Our analysis and evolution of Student Weighted Staffing (SWS) aligns to the Board’s Equity Policy

“Maximizing the academic achievement of every child requires strategic and equitable allocation of resources so that every student has access to excellent educational opportunities, including effective teachers and principals and sufficient support services for his or her unique individual needs. In addition, proactive attention must be given to students at risk of academic failure.”

Today we seek to provide an overview of SWS and the changes we are exploring in order to get your input and feedback; we will return to the Board with the plan for SWS moving forward on November 10.
How does our current Student Weighted Staffing model work?

- Provides additional staffing resources to schools based on student need
- Free & Reduced Lunch (FRL) percentage is used to weight enrollment (each FRL student captured as 1.3 vs. 1.0)
- Allotment ratio for each grade level is applied to the inflated (weighted) enrollment for each grade level to determine the teacher allocation for each school
- All schools receive the benefit of weighted enrollment
Why are we reviewing Student Weighted Staffing now?

- FRL information is no longer available for all schools
- Have not done a deep review since initial implementation
- Preparing for the anticipated tightening of state class size requirements
Two changes at the state level make it necessary to establish “base” allotments, which will allow schools to address class size requirements

- It appears the state intends to further lower average class size limits in early grades (starting in 2017-18)
  - The state is changing limits on both the district average class size, and the maximum class size for each class.
  - For K-3, average class size will be limited to the allotment ratio (i.e. 17-18 students), and maximum class size limit of 3 higher than the allotment ratio (i.e. 20-21 students).

- Greater restriction on state board of education waivers of class size (in effect this year)
  - Exceptions provided only for emergencies/Acts of God, significant unanticipated increases in school size, charter school closure, and other exceptions for rural districts.
Agenda

- Overview of Student Weighted Staffing Redesign
- Recap process, progress, and feedback
  - Student need characteristic
  - Weighting concentration of need
  - Form of resources allocated
- Putting it all together
To meet project objectives, the SWS working group addressed three main questions

1. How do we define student need in the absence of FRL data?
2. How do we restructure the SWS formula to best align resources with need?
3. What kinds of resources should we allocate based on need?

Throughout this process, we’ve structured our decision-making efforts around a data driven understanding of the problem we’re trying to solve and what SWS currently provides
The CMS project team convened this summer and has collected feedback from important stakeholders.
Agenda

- Overview of Student Weighted Staffing Redesign
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Design Issue #1

How do we define student need in the absence of FRL data?
The SWS working group generated principles to guide our work in selecting a metric for measuring need

1. Metric must have a high correlation to student performance outcomes
2. Transparent, simple, and justifiable to stakeholders
3. No unintended consequences – schools should not lose resources for improving student performance
FRL percentage was an effective metric for SWS because it closely correlated with student outcomes.

R², or the coefficient of determination, is a number that represents how well data fit a statistical model like a best-fit line (shown above) or curve.

Source: CMS State Performance Data SY13-14, CMS School Demographics SY13-14
After assessing a variety of alternative measures of student need instead of FRL percentages, the working group focused their attention on CEP Identified Students and Incoming Performance.

