

# BOUNDARY RESEARCH AND PRACTICE

School Board Work Session

February 25, 2019



**Fairfax County**  
PUBLIC SCHOOLS  
ENGAGE • INSPIRE • THRIVE

## Purpose of the Presentation to the School Board

- Present the findings from ORSI's review of the educational research on factors considered in boundary decision-making.
- Consider the impact of these factors on equity, excellence, and efficiency.
- Review FCPS practices related to the research.
- Link research findings to the FCPS Strategic Plan.
- Provide background to inform the Board's prioritizing of factors using a One Fairfax lens.

# Timeline of Boundary Policy Process

October  
2018

- Reviewed common practices for boundary changes



February  
2019

- Review educational research on boundary and related FCPS practice

March  
2019

- Provide guidance on goals for boundary policy
- Prioritize factors to include in boundary policy

# Factors Commonly Used in Boundary Decisions

geographic proximity	transportation	cohorts or split feeders	costs to the school district
natural or man-made boundaries	development	demographics	health and safety of students
political jurisdictions	contiguous boundaries	socioeconomics	birth-to-kindergarten ratio
neighborhoods	current or projected school capacity	neighborhood stability or past changes	achievement

\*Factors highlighted indicate factors in current FCPS Policy 8130



## Summary of Educational Research Findings

- 8 of the 16 factors commonly used by school divisions in boundary decisions have the potential to impact equity and excellence for students
  - **Geographic proximity**
  - **Transportation**
  - **Cohorts or split feeders**
  - **Demographics**
  - Health and safety of students
  - **Socioeconomics**
  - **Current or projected school capacity**
  - **Achievement**

\*Factors highlighted in **blue** indicated factors in current FCPS Policy 8130



## Remaining 8 Factors

- Not supported by educational research.
- Take into consideration neighborhood impact and efficiency.
- Recognize the need to demonstrate a caring culture and resource stewardship while maximizing student success.
  - Costs to the school district
  - Natural or man-made boundaries
  - Development
  - Political jurisdictions
  - Contiguous boundaries
  - Birth-to-kindergarten ratio
  - Neighborhoods
  - Neighborhood stability or past changes

\*Factors highlighted in blue indicated factors in current FCPS Policy 8130



## Equity and Excellence: Student Diversity

- Boundaries can significantly impact the demographic and socioeconomic (SES) make-up of schools.
- Greater balance in school membership has been linked with positive impacts on the achievement of minority and students with low SES.
- Program placement in schools can affect their socioeconomic makeup.



## Equity and Excellence: Student Diversity

- Attendance Islands
  - Socioeconomic characteristics may not match base school
- Elementary to Middle feeder patterns
  - More thoughtful feeder patterns can better balance socioeconomic diversity
- Current Program Placement (AAP, Immersion, AP, IB, or Magnet)
  - Student movement affects the makeup of both the program school and the base school
- FRM Enrollment Study
  - The original 2013 study is being updated and will be presented to the School Board







## Equity and Excellence: Travel Time

- Limited research on the impact of long bus rides on student achievement.
- If longer commutes cause earlier mornings and later evenings for students, could influence the amount of sleep students get.
- Large body of research documents that insufficient sleep is related to reduced motivation, engagement, concentration, and problem-solving skills.





## Equity and Excellence: Travel Time

- Attendance islands, feeder patterns, and special programs (AAP, immersion, magnet schools, special education, AP and IB) all affect travel time

Bus Route Travel Time						
Travel Time (in minutes)	General Education	Special Education	AAP	Magnet	Attendance Islands	Title I*
Less than 30	2,919 (76%)	496 (29%)	272 (39%)	4 (18%)	79 (50%)	587 (68%)
30-44	675 (18%)	593 (35%)	267 (38%)	6 (27%)	60 (38%)	199 (23%)
45-59	154 (4%)	402 (24%)	135 (19%)	4 (18%)	17 (11%)	63 (7%)
60 or greater	75 (2%)	215 (13%)	24 (3%)	8 (36%)	1 (1%)	16 (2%)

\*Title I are also included in the other categories





## Equity and Excellence: Social Connections

- Mixed evidence on whether disrupted social connections when changing schools benefit or impede student academic achievement.
- Multiple schools feeding into the next school level (pyramids) showed less impact on social connections (and achievement) than split feeder patterns.





## Equity and Excellence: Social Connections

- Split feeders are not uncommon in FCPS due to legacy boundaries
  - Legacy boundaries are a result of development, new schools, previous boundary changes, and integration

Split Feeders	
School Level	Number
Elementary to Middle	32
Middle to High	6
Elementary to High	35

- Advanced Academic Programs, immersion programs, magnet schools, and special education programs contribute to impacts on social connections





