

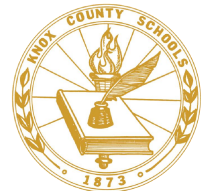
# BLOCK SCHEDULING DISCUSSION

Board of Education Mid-Month Meeting  
October 19, 2015

# 2015 INTRAGOVERNMENTAL MOU

## Commitments:

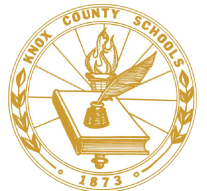
- KCS BOE will strive to implement 2020 Pay Plan
- Knox County will fund and build Hardin Valley and Gibbs Middle Schools
- KCS will seek to relocate its central office to enable the sale of Andrew Johnson Building
- KCS will be responsible for the operating costs of the two new middle schools
- KCS will reconstitute fund balance to be equal to one month of payroll
- KCS will seek potential efficiencies:
  - Cut failing programs
  - Reduce employees
  - **Look at traditional class schedules**



# CURRENT BLOCK SCHEDULING MODELS IN KCS

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- 4 X 4 Model: Four 90-minute classes per day per semester
- Modified Block: A blend of 90-minute semester courses and 45-minute (“Skinnies”) annual courses
- Alternating Block: Four 90-minute classes that meet on alternating days all year



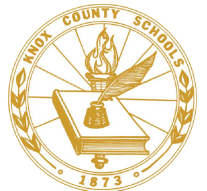
# TRADITIONAL SCHEDULE MODELS

- 7-period day
  - Approximately 50-minute class period
  - Teachers teach six of seven periods
  - Annual courses meet everyday for the full year
  - Students can earn 28 high school credits
- 6-period day
  - Approximately 55-minute class period
  - Teachers teach five of six periods
  - Annual courses meet everyday for the full year
  - Students can earn 24 high school credits



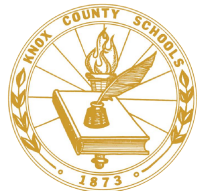
# BLOCK SCHEDULING IN KCS

- Implemented in 1995 (piloted in 2 schools in 1994)
- Original intent (Advantages):
  - Provide additional opportunities to meet high school credit requirements
  - Offer students a wider range of course offerings
  - Facilitate deeper student understanding of content through longer instructional periods
  - Focus on 4 subjects each semester vs. 7 subjects
  - Provide more opportunity for teacher planning and collaboration
  - Fewer transition times during the day



