



Dr. John D. Barge, State School Superintendent  
"Making Education Work for All of Georgia's Students"



# Using SLDS Data to Improve Schools: The Use of "Statistical Peers" to Transform the Interpretation of Accountability Data

July 18, 2013



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# Today's Presentation

- I. College and Career Readiness Within the Accountability Landscape
- II. Using SLDS for School Improvement
- III. Creating “Statistical Peers”
- IV. Application Using Georgia High Schools
- V. Next Steps

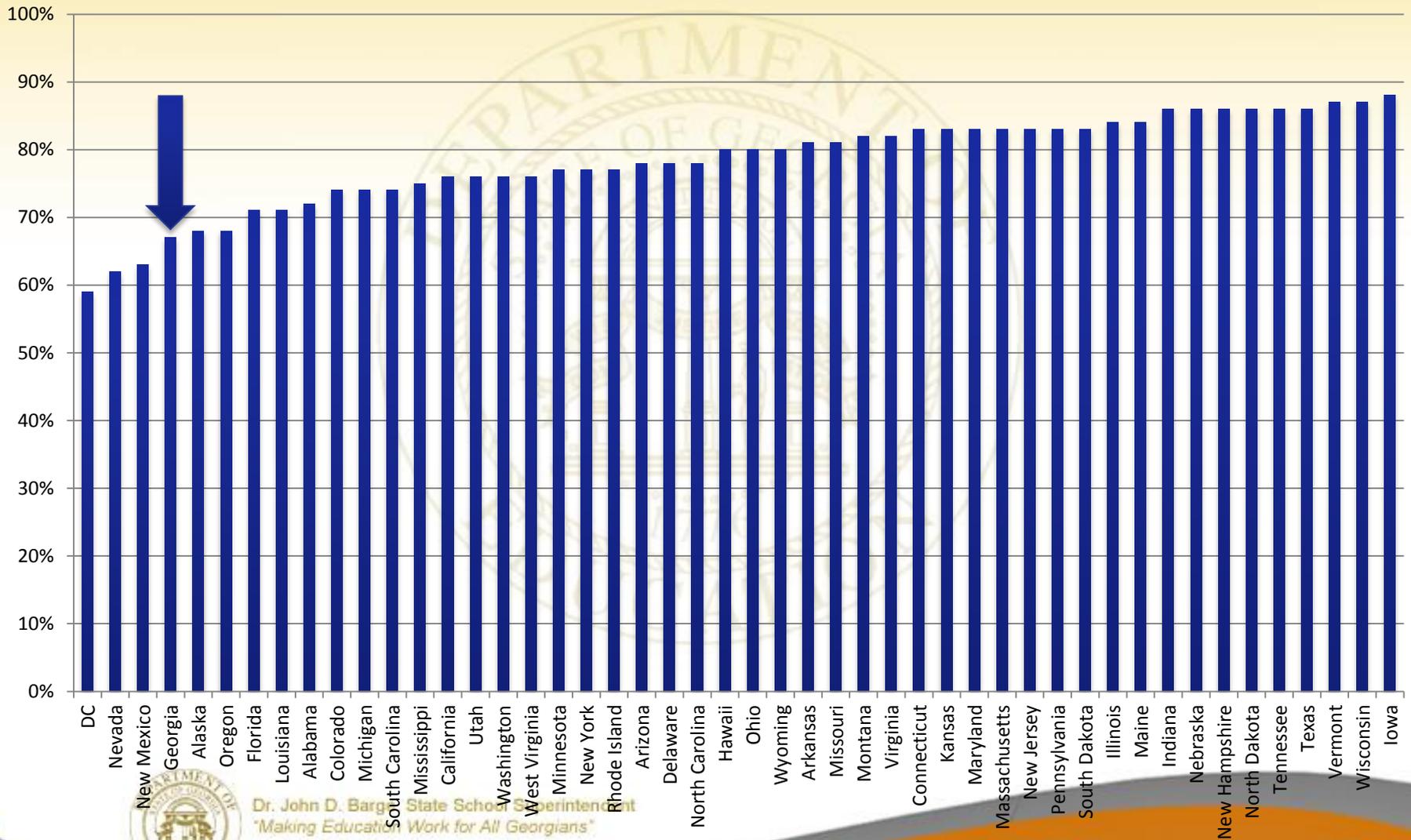


# **COLLEGE AND CAREER READINESS WITHIN THE ACCOUNTABILITY LANDSCAPE**



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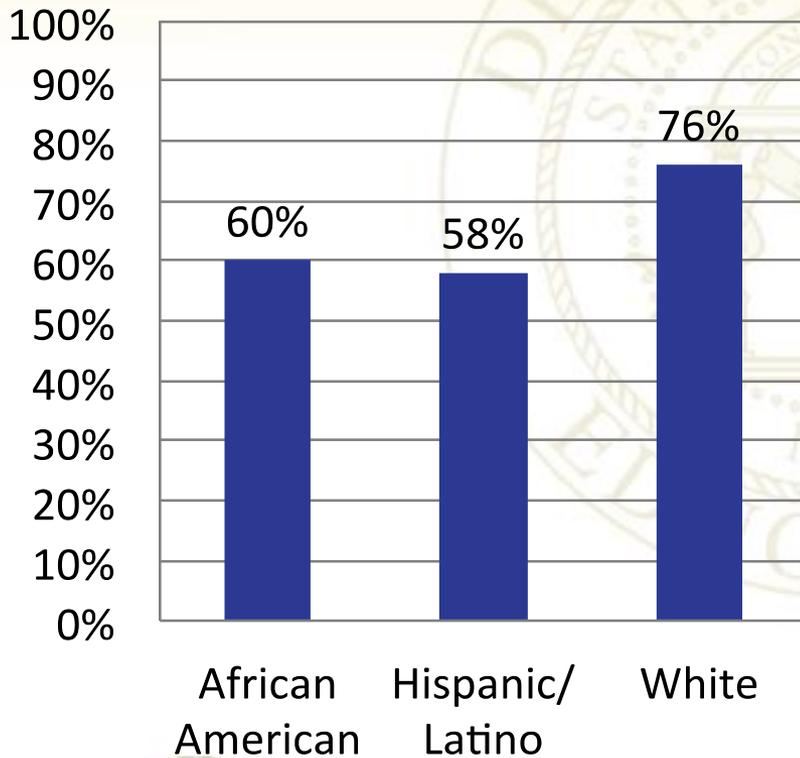
# High School Graduation Rates: 2010-2011



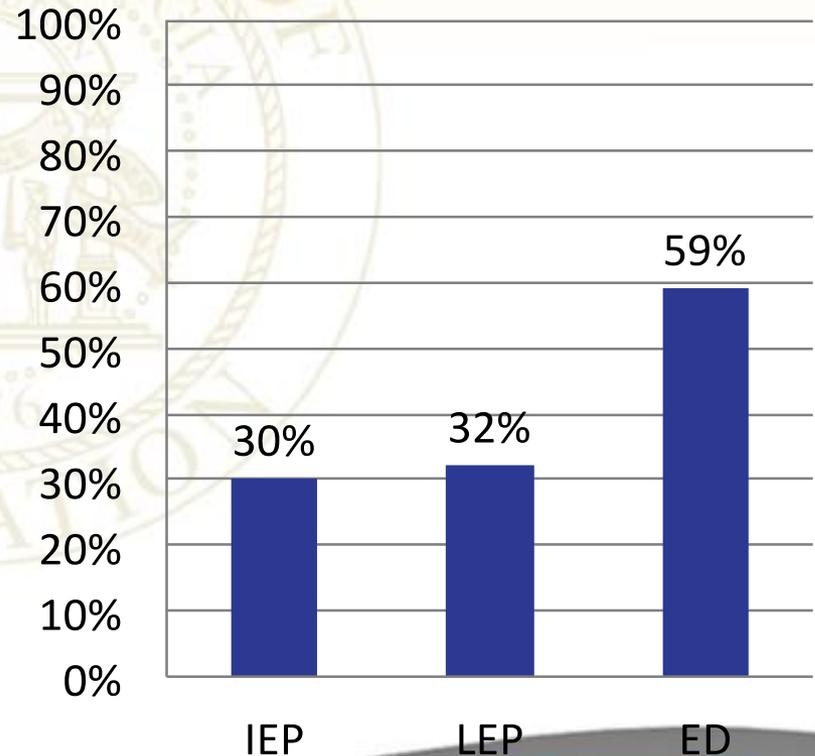
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# Georgia Graduation Rates by Student Characteristics

## High School Graduation by Race/Ethnicity in 2010-2011



## High School Graduation by Special Populations in 2010-2011



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# Statewide Accountability Landscape

## New State Policy Landscape



## New Era of Statewide Accountability

- Georgia's ESEA flexibility waiver
- College and Career Ready Performance Index (CCRPI)
- Holistic look at student performance
- School climate
- Fiscal efficiency



# College and Career Ready Performance Index (CCRPI)

- Comprehensive school improvement, accountability, and communication platform
- Focus on college and career readiness
  - Key variables include: Achievement, progress, gaps, exceeding the bar
  - SLDS used to create CCRPI
- For use by all educational stakeholders



# Average CCPI Scores Per School Level

- The state and each district receives a 0-100 CCPI score
  - Average score for Georgia's elem schools = 83.4
  - Average score for Georgia's middle schools = 81.4
  - Average score for Georgia's high schools = 72.6
- Each school and district has an overall score and scores broken down by components



# Scoring of CCRPI

- Overall score has three major components
  - Achievement (up to 70 points)
  - Progress (up to 15 points)
  - Achievement gap (up to 15 points)
- Challenge Points up to 10 points
  - Schools that serve significant numbers of ED, ELL, SWD students
  - Schools that exceed the bar



