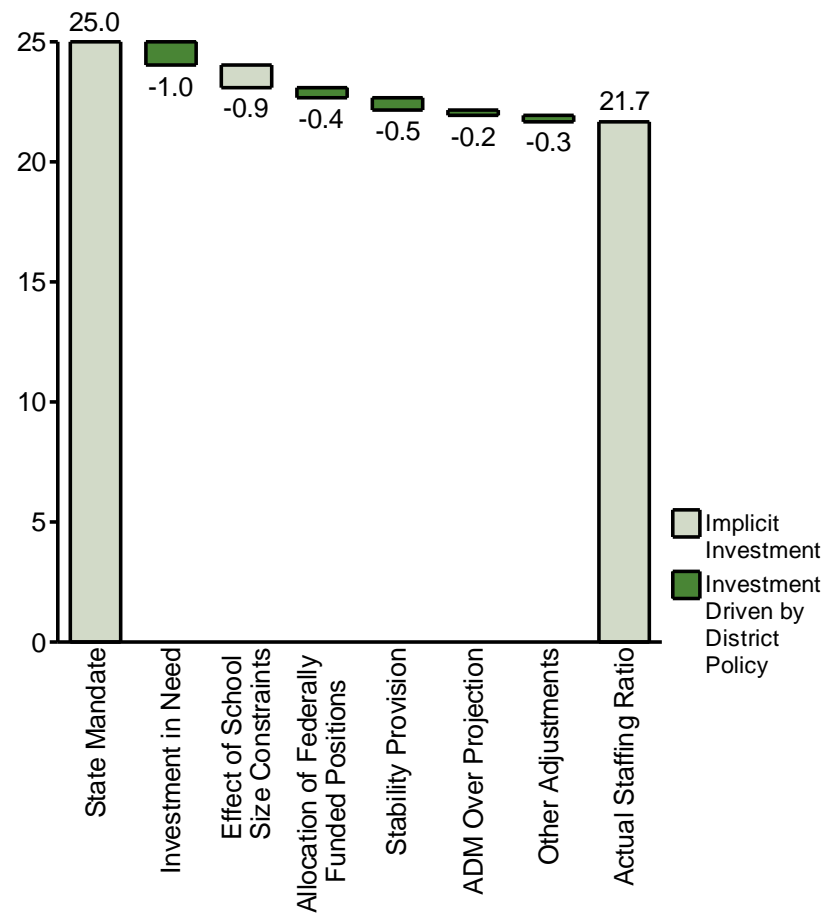
Elementary School Resource Analysis

KCS invests ~\$5.6M to lower class sizes across K-3 and 4-5 clusters

Average Impact of Class Size Drivers Across K-3 Clusters



Average Impact of Class Size Drivers Across 4-5 Clusters



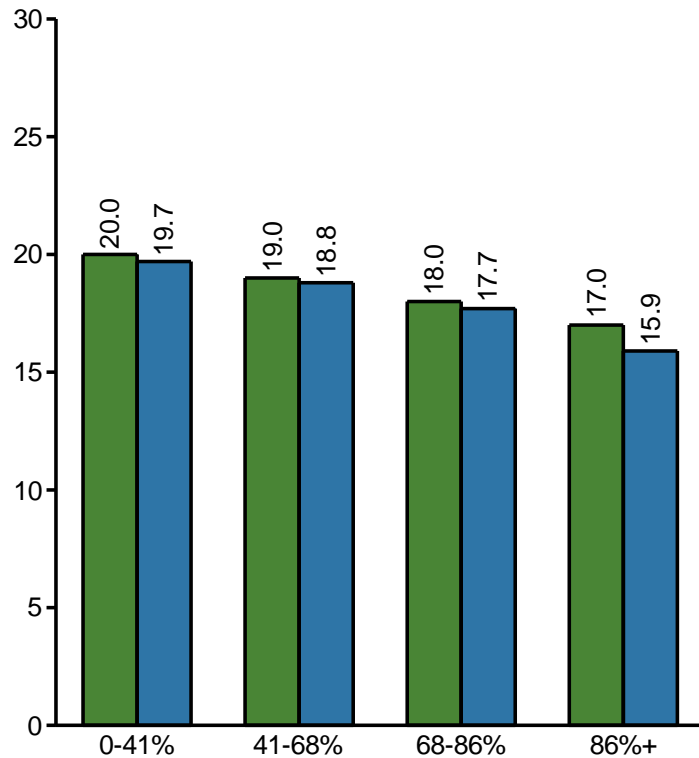
Across the K-3 clusters, the voluntary investment in class size equals 62 teachers or ~\$3.4M

Across the 4-5 clusters, the voluntary investment in class size equals 39 teachers or ~\$2.2M