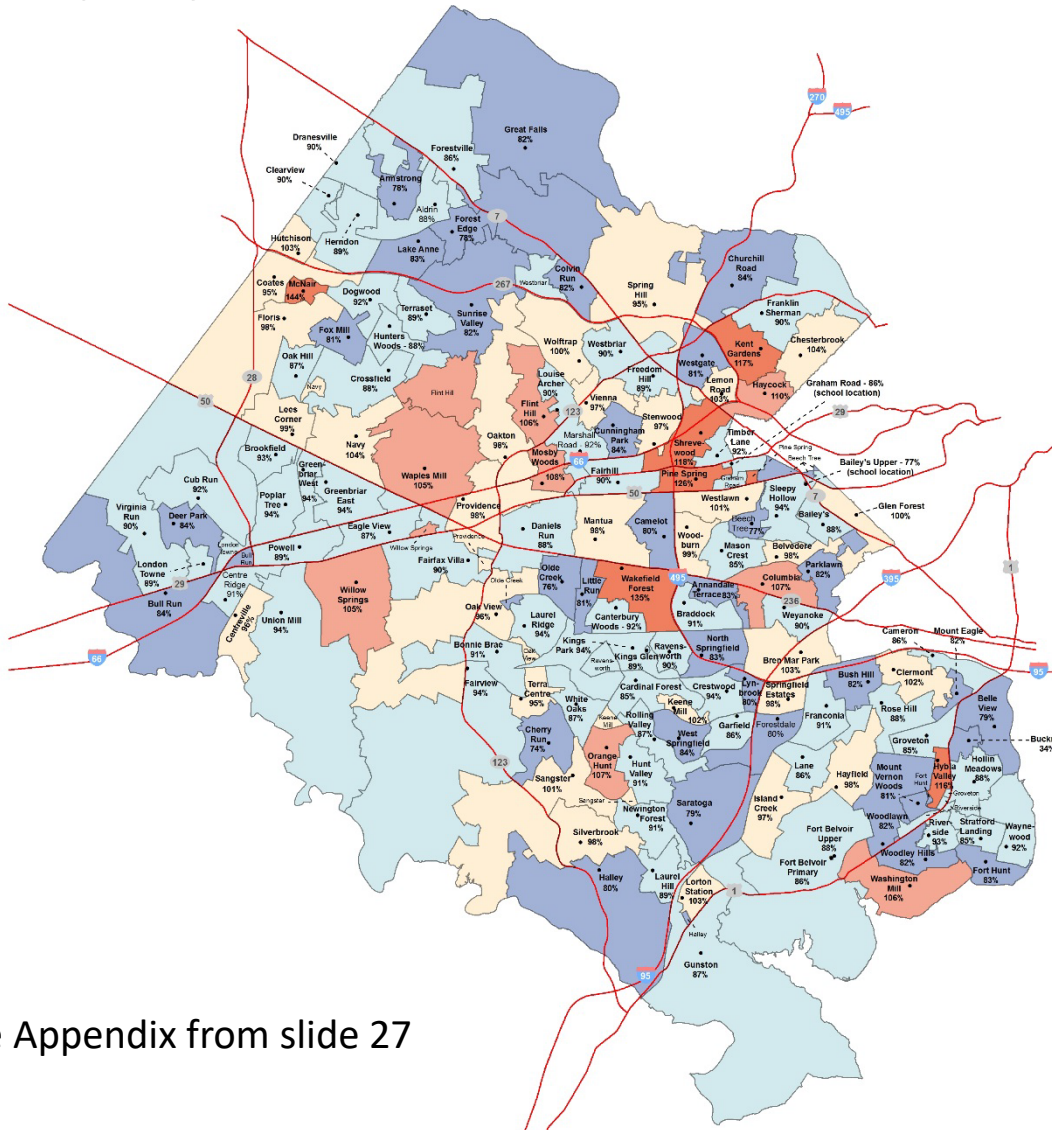
## Equity and Excellence: Overcrowding

- School overcrowding has a significant, negative impact on teaching and learning.
- School overcrowding may contribute to increases in class size.





## Equity and Excellence: Overcrowding



### Capacity Utilization Percentage

- 115% or More
- 105% - 114%
- 95% - 104%
- 85% - 94%
- Less than 85%

Note: Based on 2018-19 school year boundaries.