# Reasons to Consider Change (Disadvantages)

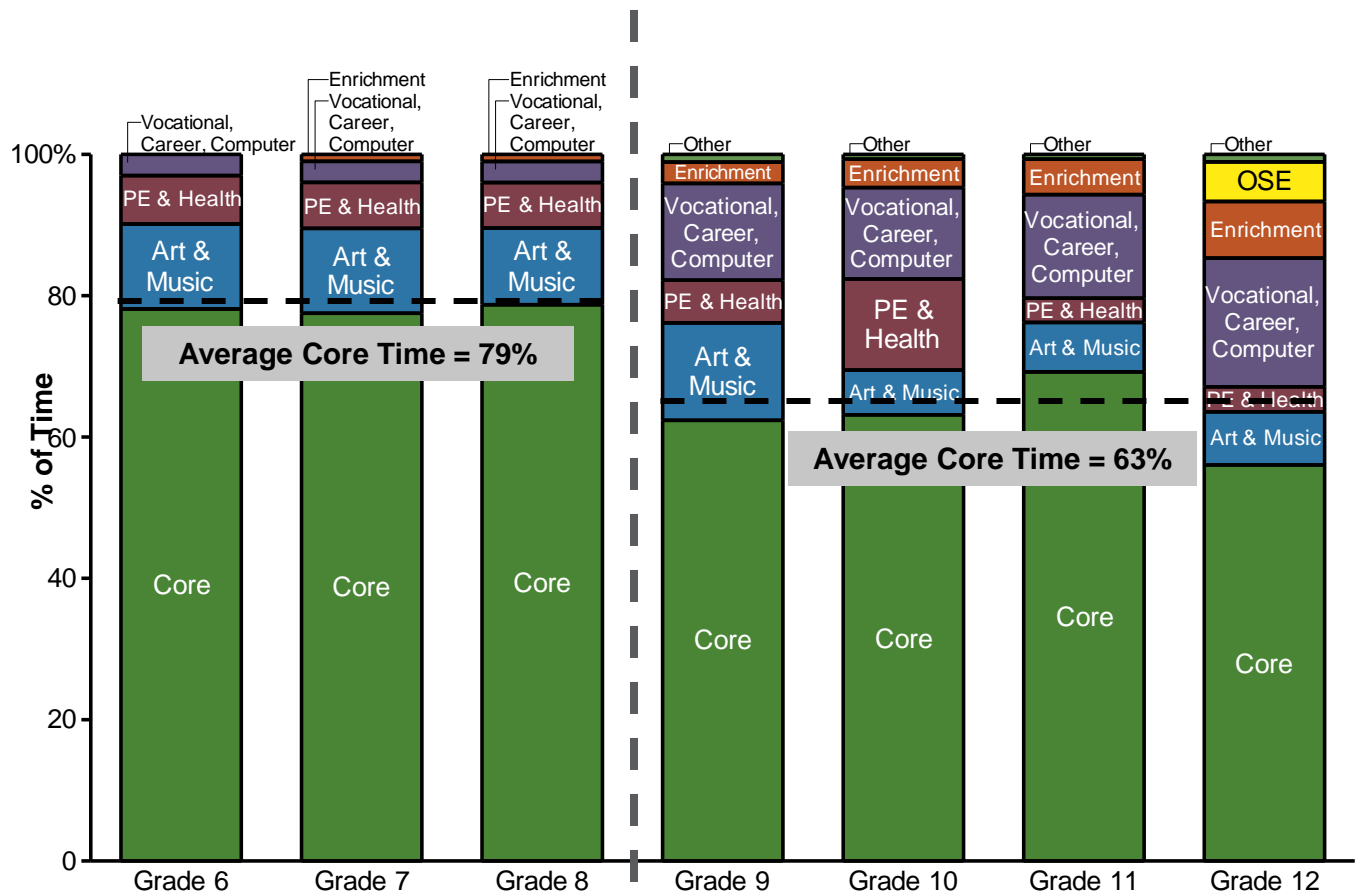
- Cost – requires more teacher positions than a traditional schedule
- Compresses a year's worth of content into 90 days of instruction
- Some students benefit from more continuous learning over a longer period of time
- AP courses taken in the fall are not assessed until May
- Students may have a full year between sequential courses (Ex: Spanish I in fall, Spanish II in spring of following year)
- Are we maximizing use of the 90 minute block?



# High School Use of Time: Core vs Non-Core

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

Distribution of Time on Core and Non-Core Subjects by Grade Level



Students at the **middle school level** are spending more time on Core subjects than students at the high school level

At the **high school level** students are spending less than two-thirds of their time on Core subjects