# USING SLDS FOR SCHOOL IMPROVEMENT



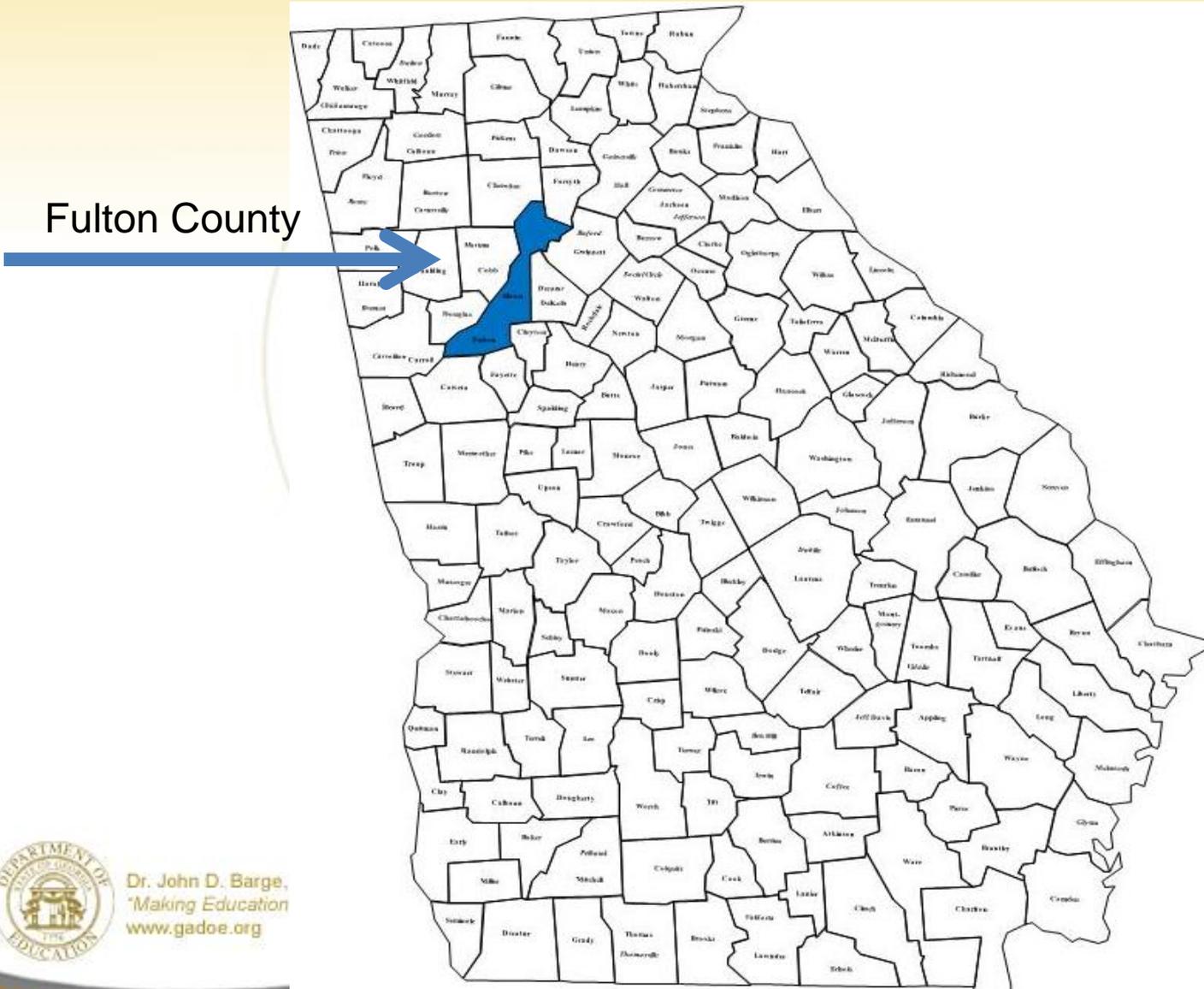
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# CCRPI as a Roadmap to Improvement

- CCRPI can be used as a school improvement roadmap by answering the questions:
  - Is my school doing better?
  - How does my school compare with other schools like mine?
- Compare CCRPI school scores by similar environments and demographics, rather than performance