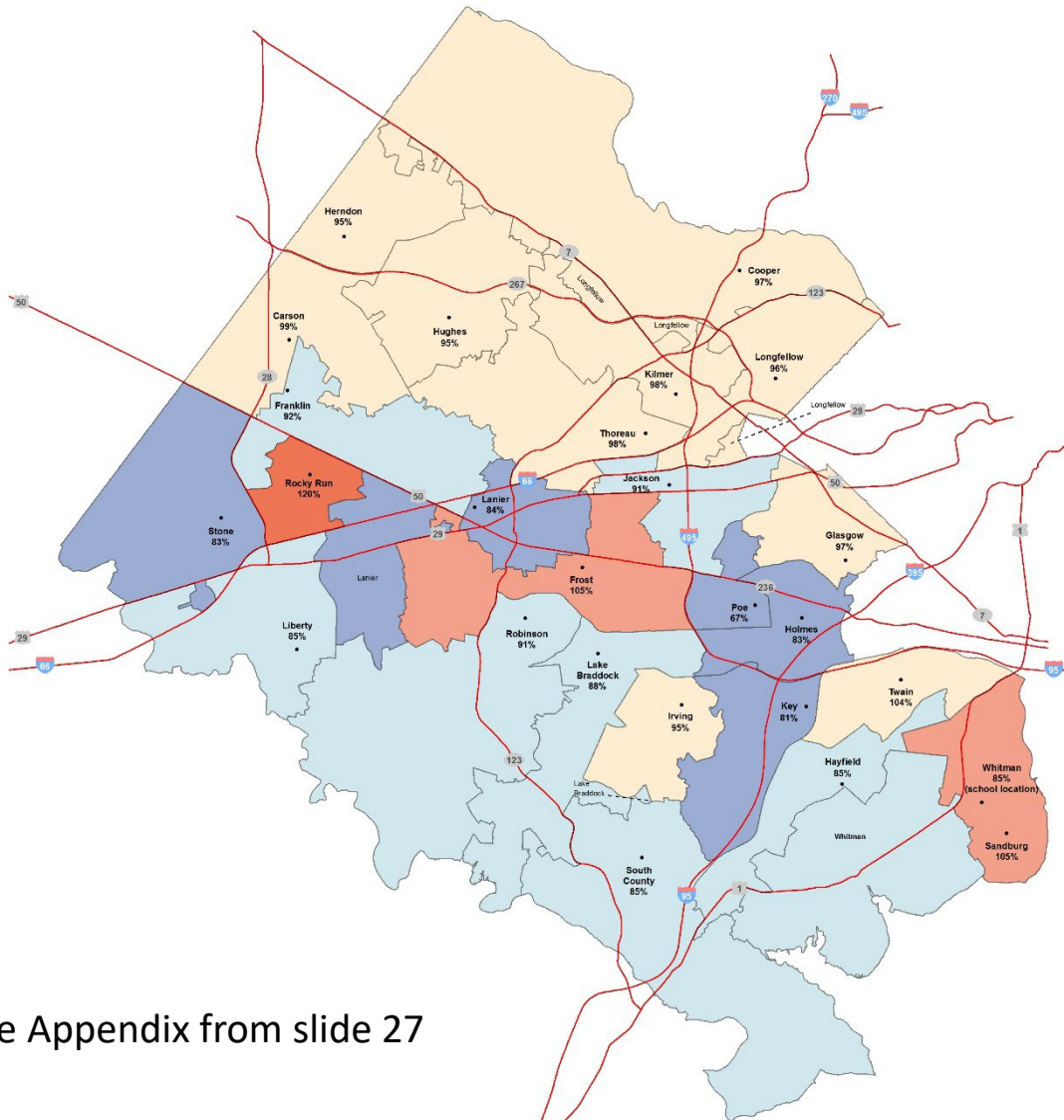
## FCPS Elementary Schools (current capacity)



See Appendix from slide 27



## Equity and Excellence: Overcrowding



### Capacity Utilization Percentage

- 115% or More
- 105% - 114%
- 95% - 104%
- 85% - 94%
- Less than 85%

Note: Based on 2018-19 school year boundaries.

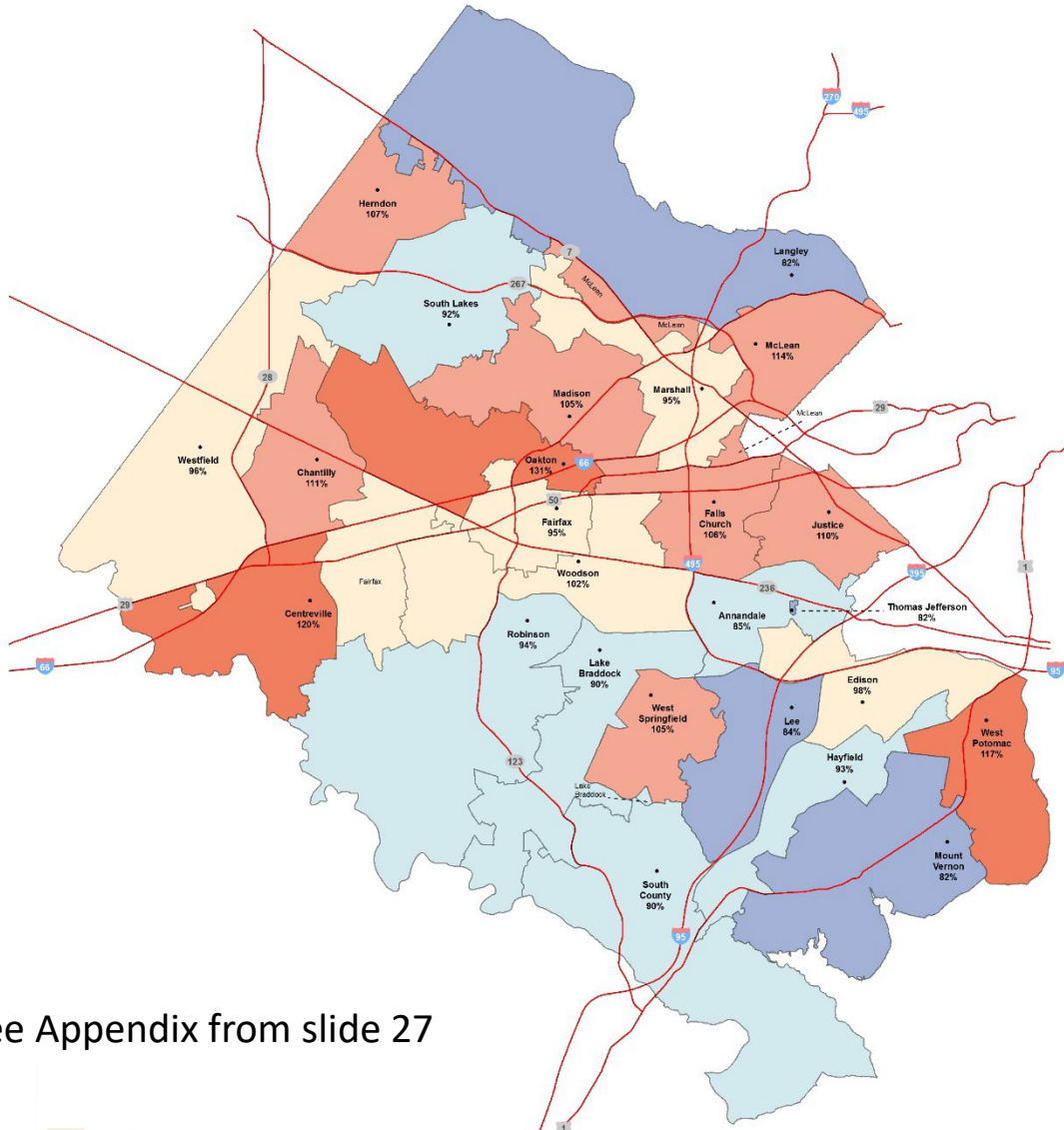
## FCPS Middle Schools (current capacity)