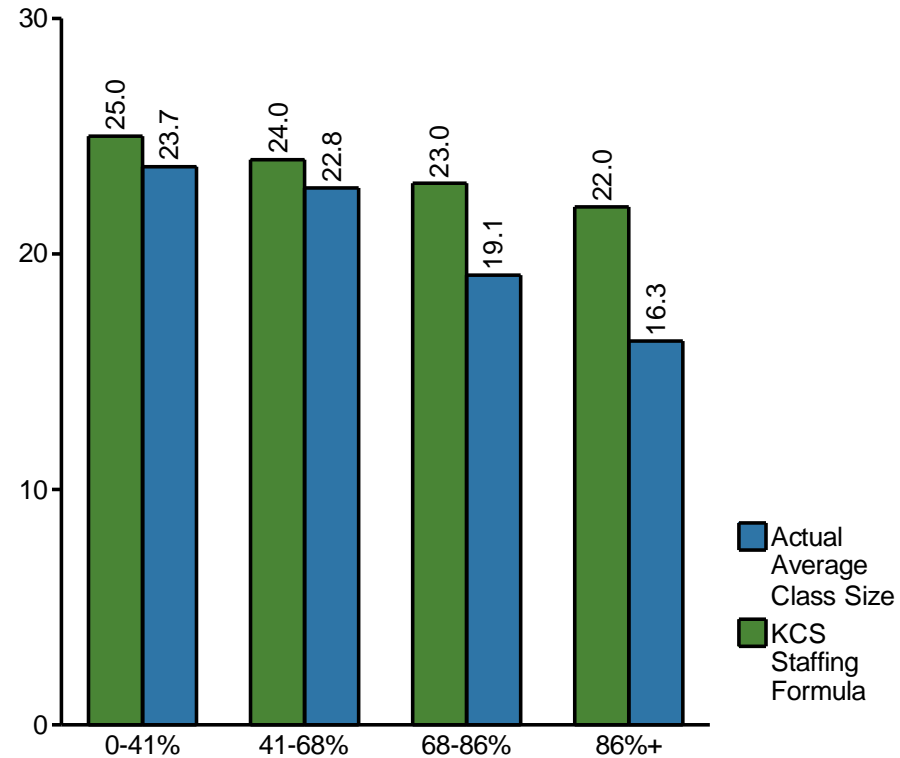


Average class size is in line with the district staffing formula in grades K-3, while there is more variation in grades 4-5

KCS Staffing Formula vs. Average Class Size, Grades K-3



KCS Staffing Formula vs. Average Class Size, Grades 4-5



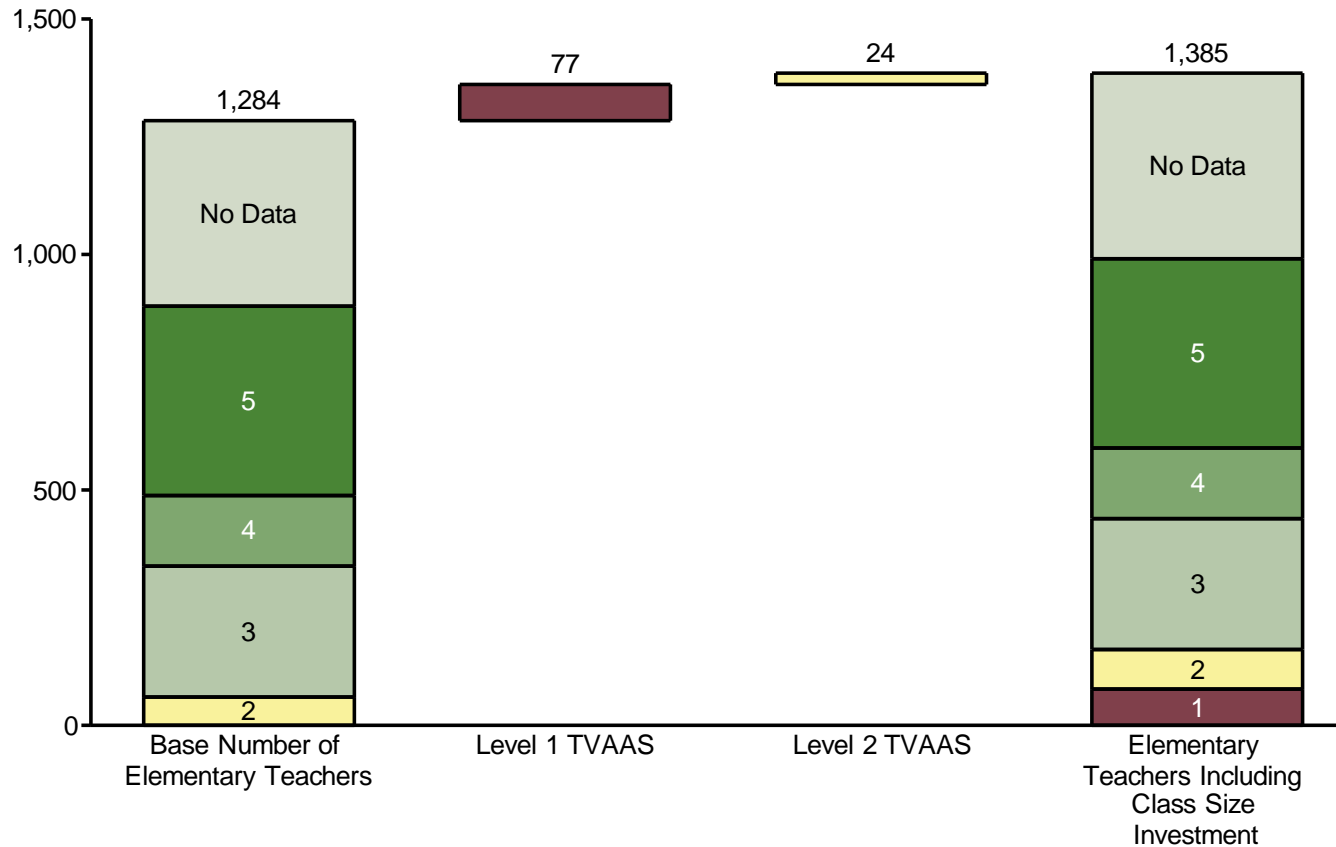
% Within Four Students	87%	66%	77%	69%
% Within Two Students	99%	95%	94%	92%