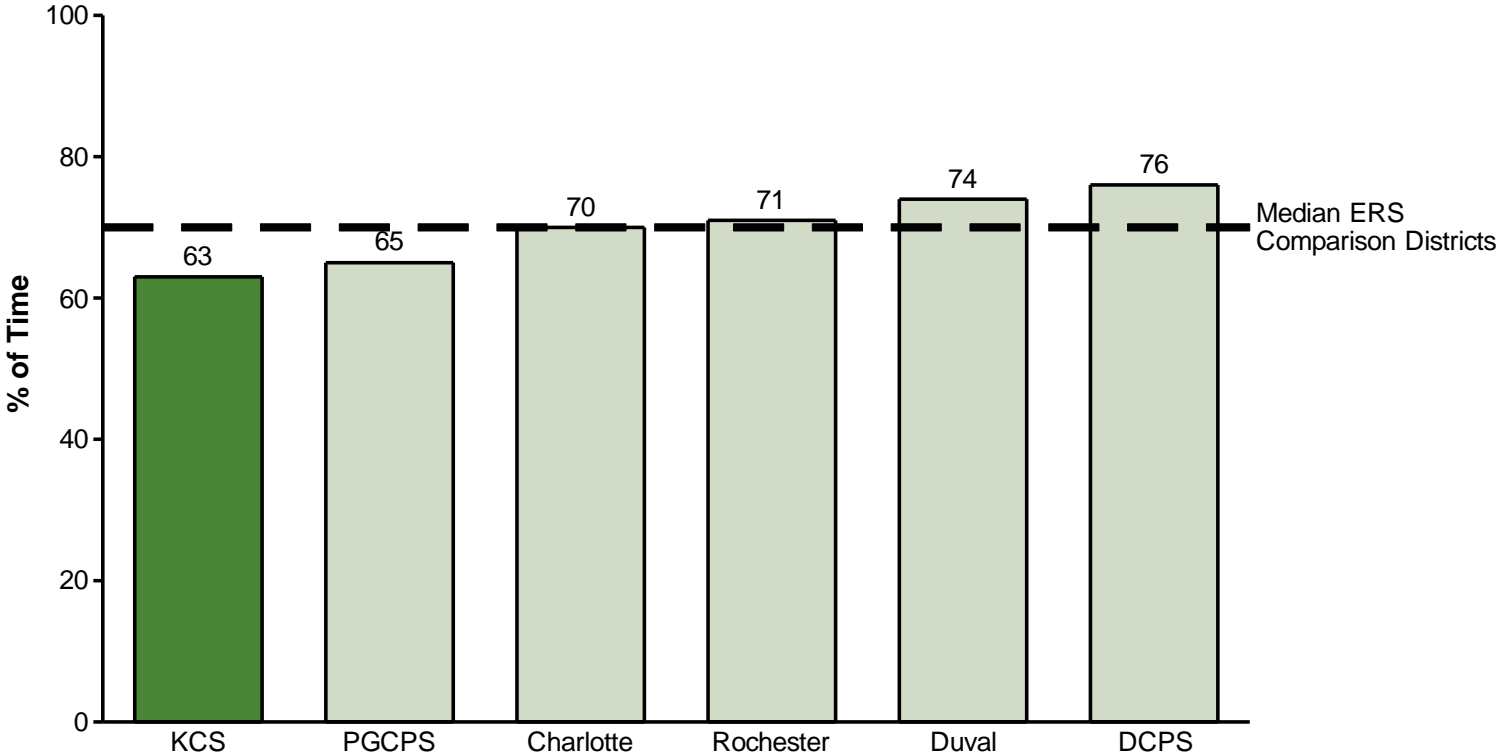


Note: Core subjects include World Language, English, Science, Social Studies, and Math; Dual enrollment courses are considered core as well; OSE refers to Out of School Experiences  
 Source: Education Resource Strategies Course Schedule Analysis

# High School Use of Time: Core vs Non-Core

## 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



Note: Districts have both block and traditional 7 periods schedules  
Source: Education Resource Strategies Course Schedule Analysis



## High School Use of Time: Differentiation by Student Need

One way to increase the amount of time that struggling students receive in a subject would be to look at the continuity of subject matter throughout the year

Block scheduling provides the opportunity for students that fail a course in the first semester to retake that course in the second semester

	Fall	Spring
8:00		
8:45	German	English
9:30		
10:15	Algebra 1	Foundations
11:00	Lunch	
11:45		
12:15	JROTC	Biology
1:00		
1:45	World History	JROTC

31% of 9<sup>th</sup> Graders that failed math did not take it in the second semester despite having room in their schedule to take it

KCS high schools are not taking advantage of the block scheduling to create continuity of subject matter



# COST CONSIDERATIONS

## High School Scheduling Cost Estimates

Teacher Periods	Student Periods	FY16 Estimated Cost	FTEs	Estimated Savings
3	4	\$ 50,325,000	915	
5	6	\$ 45,265,000	823	\$ 5,060,000
6	7	\$ 44,000,000	800	\$ 6,325,000

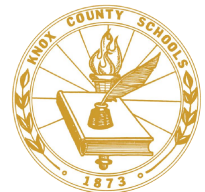
Note: Teacher counts do not include librarians, ELL, special education, ROTC, instructional coaches, teacher deans, Title I.

Note: Current teacher counts include only those paid from the operating budget and include Math, Social Studies, Science, English, Art, Band, Business, Drama, Drivers Ed, Foreign Language, Health, Music, PE, Vocational, Language, Reading, Dance, etc.

Note: Teacher counts do not include Kelley Academy or Byington Solway.

Note: Estimated cost and savings based on average teacher salary and benefits cost of \$55,000.

Note: These estimates assume current teacher to student ratios are utilized.



# CURRENT CONSIDERATIONS

- Impact of TNReady:
  - Need to develop students' deeper conceptual understanding of content
  - Need for continuity and sequencing of instruction
  - 4 testing cycles vs. 2 testing cycles (for those using a traditional schedule)
- Investment in block scheduling results in 10 courses beyond what is required for graduation by the state.
- Online credit recovery and acceleration models and distance learning are more widely available to provide additional learning opportunities for students
- Do inconclusive learning outcomes merit the investment in block scheduling in a fiscally constrained environment? Could these resources be better utilized?

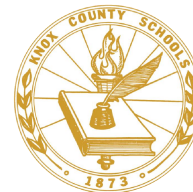


# HIGH SCHOOL PRINCIPAL FEEDBACK SESSION

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Questions for HS Principals on September 28<sup>th</sup> :

1. Can we move from a block schedule to a 7-period day in 2016-17?
2. Should we move off a block schedule?
3. What are the implications?