See Appendix from slide 27



## Equity and Excellence: Overcrowding



### Capacity Utilization Percentage

- 115% or More
- 105% - 114%
- 95% - 104%
- 85% - 94%
- Less than 85%

Note: Based on 2018-19 school year boundaries.

## FCPS High Schools (current capacity)



See Appendix from slide 27



# Conclusions: Best Research-Based Guidance for Boundary Adjustments

- Address overcrowding by utilizing existing building capacity.
- Balance student socioeconomic diversity in schools
  - Program placement may support diversity goals.
- Minimize travel time.



# Timeline of Boundary Policy Process

October  
2018

- Reviewed common practices for boundary changes

February  
2019

- Review educational research on boundary and related FCPS practice



March  
2019

- Provide guidance on goals for boundary policy
- Prioritize factors to include in boundary policy



[www.fcps.edu](http://www.fcps.edu)

# APPENDIX

# FCPS CIP Guiding Principles

- Unique program offerings should be made available in all division pyramids in order to keep students within their zoned pyramid throughout their K–12 experience, where conditions are conducive to program needs.
- Attendance islands will be alleviated.
- Utilize existing and/or projected surplus capacity in nearby schools by adjusting boundaries in order to address overcrowding in some schools.
- Add additional capacity to stated division standards when renovating small schools.
- Repurpose existing inventory of school facilities not currently being used as schools to address capacity challenges.
- Construct new schools only where surplus capacity or existing school inventory are not available in order to maximize limited capital monies.
- Community engagement and transparency are essential parts of the process. With any major capital improvement project, the community impacted by the project will be actively engaged as per FCPS School Board Policies and Regulations.
- FCPS is committed to continue to take innovative and cost-effective steps to help our country achieve climate stabilization. That includes prioritization of systems and practices that maximize energy efficiency and provide for the cost effective transition to clean and renewable alternatives to fossil fuels.

## Factors in FCPS Policy 8130

FCPS factors included in Policy 8130 include, not in priority order:

- The proximity of schools to student residences
- Projected school enrollment and capacity
- Walking distances;
- Busing times and costs
- Walking and busing safety
- Natural and man-made geographic features
- The impact on neighborhoods
- School feeder alignments
- Contiguous school attendance areas
- Long-range capital plans
- The socioeconomic characteristics of school populations
- The distribution of programs and resources
- The overall impact on families and student
- Comparative long-term costs
- Adjustments shall be made without respect to magisterial districts or postal addresses and, whenever possible, shall not affect the same occupied dwellings any more often than once in three years

## Prioritizing Factors: Other School Districts

Los Angeles USD, CA (639,337 students)

- School Capacity

Hillsborough County, FL (211,923 students)

- Financial Efficiency
- Access
- School Capacity

Palm Beach County, FL (189,322 students)

- School Capacity – optimum capacity is 95% or below

Gwinnett County, GA (176,052 students)

- School Capacity
- Policy explicitly excludes socioeconomics

# Prioritizing Factors: Other School Districts

## Montgomery County, MD (156,380 students)

- Primary: School Capacity
- Secondary: Demographics, Geography, Stability of School Assignment, Facility Utilization

## San Diego USD, CA (129,380 students)

- Primary: School Capacity
- Secondary: Feeder patterns, mandates, community input, student safety, transportation capacity, community and neighborhood identity, geographic features, education programs

## Prince George's County, MD (128,936 students)

- Contiguous Areas
- School Capacity
- Walkability
- Reasonable travel time and geographic distance



# Prioritizing Factors: Other School Districts

## DeKalb County, GA (101,389 students)

- Primary: Geographic Proximity, Instructional Capacity, Projected Enrollment.
- Secondary: Safety and Traffic Patterns, Previous Redistricting, Intact Neighborhoods, Special Programs, Condition Of Facility, School Feeder Alignment, Efficient and Economical Operations, or other criteria determined by Board.