<table>
<thead>
<tr>
<th>Sample Scenarios</th>
<th>Correlation with Student Outcomes</th>
<th>High Correlation w/ Student Outcomes</th>
<th>Transparent, Simple, and Justifiable</th>
<th>No Unintended Consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ES</td>
<td>MS</td>
<td>HS</td>
<td></td>
</tr>
<tr>
<td>Incoming Performance composite for grades 6 &amp; 9</td>
<td>-</td>
<td>0.96</td>
<td>0.93</td>
<td>✓</td>
</tr>
<tr>
<td>Identified Student Percentage (IS) under CEP</td>
<td>0.85</td>
<td>0.88</td>
<td>0.82</td>
<td>✓</td>
</tr>
<tr>
<td>FRL % (for comparison purposes)</td>
<td>0.85</td>
<td>0.93</td>
<td>0.80</td>
<td>✓</td>
</tr>
<tr>
<td>Homeless Status</td>
<td>0.46</td>
<td>0.57</td>
<td>0.53</td>
<td>✗</td>
</tr>
<tr>
<td>Attendance</td>
<td>0.52</td>
<td>0.54</td>
<td>0.52</td>
<td>✗</td>
</tr>
<tr>
<td>Mobility (transfer rate)</td>
<td>0.59</td>
<td>0.87</td>
<td>0.53</td>
<td>✗</td>
</tr>
<tr>
<td>% EC</td>
<td>0.08</td>
<td>0.51</td>
<td>0.68</td>
<td>✗</td>
</tr>
<tr>
<td>% ELL</td>
<td>0.48</td>
<td>0.42</td>
<td>0.36</td>
<td>✗</td>
</tr>
<tr>
<td>Pre-K Eligibility</td>
<td>0.66</td>
<td>-</td>
<td>-</td>
<td>✗</td>
</tr>
<tr>
<td>At-Risk indicator</td>
<td></td>
<td></td>
<td></td>
<td>?</td>
</tr>
<tr>
<td>TRC/MAP</td>
<td></td>
<td></td>
<td></td>
<td>?</td>
</tr>
</tbody>
</table>
Under CEP (Community Eligibility Provision), “identified students” are those who meet certain criteria for economic disadvantage.

Students who are:
(1) directly certified and
(2) categorically eligible

- SNAP (FNS)
- TANF
- FDPIR
- Homeless
- Runaway
- Migrant
- Head Start
- Even Start
- Additional Foster Children (not already included in DC)
- Non-applicant students approved by the LEA

*Excerpt from presentation to Board, May 5, 2015.
**What does incoming performance mean?**

- **What it is:** a measure of the academic needs of the students when they first show up on a school’s doorstep, before the school has had any academic influence on them.

- **What it is not:** a measure based on test results from students who have attended the school previously (for instance, test results from 7th graders, who were 6th graders at the Middle School the year prior).

- Example: Of 6th graders entering Middle School A, 70% tested at above the grade-level proficiency cutoff when they were in 5th grade. At Middle School B, entering 6th graders tested at 30% grade-level proficiency when they were in 5th grade. Middle School B will receive more resources since the needs of its students are higher.
IS and Incoming Performance both correlate highly with student outcomes, making them strong candidates for SWS

13-14 IS vs 13-14 Stu Outcomes (MS/HS)

R² = 0.8609

13-14 Incoming Performance vs 13-14 Stu Outcomes (MS/HS)

R² = 0.9221

R², or the coefficient of determination, is a number that represents how well data fit a statistical model like a best-fit line (shown above) or curve.

Note: 13-14 Incoming Performance refers to test data from spring 2013, which actually in the 12-13 academic year.

Source: CMS State Performance Data SY13-14, CMS School Demographics SY13-14
While incoming student performance has slightly higher correlations than IS, we are exploring whether the improved correlations offset stability concerns and added complexity.

<table>
<thead>
<tr>
<th>High correlation to student performance outcomes</th>
<th>IS for all school levels</th>
<th>IS for ES/K8/K12; IS/Incoming Performance hybrid for MS/HS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Correlations similar to FRL ✓</td>
<td>• Slightly higher correlations than FRL and Identified Students ✓</td>
<td></td>
</tr>
<tr>
<td>• Anecdotal concern that immigrant population may not be fully reflected in identified students group ✗</td>
<td>• More concerns about volatility across years and in the long-run ✗</td>
<td></td>
</tr>
<tr>
<td>Simple, transparent, and justifiable</td>
<td>• Simpler; what CMS is already using for Title I ✓</td>
<td></td>
</tr>
<tr>
<td>• Data is readily available and primarily from an external source ✓</td>
<td>• Student need can have both academic and economic components ✓</td>
<td></td>
</tr>
<tr>
<td>• Single metric for all seems fair ✓</td>
<td>• Different measures for different school levels both complicates the formula and creates the potential uncertainty about fairness across schools ✗</td>
<td></td>
</tr>
<tr>
<td>No unintended consequences</td>
<td>• Independently verifiable ✓</td>
<td></td>
</tr>
<tr>
<td>• Schools don’t lose resources if performance improves ✓</td>
<td>• Independently verifiable ✓</td>
<td></td>
</tr>
</tbody>
</table>

- ✓ denotes a positive attribute
- ✗ denotes a negative attribute
Design Issue #2

How do we restructure the SWS formula to best align resources with need?
Research suggests concentration of need has a powerful, negative influence on student performance, and it holds true in CMS.