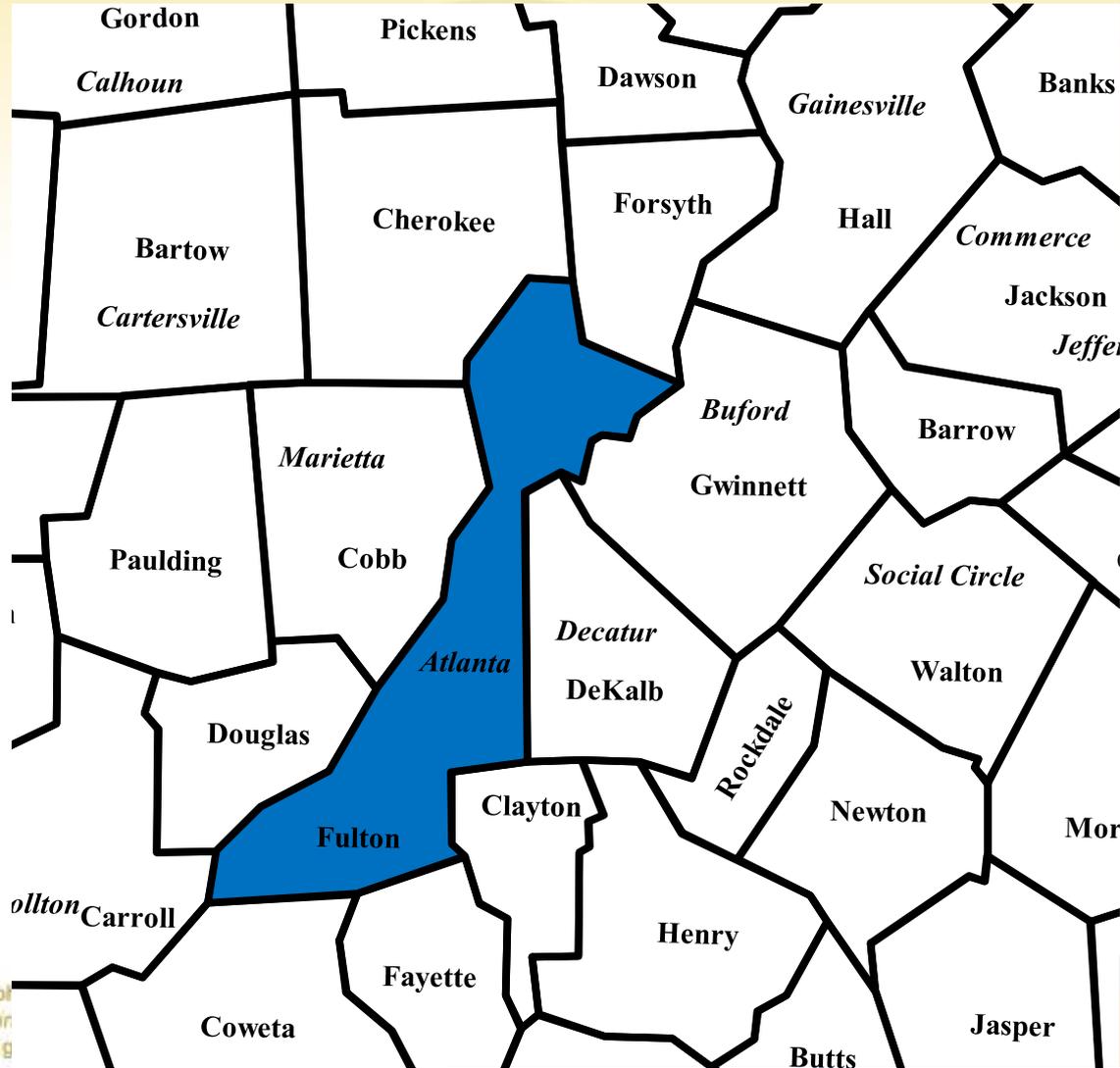


# Who am I? Who am I like?



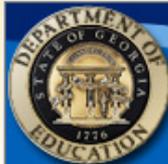
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# Metro Atlanta



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# CCRPI Report: Milton High School



## College and Career Ready Performance Index (CCRPI)

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### 2012 COLLEGE AND CAREER READY PERFORMANCE INDEX (CCRPI)

District:  Title I School:

School:  Grades:

Choose a Report Type:  High School

CCRPI Score

Achievement

Progress

Achievement Gap

ED/EL/SWD Performance

Exceeding the Bar

Star Ratings

Performance Flags

### CCRPI SCORE

CCRPI Score						
93.5						
Sum of Achievement, Progress, Achievement Gap, and Challenge Points						
Achievement Points	Progress Points	Achievement Gap Points	Challenge Points		Financial Efficiency Rating	School Climate Rating
			ED/EL/SWD Performance Points	Exceeding the Bar Points		
65.5	11.7	15	.8	.5		
			1.3			



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# Performance Flags: Milton High School

College and Career Ready Performance Index (CCRPI)

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**2012 COLLEGE AND CAREER READY PERFORMANCE INDEX (CCRPI)**

District: Fulton County - 660 Title I School: No  
 School: Milton High School - 0106 Grades: 09, 10, 11, 12

Choose a Report Type: High School

CCRPI Score
Achievement
Progress
Achievement Gap
ED/EL/SWD Performance
Exceeding the Bar
Star Ratings
Performance Flags

### PERFORMANCE FLAGS

<b>Legend:</b>		Subgroup met both State and Subgroup Performance Targets		Subgroup met Subgroup but not State Performance Target		Subgroup met State but not Subgroup Performance Target		Subgroup did not meet either the State or Subgroup Performance Targets
	Not Applicable			Subgroup met Participation Rate and Subgroup Performance Target but not State Performance Target		Subgroup met Participation Rate and State Performance Target but not Subgroup Performance Target		Subgroup met the Participation Rate, but did not meet either the State or Subgroup Performance Targets

Subgroup Performance	2011 4-Year Graduation Rate and 2012 End of Course Tests								
	Graduation Rate	9th Grade Literature	American Literature	Mathematics I	Mathematics II	Biology	Physical Science	U.S. History	Economics
American Indian/Alaskan									
Asian/Pacific Islander									
Black									
Hispanic									
Multi-Racial									
White									
Economically Disadvantaged									
Students With Disability									
English Learners									

# CCRPI Report: Northview High School



## College and Career Ready Performance Index (CCRPI)

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### 2012 COLLEGE AND CAREER READY PERFORMANCE INDEX (CCRPI)

District: Fulton County - 660

Title I School: No

School: Northview High School - 0203

Grades: 09, 10, 11, 12

Choose a Report Type:

High School

CCRPI Score

Achievement

Progress

Achievement Gap

ED/EL/SWD Performance

Exceeding the Bar

Star Ratings

Performance Flags

## CCRPI SCORE

CCRPI Score

93.3

Sum of Achievement, Progress, Achievement Gap, and Challenge Points

Achievement Points	Progress Points	Achievement Gap Points	Challenge Points		Financial Efficiency Rating	School Climate Rating
			ED/EL/SWD Performance Points	Exceeding the Bar Points		
64.9	11.8	15	1.1	.5		
			1.6			



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8/15/2013

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# Performance Flags: Northview High School



**College and Career Ready Performance Index (CCRPI)**

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**2012 COLLEGE AND CAREER READY PERFORMANCE INDEX (CCRPI)**

District: Fulton County - 660

School: Northview High School - 0203

Title I School: No

Grades: 09, 10, 11, 12

Choose a Report Type: High School

CCRPI Score
Achievement
Progress
Achievement Gap
ED/EL/SWD Performance
Exceeding the Bar
Star Ratings
Performance Flags