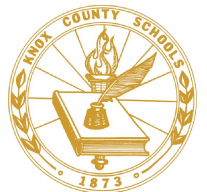


# HIGH SCHOOL PRINCIPALS' FEEDBACK

- Can we move off block schedule? Yes.
- Should we move off a block schedule? No.

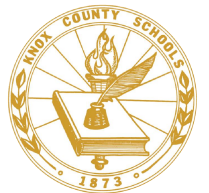
## Insights:

- Traditional schedule may limit students' opportunities to earn credits beyond basic graduation requirements.
- Potential negative impact on AP, dual enrollment, and elective course offerings
- Would reduce teacher planning/collaboration times
- Potential for loss of instructional time / more discipline issues during additional transition times
- Instructional challenges – master scheduling, instructional planning, professional development, textbooks
- Why change what's working?



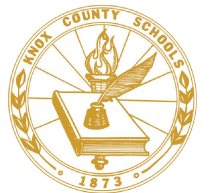
# BOARD DISCUSSION

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# APPENDIX

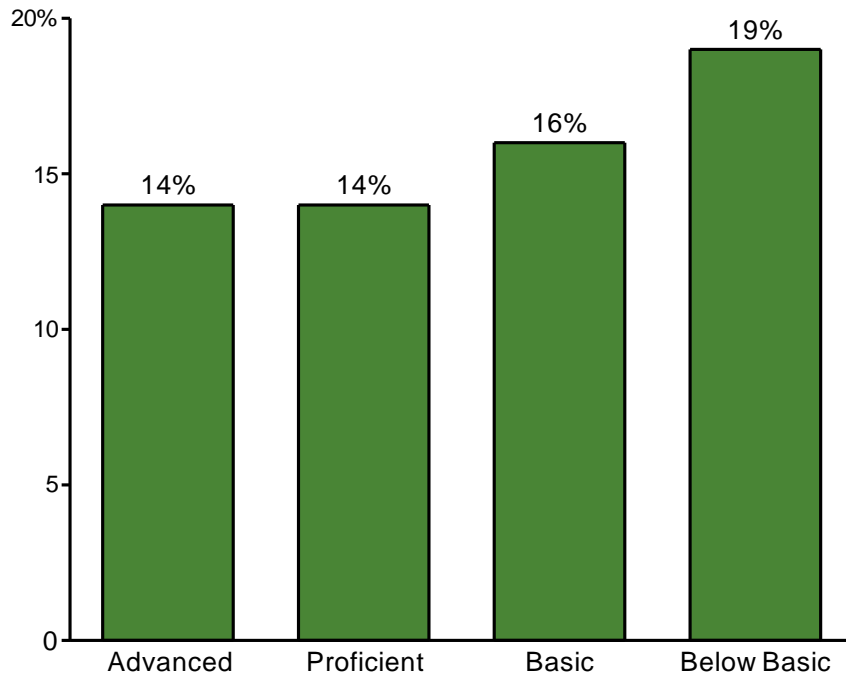
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# High School Use of Time: Differentiation by Student Need

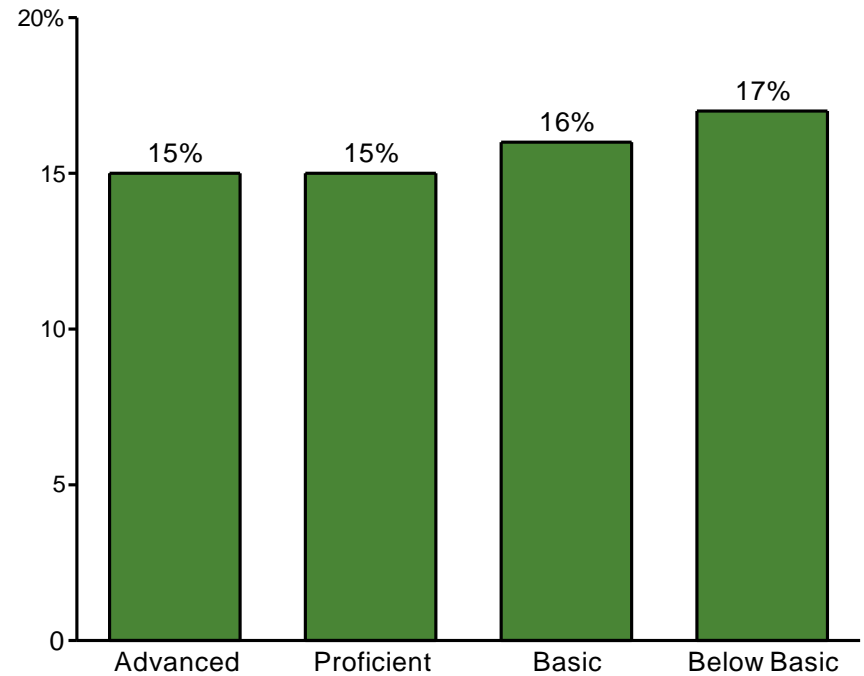
## High schools are allocating roughly the same amount of students' time to Math and ELA regardless of their proficiency level