% Within Two Students	62%	61%	31%	7%
% Within Four Students	95%	83%	56%	33%



Given current teacher effectiveness levels, KCS' investment in smaller class size places a greater number of low performing teachers in the classroom

Incremental Teachers Due to District Policy Driven Investment in Class Size by 2012-13 TVAAS Level



• KCS' investment in class size "purchases" 101 homeroom teachers below Level 3 TVAAS ratings



Elementary School Resource Analysis

We can translate this cost into an estimated number of students impacted; The benefits of reduced class size are more difficult to quantify

	% Free or Reduced Lunch	Total Student Enrollment	Incremental Teaching Positions	X	% of Incremental Positions <i>In Theory</i> Filled by TVAAS Level 1 and 2 Teachers	X	Average Class Size	=	# of Students Taught by Lower Performing Teacher
Non-Financial Costs	0-41%	11,123	0		N/A		N/A		N/A
	41-68%	9,454	22		100%		20.0		440
	68-86%	2,134	15		100%		18.1		271
	86%+	4,178	64		64%		16.0		656
	Total		26,889	101		77%		17.5	

Student Outcome Gains

Research suggests that shrinking the number of students in a class does not automatically translate into better learning. Teachers may need to alter their teaching practices to take advantage of their new settings



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High School Resource Analysis

High Schools in Knox County are diverse in terms of student demographics and performance