**PERFORMANCE FLAGS**

<b>Legend:</b>		Subgroup met both State and Subgroup Performance Targets		Subgroup met Subgroup but not State Performance Target		Subgroup met State but not Subgroup Performance Target		Subgroup did not meet either the State or Subgroup Performance Targets
	Not Applicable			Subgroup met Participation Rate and Subgroup Performance Target but not State Performance Target		Subgroup met Participation Rate and State Performance Target but not Subgroup Performance Target		Subgroup met the Participation Rate, but did not meet either the State or Subgroup Performance Targets

Subgroup Performance	2011 4-Year Graduation Rate and 2012 End of Course Tests								
	Graduation Rate	9th Grade Literature	American Literature	Mathematics I	Mathematics II	Biology	Physical Science	U.S. History	Economics
American Indian/Alaskan									
Asian/Pacific Islander									
Black									
Hispanic									
Multi-Racial									
White									
Economically Disadvantaged									
Students With Disability									
English Learners									

# CCRPI Report: Banneker High School



## College and Career Ready Performance Index (CCRPI)

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### 2012 COLLEGE AND CAREER READY PERFORMANCE INDEX (CCRPI)

District: Fulton County - 660

Title I School: Yes

School: Banneker High School - 0176

Grades: 09, 10, 11, 12

Choose a Report Type:

High School

CCRPI Score

Achievement

Progress

Achievement Gap

ED/EL/SWD Performance

Exceeding the Bar

Star Ratings

Performance Flags

### CCRPI SCORE

CCRPI Score

47

Sum of Achievement, Progress, Achievement Gap, and Challenge Points

Achievement Points	Progress Points	Achievement Gap Points	Challenge Points		Financial Efficiency Rating	School Climate Rating
			ED/EL/SWD Performance Points	Exceeding the Bar Points		
33.2	8.6	4.7	5	0		
			.5			

Legend:



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# Performance Flags: Banneker High School

College and Career Ready Performance Index (CCRPI)

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2012 COLLEGE AND CAREER READY PERFORMANCE INDEX (CCRPI)

District: <span style="border: 1px solid #ccc; padding: 2px;">Fulton County - 660</span>	Title I School: <span style="border: 1px solid #ccc; padding: 2px;">Yes</span>
School: <span style="border: 1px solid #ccc; padding: 2px;">Banneker High School - 0176</span>	Grades: <span style="border: 1px solid #ccc; padding: 2px;">09, 10, 11, 12</span>

Choose a Report Type:
High School

CCRPI Score
Achievement
Progress
Achievement Gap
ED/EL/SWD Performance
Exceeding the Bar
Star Ratings
Performance Flags

### PERFORMANCE FLAGS

<b>Legend:</b>		Subgroup met both State and Subgroup Performance Targets		Subgroup met Subgroup but not State Performance Target		Subgroup met State but not Subgroup Performance Target		Subgroup did not meet either the State or Subgroup Performance Targets
	Not Applicable			Subgroup met Participation Rate and Subgroup Performance Target but not State Performance Target		Subgroup met Participation Rate and State Performance Target but not Subgroup Performance Target		Subgroup met the Participation Rate, but did not meet either the State or Subgroup Performance Targets

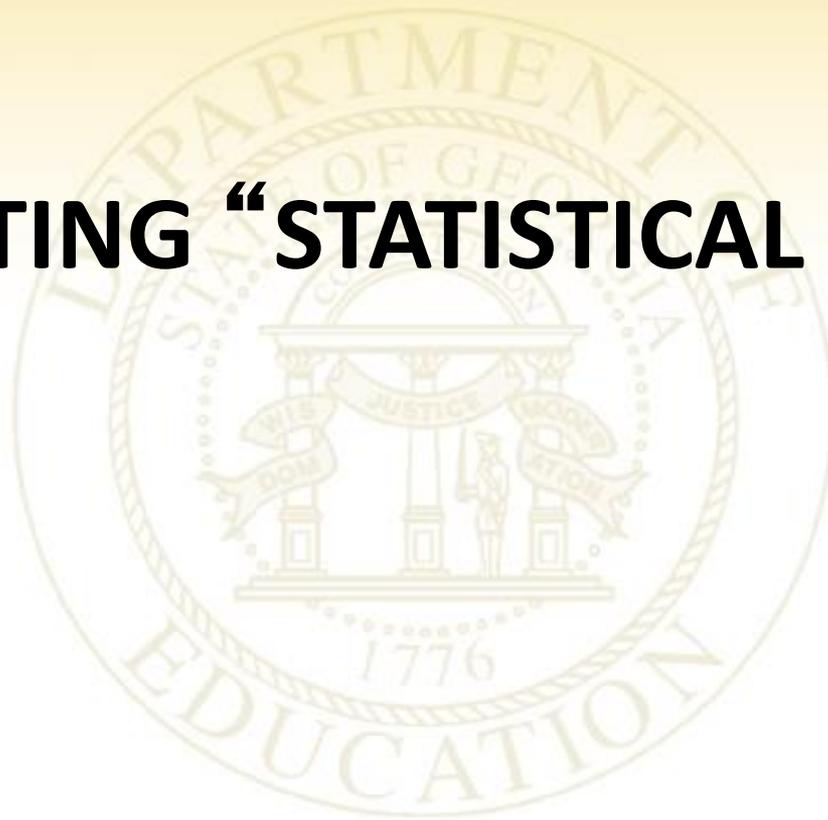
Subgroup Performance	2011 4-Year Graduation Rate and 2012 End of Course Tests								
	Graduation Rate	9th Grade Literature	American Literature	Mathematics I	Mathematics II	Biology	Physical Science	U.S. History	Economics
American Indian/Alaskan									
Asian/Pacific Islander									
Black									
Hispanic									
Multi-Racial									
White									
Economically Disadvantaged									
Students With Disability									
English Learners									

