School Planning 101
Intro to School Capacity Planning
Presentation Outline

• General Overview of Schools
• CIP and Enrollment/Capacity Projection Process
• Subdivision Staging Policy
General Overview of Schools
Overview of Schools in Montgomery Co.

- 25 geography based “clusters” defined by high school boundaries
- Most students assigned to their school via their home address
- Some options allow students to go to unassigned schools
  - Choice programs: Magnet, Language, Consortia
  - Special needs programs: some types of special ed, gifted ed
  - Change of school assignment (COSA)

*163,000 Students*     *206 Schools*     *14th Largest System in U.S.*
Clusters Defined by High Schools
CIP and Enrollment/Capacity Projection Process
MCPS Division of Capital Planning

MCPS / Board of Education

• plans school construction
• plans boundary changes
• selects school sites
• has its own capital budget
• has community processes
Two-Year CIP Cycle Defines Planning Tasks

**Every Year:**
- School enrollment projected
- School capacity projected
- Capital budget approved
- School projects are planned, designed, built

**Alternating Years:**
- Full CIP approved/
  Amended CIP approved
MCPS releases the Superintendent’s recommended Capital Budget and CIP (or CIP Amendments), along with updated enrollment projections for each school. These projections will be used in the next Annual School Test’s calculations.
Montgomery Blair High School
Capital Project: To address the urgent space needs in the Downcounty Consortium high schools, an FY 2019 appropriation was approved to begin planning to provide the instructional support spaces needed for 2,700 students at Northwood High School. With respect to Northwood High School, an internal analysis has been completed that evaluated a) the possibility of doing a phased construction of Northwood High School, with students on site and b) an approach where a newly constructed and reopened Woodward High School be used as a holding school, starting in September 2023, for Northwood High School for two years. The evaluation compared the costs for each option, impact to students, impact on the building design, and the timeline of the project. This evaluation will be presented to the Board of Education during the CIP process in November 2018, for consideration and action on the approach for Northwood High School.

Sargent Shriver Elementary School
Planning Issues: Projections indicate that enrollment will exceed capacity by 92 seats or more by the end of the six-year planning period. Given that a new forecast methodology has been implemented this year, enrollment will be monitored to determine if a capacity solution is needed in a future CIP.

Woodlin Elementary School
Capital Project: As a result of the capacity study described earlier, the Board of Education approved an addition project at Woodlin Elementary School. Furthermore, building systems need to be addressed in the facility. Therefore, as part of the approved addition project, facility upgrades will be designed to address the building systems. An FY 2019 appropriation was approved to begin the architectural design and planning for this project with a scheduled completion date of September 2022. In order for this project to be completed on this schedule, county and state funding must be provided at the levels recommended in this CIP.
Board Policy FAA

- Guides the educational facilities planning process in an efficient and fiscally responsible way to meet the varied educational needs of MCPS students with consideration of environmental sustainability.
- Designed to promote public understanding of MCPS educational facilities planning processes and ensure that there are opportunities for input from parents/guardians, students, staff, community members and organizations, local government agencies, and municipalities.

Source: MCPS Board Policy FAA
Triggersing School Facility Projects

• Capacity Utilization and Seat Deficit/Surplus
  • Student Enrollment – Current Actual vs. Projected
  • Program Capacity – Current Actual vs. Projected

**Capacity Utilization Rate** = Enrollment ÷ Capacity

Blair HS Utilization Rate = 3,619 students ÷ 2,912 seats
= 124.3%

**Seat Deficit/Surplus** = Capacity – Enrollment

Blair HS Seat Deficit = 2,912 seats - 3,619 students
= -707 seats
Triggering School Facility Projects

• Key Facility Indicators
  • Characteristics that influence the learning and working experience, such as safety, security, and accessibility requirements; indoor environment conditions; program and space relationships; building quality; as well as infrastructure and asset data, and other relevant characteristics.
  • Used to identify and provide a basis for prioritizing options responsive to changing facility needs

Source: MCPS Board Policy FAA
Plants for When Overutilization Happens

What Might Happen:
• Use “relocatable” classrooms
• Boundary Study
• Study the problem
  ▪ Capacity Study
  ▪ Feasibility Study
  ▪ Site Selection
• Recommend a capital project

How large and consistent do seat deficits at a school have to be to trigger the capacity planning process?
Types of Capacity Projects

• School building additions
  - Includes a feasibility study and schematic design process