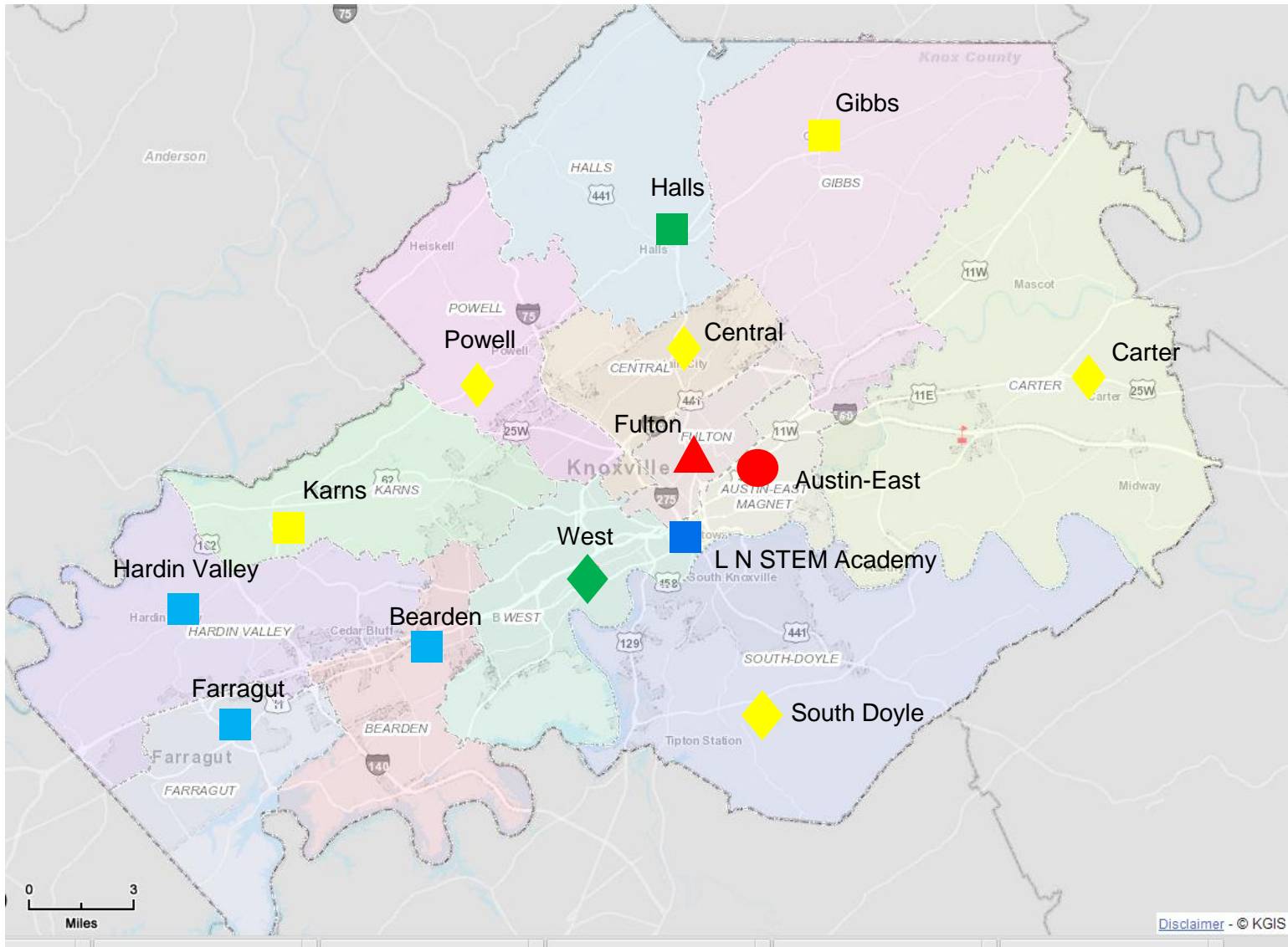
Legend

% Free and Reduced Lunch

- >85% FRL
- ▲ 67-85% FRL
- ◆ 40-67% FRL
- <40% FRL

3-year Composite ACT

- <18
- 18 to 20
- 20 to 22
- >22



High School Resource Analysis

KCS high schools implement three primary block scheduling models, though all are based on the notion of offering fewer, longer classes each semester

4x4 Block Schedule

	Fall	Spring
8:00	English	US History
8:45		
9:30	Chemistry	Algebra 2
10:15		
11:00	Lunch	
11:45	PE	Art
12:15		
1:00	Health	Anatomy
1:45		



- Students take four 90-minute block periods per semester
- Deep focus on 4 subjects at a time
- Fewer transitions between classes mean less passing time
- More time in class with the same students

Alternating Block Schedule

	Odd Day	Even Day
8:00	English	US History
8:45		
9:30	Chemistry	Algebra 2
10:15		
11:00	Lunch	
11:45	PE	Art
12:15		
1:00	Health	Anatomy
1:45		



- Students take eight 90-minute yearlong blocks
- An alternating schedule lets students take 8 classes at a time
- Fewer transitions between classes mean less passing time
- More overall variety but less day-to-day continuity