# Fulton County High Schools: Student Demographics

System Name	School Name	FTE Count	% White	% Black	% Hispanic	% Other	% FRL	% SWD	% EL
Fulton County	Alpharetta High School	2,430	53.3%	19.9%	8.1%	18.7%	17.7%	11.6%	3.5%
<b>Fulton County</b>	<b>Banneker High School</b>	<b>1,527</b>	<b>0.3%</b>	<b>96.5%</b>	<b>1.9%</b>	<b>1.4%</b>	<b>86.4%</b>	<b>21.8%</b>	<b>0.5%</b>
Fulton County	Centennial High School	2,013	49.3%	24.7%	16.8%	9.2%	35.0%	13.2%	6.3%
Fulton County	Chattahoochee High School	1,929	52.7%	17.1%	7.5%	22.7%	16.0%	8.6%	3.7%
Fulton County	Creskide High School	1,607	1.9%	85.5%	9.7%	2.9%	80.8%	12.1%	2.6%
Fulton County	Fulton Science Academy High School	293	43.0%	27.3%	6.1%	23.5%	11.6%	11.3%	8.9%
Fulton County	Johns Creek High School	1,892	63.6%	7.6%	5.2%	23.6%	8.2%	6.4%	3.7%
Fulton County	Langston Hughes High School	2,082	1.1%	94.6%	3.3%	1.1%	77.9%	11.2%	0.4%
<b>Fulton County</b>	<b>Milton High School</b>	<b>2,720</b>	<b>78.7%</b>	<b>7.2%</b>	<b>6.1%</b>	<b>8.1%</b>	<b>7.2%</b>	<b>7.1%</b>	<b>1.2%</b>
Fulton County	North Springs High School	1,746	27.8%	54.0%	12.5%	5.7%	52.6%	7.3%	6.1%
<b>Fulton County</b>	<b>Northview High School</b>	<b>1,882</b>	<b>40.3%</b>	<b>10.9%</b>	<b>3.0%</b>	<b>45.7%</b>	<b>11.4%</b>	<b>5.6%</b>	<b>4.3%</b>
Fulton County	Riverwood International Charter School	1,731	41.0%	29.8%	21.3%	8.0%	38.0%	6.7%	6.3%
Fulton County	Roswell High School	2,585	62.0%	14.3%	16.8%	7.0%	25.8%	11.9%	5.5%
Fulton County	Tri-Cities High School	2,049	1.6%	80.0%	15.9%	2.5%	86.8%	11.9%	4.9%
Fulton County	Westlake High School	2,130	0.3%	98.1%	0.5%	1.2%	65.5%	7.4%	0.0%



# CREATING “STATISTICAL PEERS”



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# Why “Statistical Peers?”

- Issues with the following comparisons:
  - Within district comparisons
  - Within region comparisons
  - Within MSA (urban, suburban, rural) comparisons
- Statistical peers allow for:
  - Comparisons of similar student demographics and school characteristics
  - Ability to look across regional, county, and district lines for comparisons



# Four-step Process

- **Step 1: Review of current approaches**
- **Step 2: Selection of school variables**
- **Step 3: Two-step cluster analysis**
- **Step 4: Expert validation check**



# Step 1: Review of Current Approaches

- Conducted a systematic review of current approaches to group schools by similar characteristics
- Approaches include:
  - New York City: Peer index algorithm combined with various matching techniques
  - New Jersey: Propensity score methodology
  - U.S. Department of Education: Weighted student demographics



# Step 2: Selection of School Variables

- Criteria for inclusion:
  - School-level variables that are not malleable by school or district leaders
- Criteria for exclusion:
  - Academic achievement indicators
  - Staff / personnel indicators



# School Variables for Inclusion

- Student FTE count
- % of students who are Hispanic
- % of students who are Black
- % of economically disadvantaged students
- % of students identified with a disability
- % of students classified as English learners
- % of students retained
- % of students receiving gifted services



# Step 3: Two-step cluster analysis

- Cluster selection procedure
  - Where  $k \approx \sqrt{n/2}$ ,
    - $k$  = the number of clusters
    - $n$  = the sample size
  - *Georgia*:  $15 \approx \sqrt{433/2}$
  - $k = 14$  was chosen as opposed to 15 due to the fact that the smallest peer-group in the grouping of 15 clusters was substantially smaller than that of the grouping containing 14 clusters
  - 15<sup>th</sup> cluster is designated as alternative schools



# Principal Component Analysis

- Reduced eight individual variables into three components:
  - Component 1: % of Black students, % of economically disadvantaged students, and % of retained students
  - Component 2: % of Hispanics and % of English learners
  - Component 3: student FTE count, % gifted served students, and % of students with learning disabilities



# Step 4: Expert validation check

- Stakeholders and researchers met to examine each cluster
- Ensured appropriate matches based on student demographics, location, and school environment



# APPLICATION USING GEORGIA HIGH SCHOOLS



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# Applications Using Georgia High School Data