• New school buildings (or re-opened school buildings)
  - Implies a boundary study
  - Implies a site selection process to determine location
  - Includes a schematic design process

• School boundary study to reassign students to less utilized schools
### Projected Enrollment & Space Availability Tables

<table>
<thead>
<tr>
<th>Schools</th>
<th>Actual 18-19</th>
<th>19-20</th>
<th>20-21</th>
<th>21-22</th>
<th>22-23</th>
<th>23-24</th>
<th>24-25</th>
<th>2028</th>
<th>2033</th>
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<tbody>
<tr>
<td>Montgomery Blair HS</td>
<td></td>
<td></td>
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<tr>
<td>Program Capacity</td>
<td>2912</td>
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<td>2912</td>
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<td>2912</td>
<td>2912</td>
<td>2912</td>
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</tr>
<tr>
<td>Enrollment</td>
<td>3215</td>
<td>3181</td>
<td>3262</td>
<td>3342</td>
<td>3406</td>
<td>3522</td>
<td>3619</td>
<td>3643</td>
<td>3820</td>
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<tr>
<td>Available Space</td>
<td>(303)</td>
<td>(269)</td>
<td>(350)</td>
<td>(430)</td>
<td>(494)</td>
<td>(610)</td>
<td>(707)</td>
<td>(731)</td>
<td>(908)</td>
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<td>Comments</td>
<td></td>
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<tr>
<td>Col. E. Brooke Lee MS</td>
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<td>Program Capacity</td>
<td>727</td>
<td>727</td>
<td>727</td>
<td>1000</td>
<td>1000</td>
<td>1000</td>
<td>1000</td>
<td>1000</td>
<td>1000</td>
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<tr>
<td>Enrollment</td>
<td>760</td>
<td>769</td>
<td>792</td>
<td>825</td>
<td>837</td>
<td>869</td>
<td>885</td>
<td>993</td>
<td>1040</td>
</tr>
<tr>
<td>Available Space</td>
<td>(33)</td>
<td>(42)</td>
<td>(65)</td>
<td>175</td>
<td>163</td>
<td>131</td>
<td>115</td>
<td>7</td>
<td>(40)</td>
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</tr>
</tbody>
</table>

- Planning for Addition/Facility Upgrade
- Addition/Facility Upgrade Complete
Enrollment Projections

- Four Model Methodology
- Average % Annual Increase Model
- Linear Regression Model
- Cohort Survival Model
- Students-per-Household Model
- Each model generates student count estimates by grade for each school
- Weighted average generated for each school
- Six years of projections, plus 10-year and 15-year for secondary schools
Capacity Calculations

- Based on the programs in the schools and the amount of space they require:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade K</td>
<td>22:1</td>
</tr>
<tr>
<td>Grades K-2 (reduced class size schools)</td>
<td>18:1</td>
</tr>
<tr>
<td>Grades 1-5</td>
<td>23:1</td>
</tr>
<tr>
<td>Grades 6-8</td>
<td>21.25:1</td>
</tr>
<tr>
<td>Grades 9-12</td>
<td>22.5:1</td>
</tr>
</tbody>
</table>
## Process Timeline

<table>
<thead>
<tr>
<th>October</th>
<th>November</th>
<th>December</th>
<th>January</th>
<th>February</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Superintendent Recommendation</strong></td>
<td><strong>Public Hearings</strong></td>
<td><strong>BOE Request</strong></td>
<td><strong>CE Proposal</strong></td>
<td><strong>Committee Work Sessions</strong></td>
</tr>
<tr>
<td>MCPS releases the Superintendent’s recommended Capital Budget and CIP (or CIP Amendments), along with updated enrollment projections for each school. These projections will be used in the next Annual School Test’s calculations.</td>
<td>The Board of Education receives written and oral testimony from residents, students and other stakeholders. The Board then holds work sessions to prepare its request.</td>
<td>The Board of Education submits its Capital Budget and CIP request to the County Executive and County Council.</td>
<td>The County Executive combines all County agency budget and CIP requests and submits his/her proposed Capital Budget and CIP to the County Council.</td>
<td>The County Council begins committee work sessions to review affordability issues, request non-recommended reductions, and make recommendations to the full Council.</td>
</tr>
</tbody>
</table>
## Process Timeline

<table>
<thead>
<tr>
<th>May</th>
<th>June</th>
</tr>
</thead>
</table>
| **Budget Reconciliation and Adoption**  
*The County Council adopts a budget and 6-year CIP, which may include funding for “placeholder” solutions. This finalizes the planned capacity component for the Annual School Test.* | **MCPS Publishes Master Plan**  
*The Master Plan reflects the final capital budget and CIP adopted by the County Council. It includes Project Description Forms for each project.* |
Project Description Form

- Identifies the timing and phasing of the project and its funding
- Identifies the source of the funds
- Describes the project, including the number of classrooms/seats to be added
### May

**Budget Reconciliation and Adoption**

The County Council adopts a budget and 6-year CIP, which may include funding for “placeholder” solutions. This finalizes the planned capacity component for the Annual School Test.