Non-Traditional Block Schedule

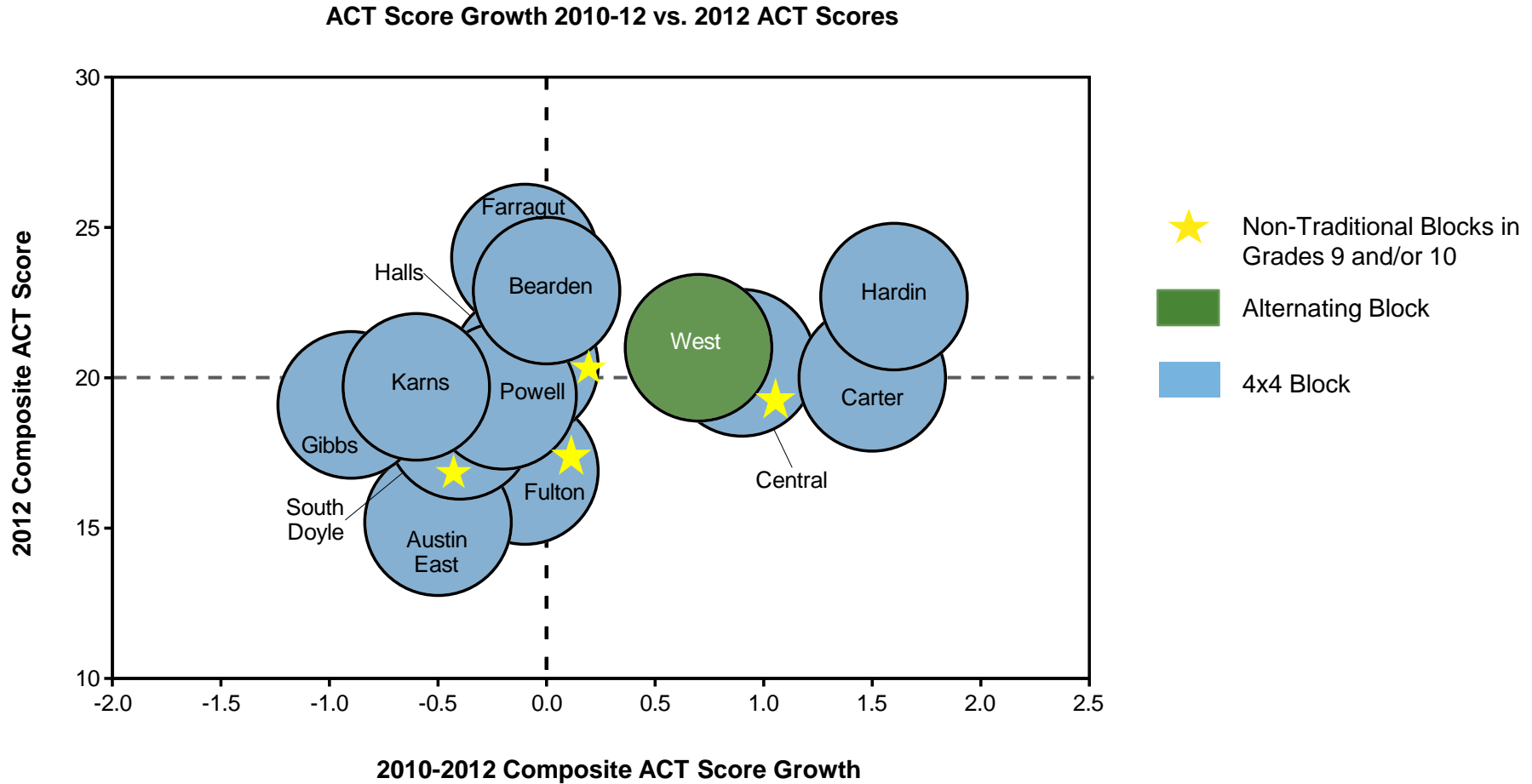
	Fall	Spring
8:00	US History	
8:45	Chemistry	
9:30	Algebra I	Algebra II
10:15		
11:00	Lunch	
11:45	English	
12:15	ACT Prep	
1:00	Art	PE
1:45		



- Students take a hybrid of 90 minute semester-long blocks and 45 minute yearlong “skinnies”
- A mix of long blocks and “skinnies” breaks up the day
- Conducive to co-teaching (e.g., “Geoglish”) and academies
- More passing time means a stronger hallway culture and access to more students



There is some variation in ACT growth and performance across high schools implementing similar scheduling models



High School Resource Analysis

Some of the variability in the performance results can likely be traced to the quality of implementation of block scheduling

To assess how KCS high schools are implementing block scheduling, we looked “inside the classroom” to understand how time in a block scheduling model is being used in practice. We asked four questions about block scheduling:



1. How are different types of learning activities and modalities distributed within one ~90-minute period?
2. Is differentiated instruction for Basic and Below Basic students happening effectively within a block scheduling model?
3. Are all students getting sufficient access to core classes in a block scheduling model?
4. Is common planning for teachers being used effectively in a block scheduling model? [TBD]