- Data: SLDS
  - 2009 grantee
  - Populated with data from student records, student course profile, Georgia Testing Identifier, AYP, Certified Personnel Information, FTE, and others
- Sample: Traditional high schools in Georgia
  - 433 high schools; 473,371 high school students



# Results Using the Four-step Process

- 433 traditional high schools across 14 clusters
- Within each cluster
  - 16 to 53 high schools
  - 7 to 43 districts
  - CCRPI variation



# Fulton County High Schools: Cluster Membership

Cluster Membership	System Name	School Name
1	Fulton County	Banneker High School
1	Fulton County	Hapeville Charter Career Academy
2	Fulton County	Langston Hughes High School
2	Fulton County	Westlake High School
6	Fulton County	Fulton Science Academy High School
9	Fulton County	Alpharetta High School
9	Fulton County	Chattahoochee High School
9	Fulton County	Johns Creek High School
9	Fulton County	Milton High School
9	Fulton County	Northview High School
10	Fulton County	Creekside High School
10	Fulton County	Tri-Cities High School
11	Fulton County	North Springs High School
11	Fulton County	Riverwood International Charter School
13	Fulton County	Centennial High School
13	Fulton County	Roswell High School





# Comparing Cluster 9 Performance

Cluster Membership	System Name	School Name	Type	Overall CCRPI Score
9	Chatham County	Savannah Arts Academy	H	98.0
9	Cobb County	Harrison High School	H	93.9
9	Cobb County	Lassiter High School	H	94.4
9	Cobb County	Pope High School	H	94.1
9	Cobb County	Walton High School	H	94.4
9	DeKalb County	DeKalb School of the Arts	H	95.5
9	Fayette County	McIntosh High School	H	91.8
9	Fayette County	Starrs Mill High School	H	90.8
9	Fayette County	Whitewater High School	H	85.8
9	Forsyth County	Lambert High School	H	94.6
9	Forsyth County	South Forsyth High School	H	93.9
9	Forsyth County	West Forsyth High School	H	88.7
<b>9</b>	<b>Fulton County</b>	<b>Alpharetta High School</b>	<b>H</b>	<b>89.0</b>
<b>9</b>	<b>Fulton County</b>	<b>Chattahoochee High School</b>	<b>H</b>	<b>91.8</b>
<b>9</b>	<b>Fulton County</b>	<b>Johns Creek High School</b>	<b>H</b>	<b>90.9</b>
<b>9</b>	<b>Fulton County</b>	<b>Milton High School</b>	<b>H</b>	<b>93.5</b>
<b>9</b>	<b>Fulton County</b>	<b>Northview High School</b>	<b>H</b>	<b>93.3</b>
9	Gwinnett County	Gwinnett School of Mathematics, Science and Technology	H	99.8
9	Henry County	Union Grove High	H	90.9
9	Houston County	Houston County High School	H	85.4



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# ANOTHER EXAMPLE OF THE HIGH SCHOOL PEER CLUSTERS



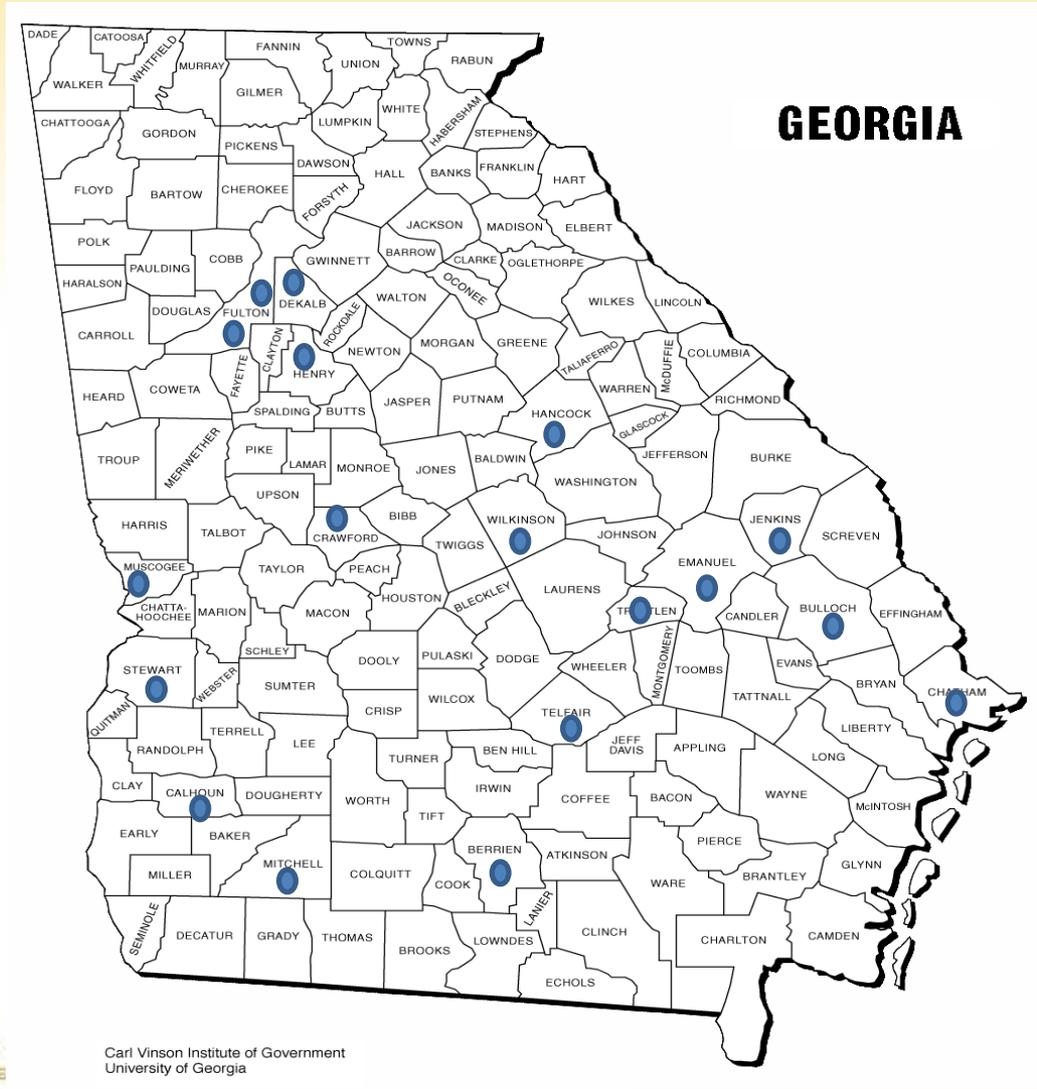
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# Example: Cluster 3