## Fulton County, GA (95,641 students)

- Primary: Geographic Proximity, Instructional Capacity, Projected Enrollment
- Secondary: Traffic Patterns, Frequency of Neighborhood Rezoning, Special Programs, School Feeder Alignment

# Prioritizing Factors: Other School Districts

Albuquerque, NM (90,566 students)

- School Capacity
- Safety Issues
- Educational Priorities

## Number of Schools over 100% of Capacity by Percent Attending FRM

Free and Reduced-Price Meal Percent	Elementary Schools	Middle Schools	High Schools
75% or greater	2	0	0
50% to 74%	6	0	2
25% to 49%	4	2	3
24% or lower	13	2	6

# Elementary Schools over 100% of Capacity by Percent Attending FRM

Over 75%

Hybla Valley\*  
Hutchison

50% to 74%

Bren Mar Park\*  
Glen Forest  
Lorton Station  
Pine Spring  
Washington Mill\*  
Westlawn

25% to 49%

Columbia  
Keene Mill  
Mosby Woods\*  
Shrevewood

24% or lower

Chesterbrook  
Flint Hill  
Haycock  
Kent Gardens  
Lemon Road  
McNair\*  
Navy  
Orange Hunt  
Sangster  
Wakefield Forest\*  
Waples Mill\*  
Willow Springs\*  
Wolftrap

\*Schools included in the CIP cash flow

## Middle Schools over 100% of Capacity by Percent Attending FRM

25% to 49%

Sandburg

Twain

24% or lower

Frost\*

Rocky Run\*

## High Schools over 100% of Capacity by Percent Attending FRM

50% to 74%

Falls Church\*

Justice

25% to 49%

Herndon\*

West Potomac\*

Centreville\*

24% or lower

Chantilly

Madison\*

McLean

Oakton\*

West Springfield\*

Woodson

\*Schools included in the CIP cash flow

## Schools over 115% Capacity

School Level	Number of Schools
Elementary Schools	6
Middle Schools	1
High Schools	3
<b>Total</b>	<b>10</b>

## Schools over 115% Capacity

### Elementary Schools

Hybla Valley\*

Kent Gardens

McNair\*

Pine Spring

Shrevewood

Wakefield Forest\*

### Middle School

Rocky Run\*

### High Schools

Centreville\*

Oakton\*

West Potomac\*

\*Schools included in the CIP cash flow

# SY 2018-19 Elementary School Split Feeders to Middle School

Elementary School	Middle School
Brookfield	Franklin
	Rocky Run
Bull Run	Liberty
	Stone
Coates	Carson
	Herndon
Columbia	Holmes
	Poe
Colvin Run	Cooper
	Longfellow
Crossfield	Carson
	Franklin
	Hughes
Cub Run	Franklin
	Rocky Run
	Stone
Franklin Sherman	Cooper
	Longfellow

Elementary School	Middle School
Greenbriar East	Lanier
	Rocky Run
Gunston	Hayfield
	South County
Hayfield	Hayfield
	Twain
Keene Mill	Irving
	Lake Braddock
Lane	Hayfield
	Twain
Lemon Road	Kilmer
	Longfellow
Little Run	Frost
	Lake Braddock
Mason Crest	Glasgow
	Poe
Oak Hill	Carson
	Franklin



# SY 2018-19 Elementary School Split Feeders to Middle School (con't)

Elementary School	Middle School
Oak View	Frost
	Robinson
Olde Creek	Frost
	Robinson
Parklawn	Glasgow
	Holmes
Powell	Lanier
	Liberty
Riverside	Sandburg
	Whitman
Rolling Valley	Irving
	Key
Rose Hill	Hayfield
	Twain
Sangster	Irving
	Lake Braddock
Spring Hill	Cooper
	Longfellow

Elementary School	Middle School
Stenwood	Kilmer
	Thoreau
Timber Lane	Jackson
	Longfellow
Union Mill	Liberty
	Robinson
Vienna	Kilmer
	Thoreau
Westbriar	Kilmer
	Longfellow
Westgate	Kilmer
	Longfellow

## SY 2018-19 Middle School Split Feeders to High School

Middle School	High School
Carson	Westfield
	Oakton
	South Lakes
Franklin	Chantilly
	Westfield
	Oakton
Holmes	Edison
	Annandale
Kilmer	Marshall
	Madison
Poe	Annandale
	Falls Church
Thoreau	Madison
	Marshall
	Oakton

# SY 2018-19 Elementary School Split Feeders to High School

Elementary School	High School
Bull Run	Centreville
	Westfield
Coates	Westfield
	Herndon
Colvin Run	Langley
	McLean
Crossfield	Oakton
	Chantilly
	South Lakes
Cub Run	Chantilly
	Westfield
Cunningham Park	Madison
	Marshall
Floris	South Lakes
	Westfield
Franklin Sherman	Langley
	McLean
Greenbriar East	Fairfax
	Chantilly

Elementary School	High School
Gunston	Hayfield
	South County
Hayfield	Hayfield
	Edison
Keene Mill	West Springfield
	Lake Braddock
Lane	Hayfield
	Edison
Lemon Road	Marshall
	McLean
Little Run	Woodson
	Lake Braddock
Marshall Road	Oakton
	Madison
Mason Crest	Justice
	Falls Church
Navy	Chantilly
	Oakton