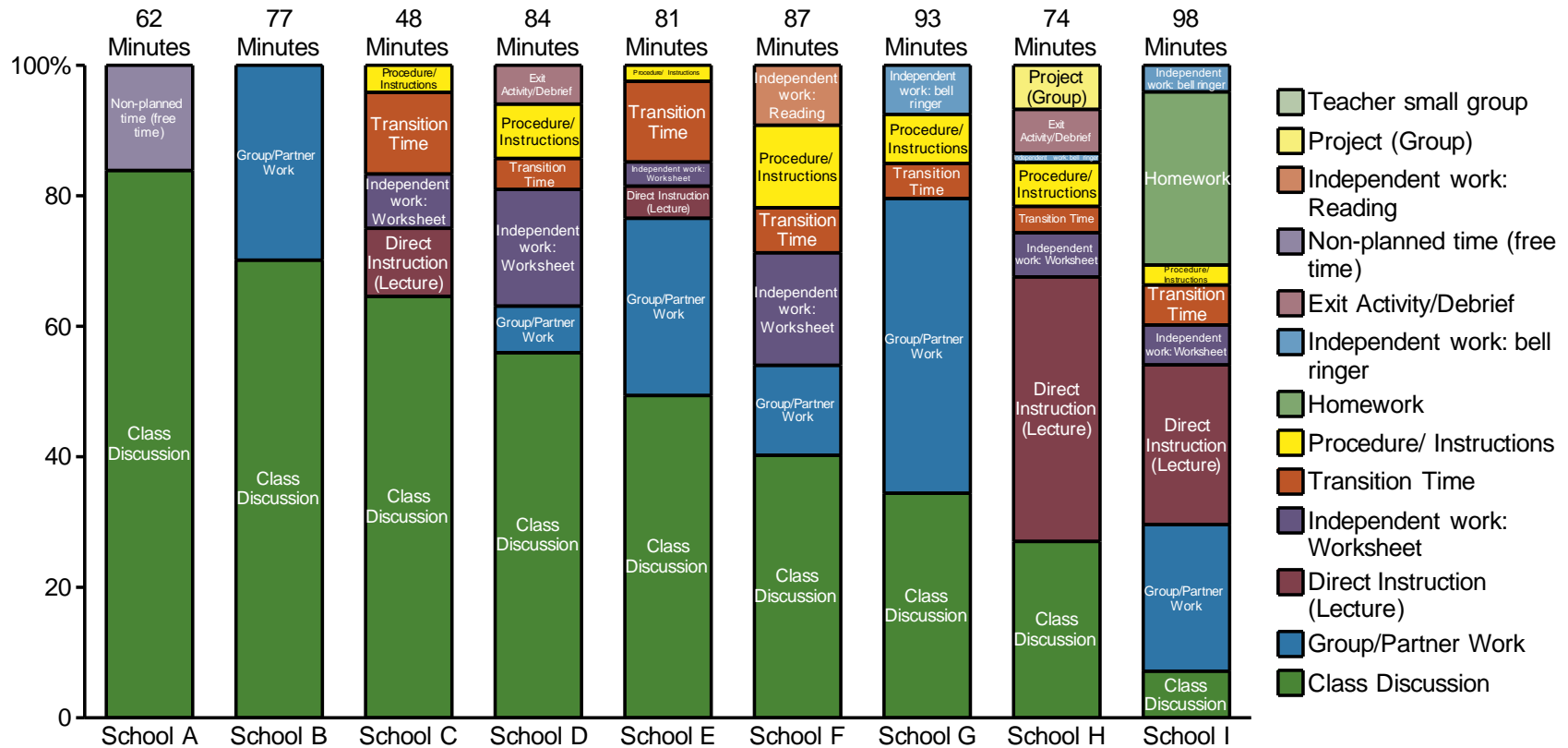
Insights about usage of time in KCS high school classrooms can help us determine what options we have to optimize high school student performance



High School Resource Analysis

-- Preliminary Analysis --

Based on a limited sample, a range of activities is happening inside block periods



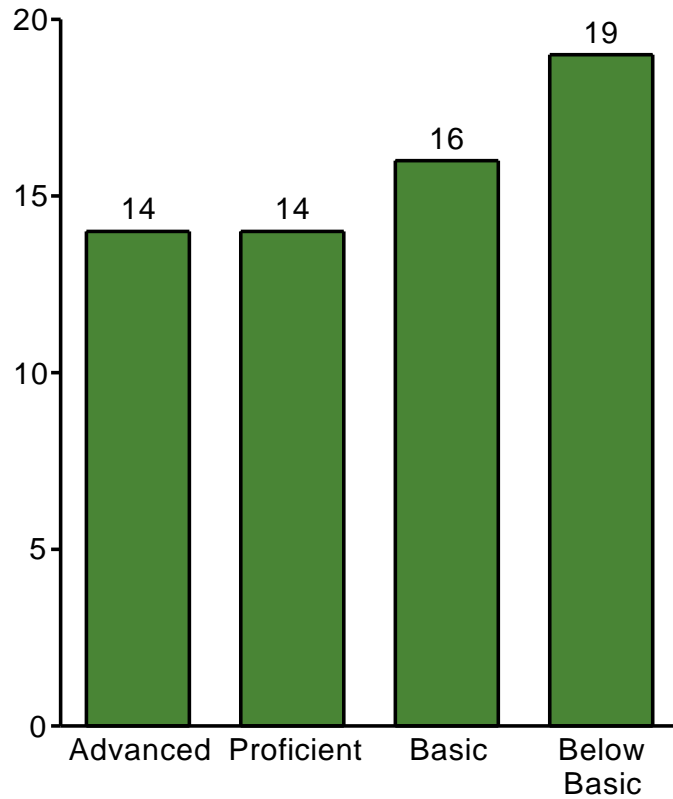
Subject	Geometry	AP Literature	Biology	Geometry	Health Science	English II	Spanish	AP US History	Bridge Math
Observation Rating	2.3	3.8	3.5	3.8	3.1	3.9	4.0	4.5	4.0
TVAAS Score	1	5	2	3	N/A	3	N/A	4	N/A