Cluster Membership	System Name	School Name	Type	Overall CCRPI Score
3	Atlanta Public Schools	Therrell School of Engineering, Math, and Science	H	64.9
3	Atlanta Public Schools	Therrell School of Health and Science	H	49.2
3	Atlanta Public Schools	Therrell School of Law, Government and Public Policy	H	61.3
3	Berrien County	Berrien Academy Performance Learning Center	H	37.8
3	Bulloch County	Portal Middle/High School	H	74.0
3	Calhoun County	Calhoun County Middle/High School	H	72.3
3	Chatham County	Woodville-Tompkins Technical and Career High School	H	85.0
3	Crawford County	Crawford County High School	H	63.0
3	DeKalb County	Destiny Achievers Academy of Excellence	H	40.3
3	Emanuel County	Swainsboro High School	H	62.4
3	Hancock County	Hancock Central High School	H	54.0
3	Henry County	Henry County High School	H	67.4
3	Jenkins County	Jenkins County High School	H	62.8
3	Muscogee County	Jordan Vocational High School	H	66.7
3	Muscogee County	Spencer High School	H	62.7
3	Pelham City	Pelham High School	H	66.9
3	Stewart County	Stewart County High School	H	74.1
3	Telfair County	Telfair County High School	H	80.6
3	Treutlen County	Treutlen Middle/High School	H	69.5
3	Wilkinson County	Wilkinson County High School	H	62.0



# Cluster 3 Statistical Peer Groups



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University of Georgia

# Implications and Utilization

- Schools can assess how their accountability measures compare with their “statistical peers”
- Districts can provide differentiated supports to their high schools
- State can provide “statistical peer”-focused supports



# NEXT STEPS



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# Future Research and Applications

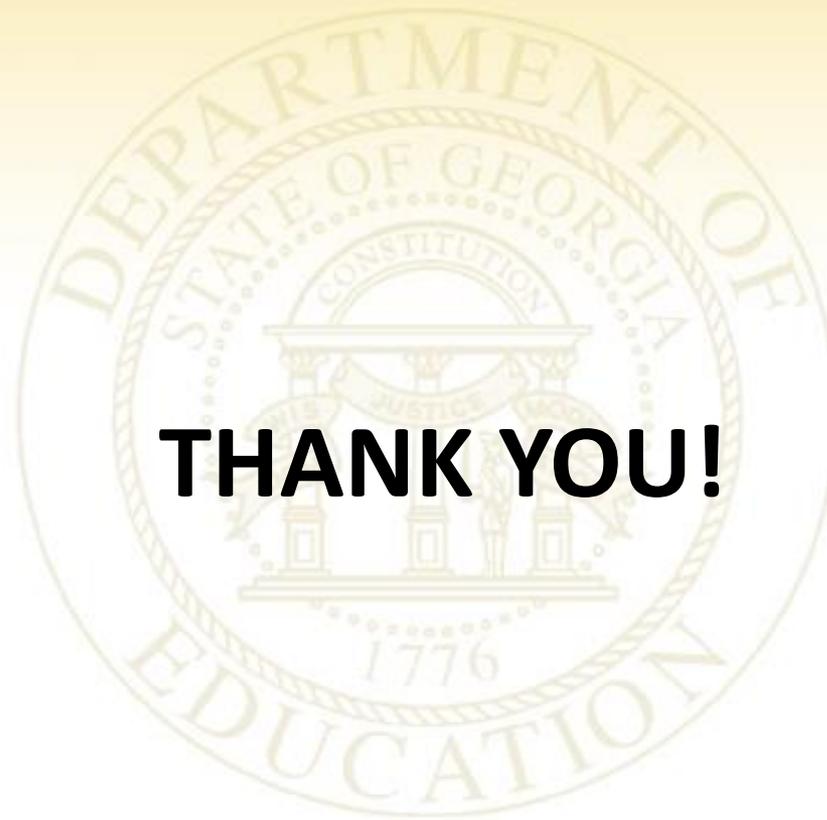
- Methodology of “statistical peers”
  - Use of P-20 data
  - Propensity score matching
  - Latent class analysis
- Evaluation of “statistical peers”
  - School use and implementation
  - Formative and summative evaluation



# QUESTIONS AND COMMENTS?



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