# SY 2018-19 Elementary School Split Feeders to High School (cont'd)

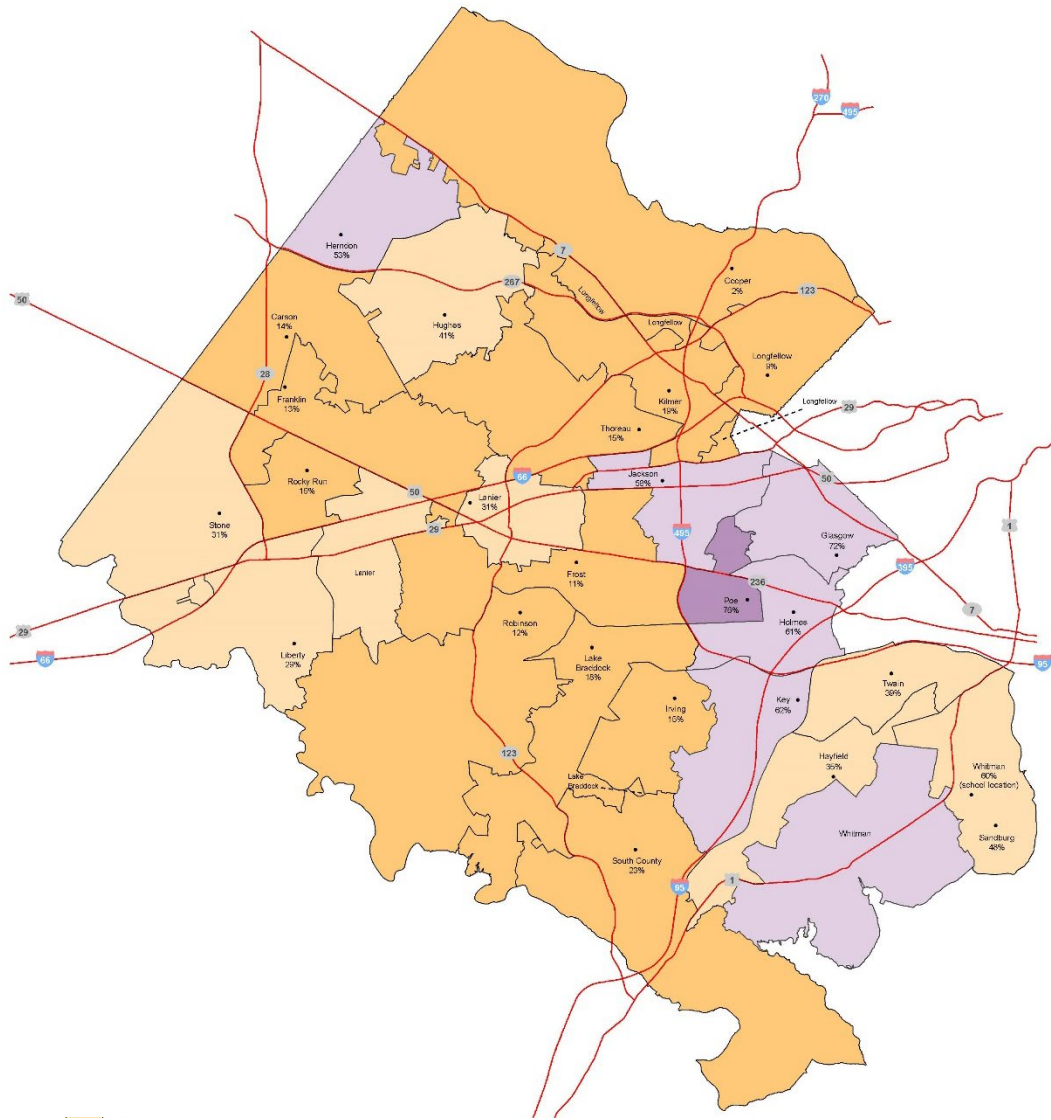
Elementary School	High School
Oak Hill	Westfield
	Chantilly
Oak View	Woodson
	Robinson
Oakton	Oakton
	Madison
Olde Creek	Woodson
	Robinson
Parklawn	Justice
	Annandale
Powell	Fairfax
	Centreville
Riverside	West Potomac
	Mount Vernon
Rolling Valley	West Springfield
	Lee
Rose Hill	Hayfield
	Edison

Elementary School	High School
Sangster	West Springfield
	Lake Braddock
Spring Hill	Langley
	McLean
Timber Lane	Falls Church
	McLean
Union Mill	Centreville
	Robinson
Vienna	Marshall
	Madison
Westbriar	Madison
	Marshall
Westgate	McLean
	Marshall
Wolftrap	Madison
	Marshall