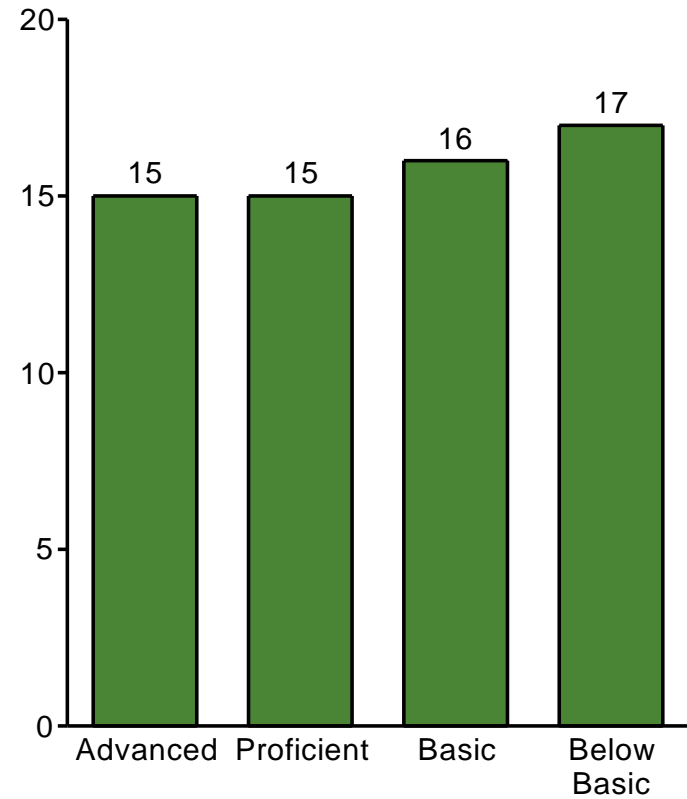
Note: Observation scores and TVAAS are based on 2012-13 data; Hardin Valley and Fulton TVAAS are based on 2012 data; Gibbs TVAAS is based on 2011 data
 Source: Knox County Schools Observation Scripting data

High schools are allocating roughly the same amount of time in core math and ELA to students regardless of their proficiency level

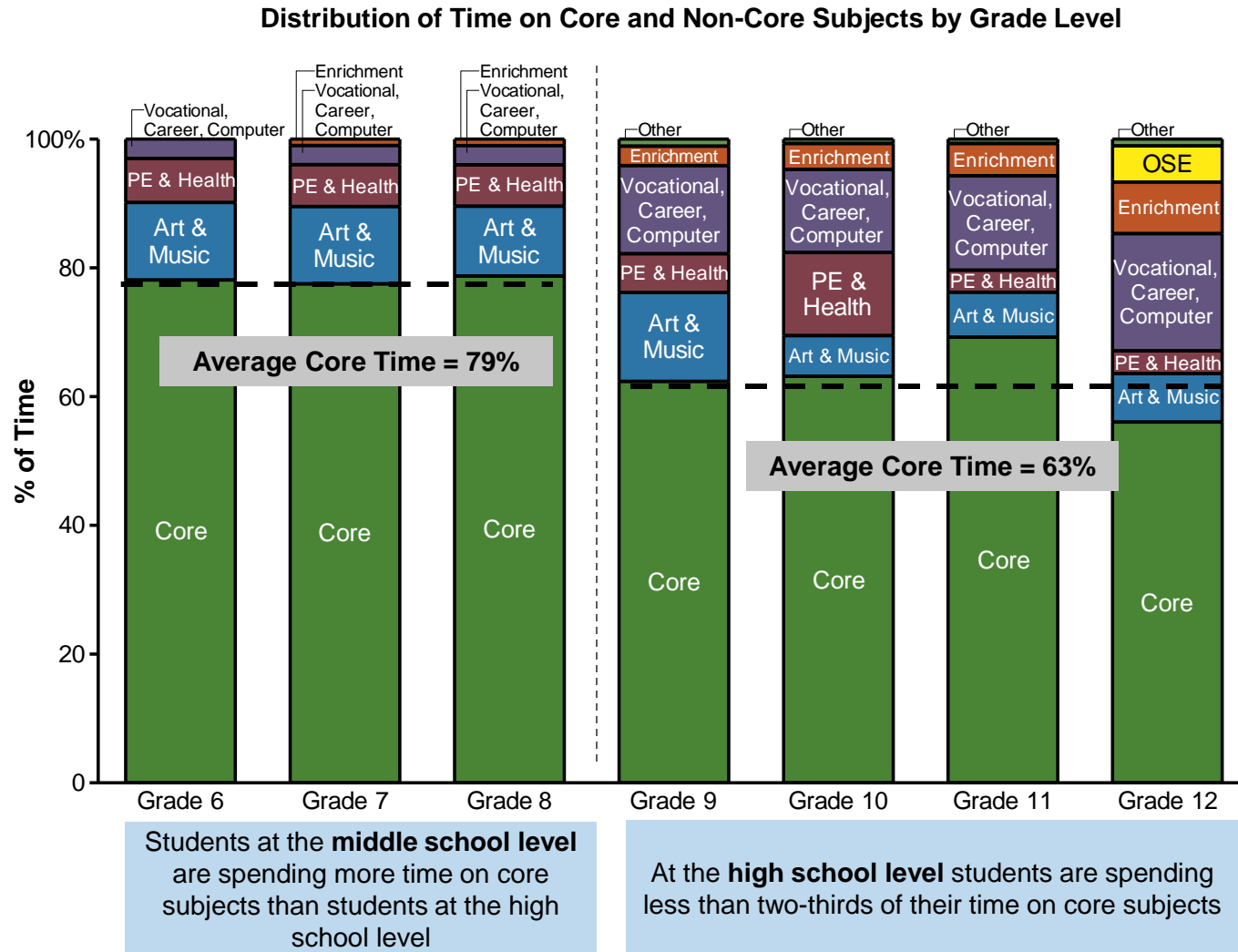
Percent of Time Spent on Math by Proficiency Level in 9th grade in KCS High Schools