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### June

**MCPS Publishes Master Plan**

The Master Plan reflects the final capital budget and CIP adopted by the County Council. It includes Project Description Forms for each project.

**Annual School Test Approved**

The Planning Board certifies the Annual School Test results for the following fiscal year, identifying which areas of the county (if any) will be in a residential development moratorium.
Subdivision Staging Policy
Schools Component of the SSP

• Defines the **Annual School Test** for development application review
  ▪ Provides the thresholds for “moratoria”
  ▪ Determines whether “adequate” school facilities exist in a project area

• Is updated every 4 years
  ▪ Thresholds and rules for reviewing school adequacy can be altered
Annual School Test Overview

The Annual School Test is a two-tiered test:

- **Cluster** level test of utilization
- **School** level test of utilization

**CLUSTER TEST**
- Total ES utilization
- Total MS utilization
- HS utilization
A Cluster Boundary Includes MS and ES Boundaries
Annual School Test Thresholds

Inadequate if Cluster is over 120% utilization
• High School utilization
• Total utilization across all middle schools in Cluster
• Total utilization across all elementary schools in Cluster

Inadequate if school is over 120% utilization AND seat deficit is…
• 110 or more seats for elementary schools
• 180 or more seats for middle schools
## Utilization Examples

### Gaithersburg Cluster Totals, September 2024

<table>
<thead>
<tr>
<th>School Level</th>
<th>Enrollment</th>
<th>Program Capacity</th>
<th>% Utilization</th>
<th>Moratorium Threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary</td>
<td>4,694</td>
<td>4,668</td>
<td>100.6%</td>
<td>908</td>
</tr>
<tr>
<td>Middle</td>
<td>1,882</td>
<td>1,958</td>
<td>96.1%</td>
<td>467</td>
</tr>
<tr>
<td>High</td>
<td>2,764</td>
<td>2,429</td>
<td>113.8%</td>
<td>150</td>
</tr>
</tbody>
</table>

### School Totals, September 2024

<table>
<thead>
<tr>
<th>School</th>
<th>Enrollment</th>
<th>Program Capacity</th>
<th>% Utilization</th>
<th>Surplus/ Deficit</th>
<th>Moratorium Threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gaithersburg ES</td>
<td>804</td>
<td>788</td>
<td>102.0%</td>
<td>-16</td>
<td>142</td>
</tr>
<tr>
<td>Gaithersburg MS</td>
<td>942</td>
<td>1,009</td>
<td>93.4%</td>
<td>+67</td>
<td>269</td>
</tr>
</tbody>
</table>
Utilization Data Adjustments in School Test

Adjustments to Test results occur when:

• School capacity projects will require future boundary changes (adjustments to enrollment are estimated)

• Placeholder projects are funded (“on paper” adjustments to capacity)
### Example of Adjustments – CIP Project

<table>
<thead>
<tr>
<th>Cluster</th>
<th>School</th>
<th>2024-25 Enrollment</th>
<th>2024-25 Capacity</th>
<th>Modified Enrollment</th>
<th>Modified Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clarksburg</td>
<td>Clarksburg HS</td>
<td>2,848</td>
<td>2,034</td>
<td>2,321</td>
<td>2,034</td>
</tr>
</tbody>
</table>

140.0% Utilization  114.1% Utilization

Clarksburg HS service area is open conditionally due to an approved CIP project that will reassign students to Seneca Valley HS in September 2020.

The actually boundary change won’t be decided by the Board of Education until fall 2019.

We estimate that the impact will be to relieve Clarksburg of 527 students, modifying the projected enrollment from 2,848 to 2,321 students.
## Example of Adjustments – Placeholder

<table>
<thead>
<tr>
<th>Cluster</th>
<th>School</th>
<th>2024-25 Enrollment</th>
<th>2024-25 Capacity</th>
<th>Modified Enrollment</th>
<th>Modified Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>B-CC</td>
<td>Bethesda ES</td>
<td>731</td>
<td>560</td>
<td>731</td>
<td>698</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Utilization</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>130.5%</td>
<td>104.7%</td>
</tr>
</tbody>
</table>

The Council has included a 6-classroom placeholder project in the adopted CIP for Bethesda ES, which has kept the school’s service area open conditionally.