# SY 2018-19 Base Free and Reduced-Price Meal Percent



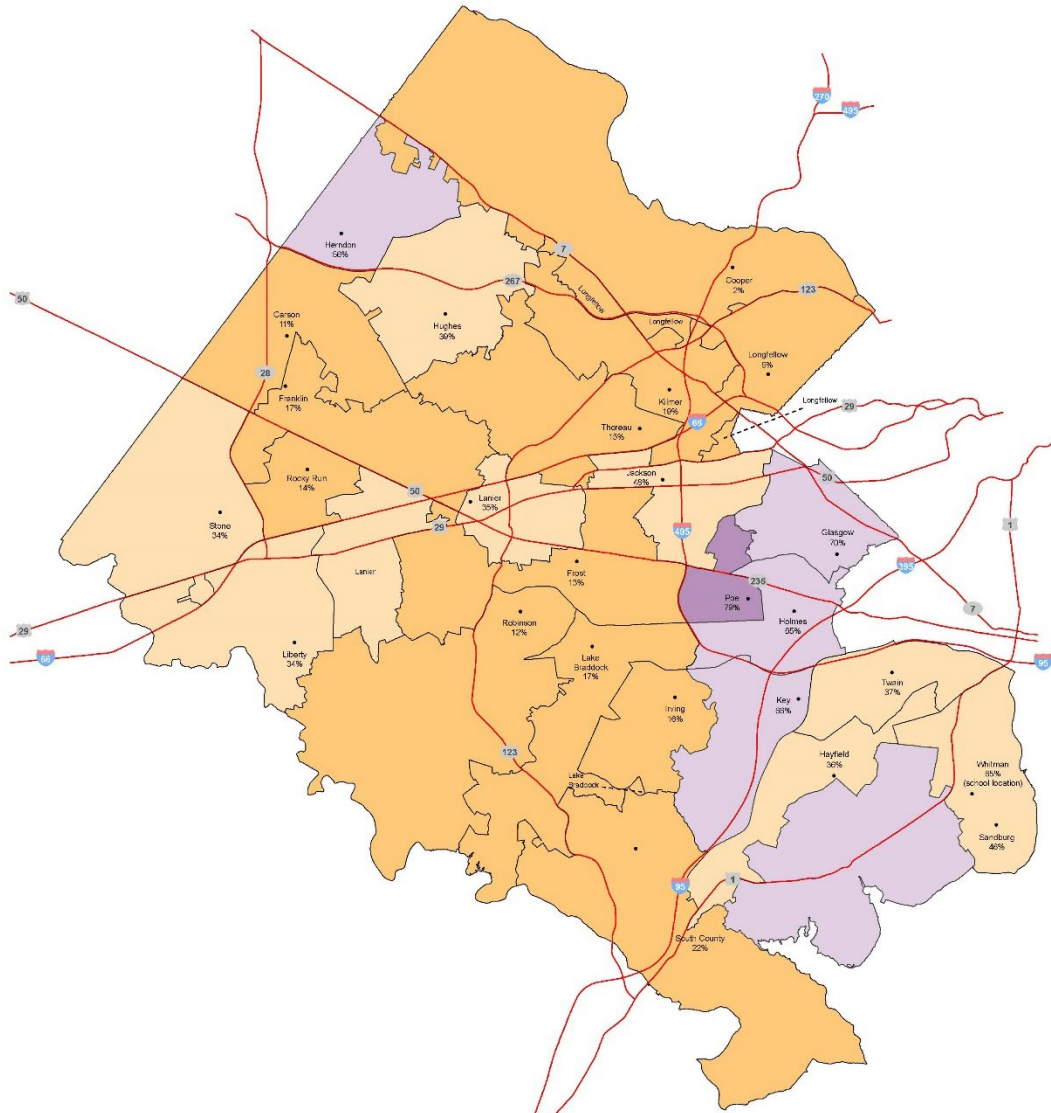
### FRM Percentage

- 24% or Lower
- 25% - 49%
- 50% - 74%
- 75% or Greater

Note: Based on 2018-19 school year boundaries.

## FCPS Middle Schools

# SY 2018-19 Attending Free and Reduced-Price Meal Percent



### FRM Percentage

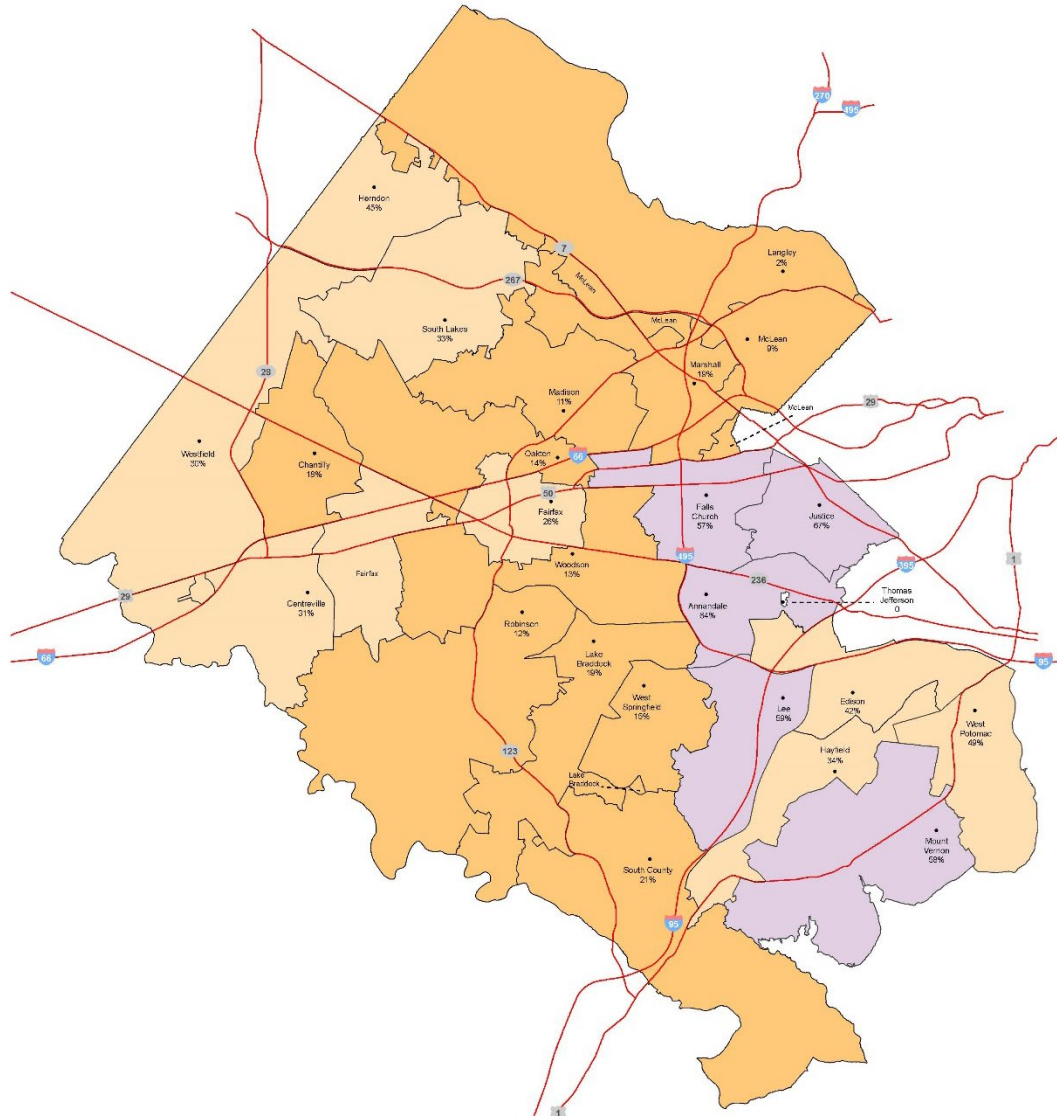
- 24% or Lower
- 25% - 49%
- 50% - 74%
- 75% or Greater