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



**Benchmarked districts allocate 21-29% of time for Below Proficient students in Math**

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



**Benchmarked districts allocate 15-25% of time for Below Proficient students in ELA**



Note: Benchmarked districts include: Vidalia, Fulton, Marietta, Lake, and Denver  
Source: Education Resource Strategies Course Schedule Analysis



# Literature Review: Potential Sources of Funds

## High School Scheduling Model

Study	Parameters	Findings	Impact
<b>Key Takeaway: Some of the research on high school block scheduling finds that the model has a positive impact on student achievement</b>			
<ul style="list-style-type: none"> <li>• <i>Evans, Tokarczyk, Rice, McCray (2002)</i></li> </ul>	<ul style="list-style-type: none"> <li>• Researchers at Temple University investigated the impact on student performance, discipline, and teacher engagement in three schools that transitioned from traditional to block schedules in 1997</li> </ul>	<ul style="list-style-type: none"> <li>• Approximately 25 percent more students completed Advanced Placement courses and successfully passed the tests</li> <li>• The average combined SAT score increased by 14 points, from 975 in 1996-97 to 989 in 1998-99</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Block scheduling has a significant impact on student achievement</b></li> </ul>
<ul style="list-style-type: none"> <li>• <i>Lewis, C. W., Cobb, R.B., Winokur, M., Leech, N., Viney, M. &amp; White, W. (2003)</i></li> </ul>	<ul style="list-style-type: none"> <li>• Researchers from the University of Colorado used matched sampling design to examine the effects of 4x4 block scheduling and AB block scheduling at a junior high school</li> </ul>	<ul style="list-style-type: none"> <li>• Students in 9<sup>th</sup> grade ELA and 9<sup>th</sup> grade Science experienced increased gains on standardized achievement tests; gains were consistent across both low-performing and high-performing student group</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Block scheduling appears to enhance the performance of all student subgroups</b></li> </ul>
<ul style="list-style-type: none"> <li>• <i>Gill (2011)</i></li> </ul>	<ul style="list-style-type: none"> <li>• Researchers from Shenandoah University compared passing rates and standardized test scores on Virginia Standards of Learning Assessment in 43 schools—23 employing block scheduling, 20 traditional schedules</li> </ul>	<ul style="list-style-type: none"> <li>• Passing percentages were 8 points lower for black students and 6 points lower for Hispanic students in schools using traditional schedules</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Block scheduling has a significant impact on student achievement, particularly for minority students</b></li> </ul>
<b>Key Takeaway: At the same time, some of the research finds that block scheduling has little to no impact on student achievement, suggesting that a single scheduling model is not the key to high performance</b>			
<ul style="list-style-type: none"> <li>• <i>Lewis, Dugan, Winokur, Cobb (2005)</i></li> </ul>	<ul style="list-style-type: none"> <li>• Researchers from Colorado State University conducted an ex post facto longitudinal study to compare 9<sup>th</sup> and 11<sup>th</sup> grade standardized test scores in schools using block and traditional schedules</li> </ul>	<ul style="list-style-type: none"> <li>• Students in schools with 4x4 block schedules outperformed the traditional scheduling schools in reading (effect size .19 standard deviations)</li> <li>• Alternating block students exhibited underperformance relative to the traditional calendar (-0.11 standard deviations)</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Certain forms of block scheduling might improve student achievement, although the effects are small and inconclusive</b></li> </ul>
<ul style="list-style-type: none"> <li>• <i>Lewis, Winokur, Cobb, Gliner &amp; Schmidt (2005)</i></li> </ul>	<ul style="list-style-type: none"> <li>• Researchers from Colorado State produced a systematic review and synthesis of evidence-based research on the effect of block scheduling on student achievement in U.S. schools</li> </ul>	<ul style="list-style-type: none"> <li>• No statistically significant effects found across subject levels; effects were generally negative when detected</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Block scheduling does not positively impact student performance</b></li> </ul>