23 seats per classroom x 6 classrooms = 138 additional seats

Bethesda ES projected capacity is modified to reflect the additional 138 seats, increasing from 560 to 698 seats.
## Process Timeline

**May**

**Budget Reconciliation and Adoption**

The County Council adopts a budget and 6-year CIP, which may include funding for “placeholder” solutions. This finalizes the planned capacity component for the Annual School Test.

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**June**

**MCPS Publishes Master Plan**

The Master Plan reflects the final capital budget and CIP adopted by the County Council. It includes Project Description Forms for each project.

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**July**

**Annual School Test Approved**

The Planning Board approves the Annual School Test results for the following fiscal year, identifying which areas of the county (if any) will be in a residential development moratorium.

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**School Adequacy Reviews for new Fiscal Year**

New school test results are used to evaluate school adequacy for development applications during preliminary plan review.
FY2020 Annual School Test

- Identified areas for a residential development moratorium for FY20
- Identified the amount of space available in each cluster and school before a moratorium would be triggered
- Based on projected utilization data for the 2024-25 school year (6-year projection)
Estimating Enrollment Impacts for a Development Application

• Project Location
  ▪ Cluster & School-level Projected Utilization
  ▪ Relevant Capacity Projects Affecting Projected Utilization
  ▪ Placeholder Projects Affecting Projected Utilization

• Project Impact
  ▪ Number of Expected Students = SGR x NET Dwelling Units by Housing Type

• Expected Planning Board Date
### Test Result Example

Subdivision with a net of 20 townhouse units and 150 multifamily (high rise) units in the Gaithersburg Cluster:

<table>
<thead>
<tr>
<th></th>
<th>Net Number of Units</th>
<th>ES Generation Rates</th>
<th>ES Students Generated</th>
<th>MS Generation Rates</th>
<th>MS Students Generated</th>
<th>HS Generation Rates</th>
<th>HS Students Generated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Family Attached</td>
<td>20</td>
<td>0.248</td>
<td>4.960</td>
<td>0.121</td>
<td>2.420</td>
<td>0.157</td>
<td>3.140</td>
</tr>
<tr>
<td>Multi-Family High Rise</td>
<td>150</td>
<td>0.020</td>
<td>3.000</td>
<td>0.008</td>
<td>1.200</td>
<td>0.010</td>
<td>1.500</td>
</tr>
<tr>
<td>TOTALS</td>
<td>170</td>
<td>7</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td></td>
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</tr>
</tbody>
</table>
### Cluster Level Test:

<table>
<thead>
<tr>
<th>School Level</th>
<th>Projected Gaithersburg Cluster Totals, September 2024</th>
<th>Moratorium Threshold</th>
<th>Estimated Application Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Enrollment</td>
<td>Program Capacity</td>
<td>% Utilization</td>
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<td>269</td>
<td>3</td>
</tr>
</tbody>
</table>
How Many Kids Live There?!

Student Generation Rates (SGRs) are an average of the number of students per type of dwelling unit.
School Adequacy Beyond the Test

• Exemptions from moratoria imposed by the Annual School Test:
  • De minimis projects (three units or less) are exempt
  • Age-restricted senior housing are also exempt
  • A project estimated to generate 10 students or fewer that either:
    • Replaces a condemned or previously condemned and vacant structure located
      within or abutting an Opportunity Zone; or
    • Produces more than 50% of its units as affordable to households earning 60% or
      less of area median income.
Developer Involvement

• School site dedications and reservations
• School impact tax payments
Master Planning Perspectives

• Exploring school capacity over the longer-term
  • School site dedications and reservations
  • School system real estate inventory
  • Other publicly-owned real estate inventory

• Exploring school enrollment over the longer-term
  • Estimate the enrollment impacts of increase density resulting from the master plan
  • 10- and 15-year projections from MCPS at the cluster-wide level
Various Planning Time Horizons

• MCPS Capital Planning Timelines
  • 6-year CIP
  • 10- to 15-year

• Development Application Review Timelines
  • Tested against 6-year utilization projection, regardless of construction timeframe

• Master Plan Creation and Implementation Timelines
  • 20 or more years
For More Info…

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