Percent of Time Spent on ELA by Proficiency Level in 9th grade in KCS High Schools



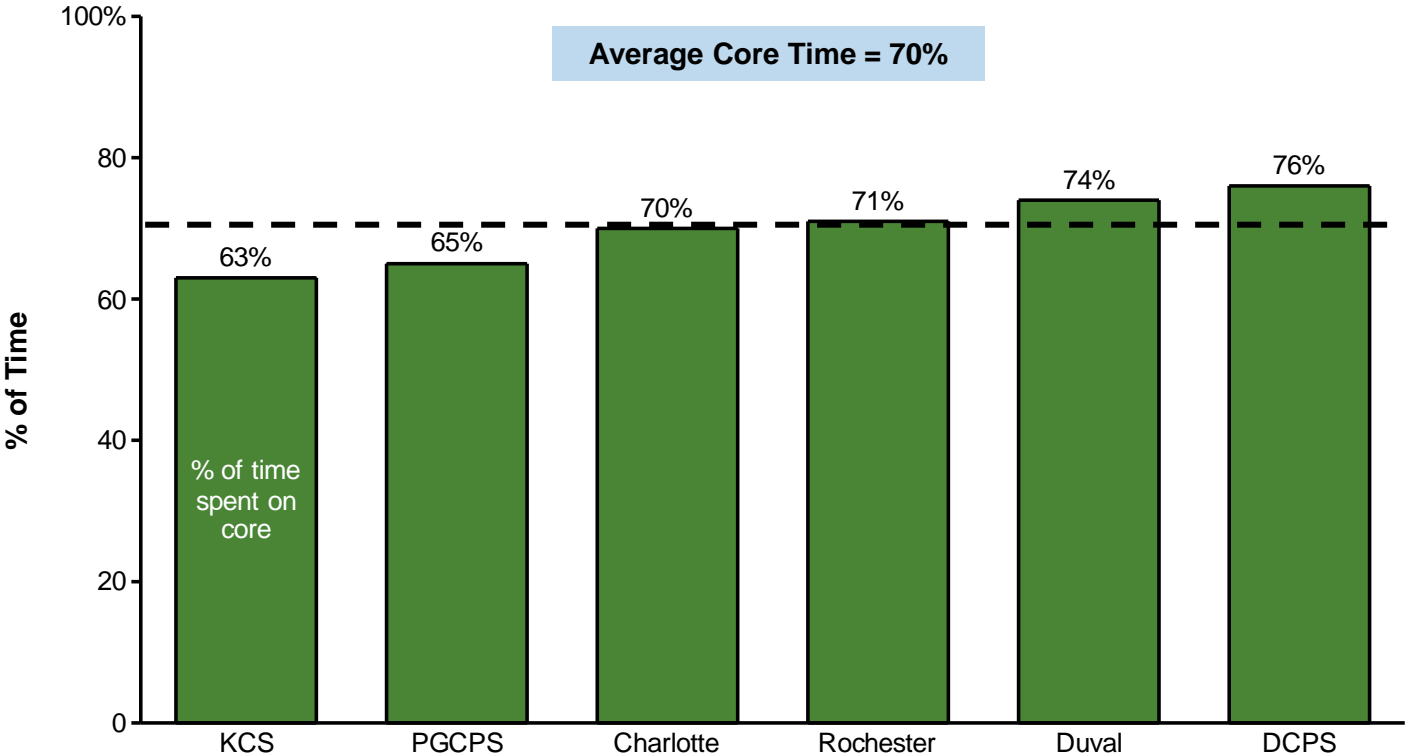
KCS high schools on average allocate 63% of student learning time to core classes; A significant portion of non-core time is spent in vocational classes



Note: Core subjects include World Language, English, Science, Social Studies, and Math; Dual enrollment courses are considered core as well; OSE refers to Out of School Experiences
 Source: Education Resource Strategies Course Schedule Analysis

Relative to comparison districts, KCS high schools dedicate less time to core subjects

Percent of Time Spent on Core at KCS High Schools and High Schools in Benchmark Districts



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Next Steps

- Refine analysis on KCS resource allocation
- Complete human capital and programmatic analysis
- Conduct surveys with principals, teachers, coaches, and students to supplement data analysis across the ten areas of focus
- Begin to synthesize findings across the ten areas of focus to align with the strategic planning process