Note: Based on 2018-19 school year boundaries.

## FCPS Middle Schools



# SY 2018-19 Base Free and Reduced-Price Meal Percent



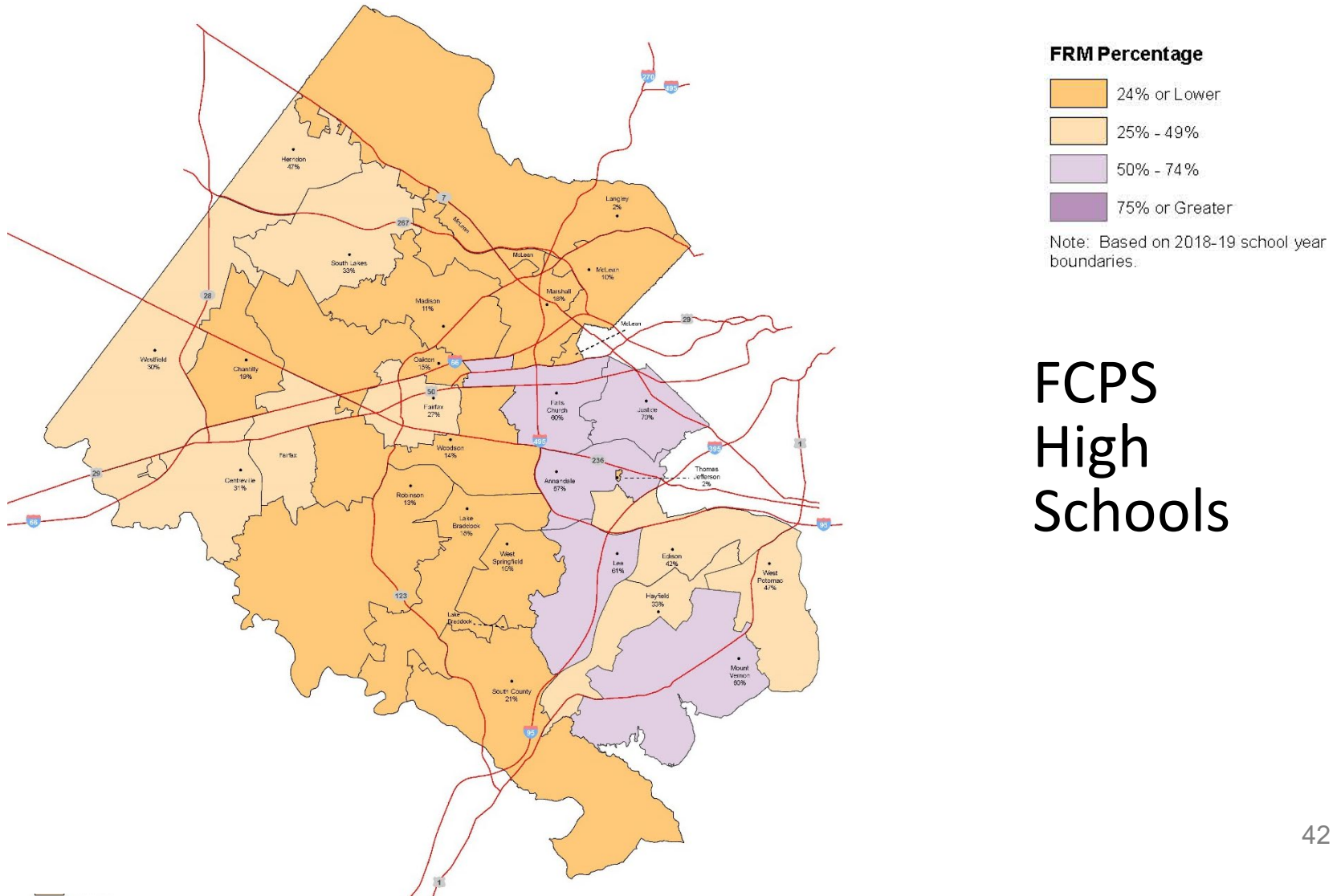
### FRM Percentage

- 24% or Lower
- 25% - 49%
- 50% - 74%
- 75% or Greater

Note: Based on 2018-19 school year boundaries.

## FCPS High Schools

# SY 2018-19 Attending Free and Reduced-Price Meal Percent



## FCPS High Schools