As the concentration of needy students increases, performance decreases for both FRL and non-FRL students.

Source: CMS State Performance Data SY13-14, 13-14 EDS Data
The next iteration of SWS may vary weights by ranges of need in order to address the impact of greater concentration of need.

<table>
<thead>
<tr>
<th>School</th>
<th>Enrollment</th>
<th>“Need” %</th>
<th>Weight</th>
<th>Potential SWS allocation</th>
<th>“Need” Tier</th>
<th>Current SWS Scenario</th>
<th>Concentration Weight Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>School A</td>
<td>1,000</td>
<td>15%</td>
<td>0.3</td>
<td>2</td>
<td>Low need (0-20%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>School B</td>
<td>1,000</td>
<td>30%</td>
<td>0.3</td>
<td>4</td>
<td>Mid need (20-35%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>School C</td>
<td>1,000</td>
<td>50%</td>
<td>0.3</td>
<td>6</td>
<td>High need (35+)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>School D</td>
<td>1,000</td>
<td>75%</td>
<td>0.3</td>
<td>9</td>
<td>High need (35+)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: this chart is for illustrative purposes only and does not feature the tiers and weights that will be used for SWS. We are considering a range of tiers and weights, including 0 for the lowest-need tier (meaning they would not receive any teachers above the new base).
Design Issue #3

What kinds of resources should we allocate based on need?
To answer this, the project team explored how schools were using their SWS allocations

Summary of Findings and Recommendation:

- Successful schools don’t seem to differ systematically from the district overall in their exchange practices.
- In the absence of a clear pattern of effective use, the project team is not exploring changing this part of SWS.
- Instead, it’s imperative that CMS provide principals with supports and data to make good school design choices with the flexibility that SWS provides.
Agenda

- Overview of Student Weighted Staffing Redesign
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Summary: What changes are we exploring? With what potential impact?

- **Need Metric:** Changing from FRL to Identified Students Percentage (IS) used for Community Eligibility Provision or a hybrid of IS and incoming student performance

- **Formula:**
  - Changing from a weight of 1.3 for all students with need to a model with varying weights (greater weight for schools with higher concentrations of need)
  - Creating a base allocation to address upcoming state class size requirements

- **Form of Allocation:** Continue to allocate teachers and assistant principals

- **Net Impact:** Scenarios currently under exploration would result in small changes in teacher allocations in most schools. Transition plan will be implemented to ensure no school experiences a significant impact during transition year.
Consistent with feedback, the working group is dedicated to ensuring changes in SWS and base ratios don’t cause excessive volatility for schools

- Overall, we are working to minimize changes in allocations because the feedback we’ve received suggests most parties are satisfied with their allocations relative to other schools

- Sample impacts:
  - No change or increase in teachers: 60 to 75% of schools
  - Loss of 1-2 teachers: 20 to 30% of schools
  - Loss of 3-4 teachers: 3 to 10% of schools
  - Loss of 5-6 teachers: 0 to 3% of schools

- Furthermore, we will implement a transition policy/loss limit in the first year to reduce school losses beyond a specific threshold (exact number TBD)
## Timeline for SWS rollout

<table>
<thead>
<tr>
<th>Month</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>October</td>
<td>• Gather stakeholder feedback</td>
</tr>
<tr>
<td></td>
<td>• Initial Board session</td>
</tr>
<tr>
<td>November</td>
<td>• Determine revised SWS and base allocation methodology</td>
</tr>
<tr>
<td></td>
<td>• Final Board session</td>
</tr>
<tr>
<td>January-February</td>
<td>• Determine base and SWS allotments</td>
</tr>
<tr>
<td>Late February</td>
<td>• allocations sent to principals</td>
</tr>
</tbody>
</table>
We’d like to get your feedback on two questions in particular

- **Need Metric**: Should CMS shift to the Identified Students Percentage (IS) used for Community Eligibility Provision or a hybrid of IS and incoming student performance?

- **Formula**: Should CMS vary weights, with greater weights for schools with greater concentrations of need?
Closing thoughts