

Members of the District 86 School Board:

At the Board of Education meeting on November 14, 2019 you are scheduled to review and discuss the 2019 version of the District 86 “Building Capacity and Space Utilization Report” (hereinafter, “BCSUR”).

Over the last two years District staff members have interpreted previous versions of this report to claim Hinsdale South capacities of 1,705 (based on the 01/08/2018 BCSUR) and most recently 1,721 (based on the 11/05/2018 BCSUR). The 1,705 student estimate was subsequently reported as the capacity of Hinsdale South on page 116 of the District’s FY 2018 “Comprehensive Annual Financial Report” (hereinafter “CAFR”) as well on page 116 of its FY 2019 CAFR.

The District’s claim of a 1,705-student capacity of Hinsdale South continues to meet with the disbelief of the Hinsdale South community, particularly among residents who can recall very clearly when enrollments at their high school exceeded that level by 200 students. This memorandum, supported by citations to D86 school records, is an account of the events that led to a 225-student drop in the reported capacity of Hinsdale South between the FY 2017 CAFR (p. 108) and the FY 2018 CAFR (p. 116) that is at the root of this disbelief.

Please note that the issues raised in this memorandum are not challenges to the findings reported within the four corners of the BCSUR’s, especially given the narrowness of their stated scope. In fact, as discussed later herein, these BCSUR’s, supplemented only with publicly available school athletic area capacity data from the District’s architectural firm, provide invaluable support for a reasonable belief that the current building capacity of Hinsdale South could be 1,985 students at 80% utilization of target class sizes, 565 more students than the 1,420 currently reported as enrollment on illinoisreportcard.com. This is good news that should be celebrated!

Elected fiduciaries need a clear-eyed understanding of the reports they are provided so they can make proper decisions. Accordingly, please consider this memorandum as an alternative perspective to the school capacity reports previously created by District staff members before you make judgments of how to use District 86 facilities.

The Scope of the BCSUR’s Deliberately Did Not Include Athletic Spaces

In discussing the scope of its report, each of the previous BCSUR’s provided the following on Page 1:

“The purpose of the report is to determine utilization of our high schools, and including all the athletic spaces and lunchrooms in the calculations do [*sic*] not help us answer the question of utilization.”

Excluding athletic spaces and lunchrooms is perfectly reasonable in measuring classroom utilization, but doing so is, particularly with respect to athletic areas, is completely inappropriate in measuring building capacity.

As will be explained in more detail in the following section, the BCSUR authors never provided school *building* capacity estimates in their reports, only *classroom* capacity estimates. They had no need to address the impact of athletic areas on school building capacities because it was beyond the scope of their project.

Athletic spaces are occupied by the vast majority of students during one of their seven class periods. To illustrate, according to the FOIA R000712 response, there are currently 1,146 registrations in P.E. classes held in Hinsdale South athletic areas in comparison to Hinsdale South's current reported enrollment of 1420. That's 81% of the total enrollment. When these 1,146 students are using Hinsdale South's athletic spaces, they are not sitting in its classrooms. Nonetheless, the Hinsdale South "building" is using its capacity to house them during their P.E. periods, periods during which they are making no demands upon classroom facilities.

District Staff Members Recharacterized "Classroom Capacities" as "Building Capacity"

The BCSUR authors stated the following on page 5 of the 01/08/2018 version:

"Based on the allocation summarized below, if all academic contact spaces were perfectly utilized such that every classroom were used every period and every class had the exact target enrollment, perfectly utilized student capacity at Hinsdale Central is 3,384 based on square footage; it is 3,144 based on target class enrollment. Perfectly utilized capacity at Hinsdale South is 2,449 based on square footage; it is 2,131 based on target class size." (emphasis added)

The identical language is restated on page 6 of the 11/05/2018 BCSUR with minor adjustments to the numbers resulting in a perfectly utilized capacity of 3,164 based on target class enrollment for Hinsdale Central and 2,151 for Hinsdale South.

The BCSUR authors were not talking about the buildings. As previously noted, they already told their readers that they were excluding non-academic contact spaces. It would be nonsense to expect them to fabricate athletic space capacities if they didn't study them.

Nonetheless, District staff recharacterized the "perfectly utilized" total Hinsdale South *classroom* capacity of 2,131 as though it included athletic spaces in order to present that total as a perfectly utilized *building* capacity.

Then, in order to scale Hinsdale South's reported perfectly utilized capacities of 2,131 down to 1,705, the District staff applied an 80% factor to it. In explanation, in a post on the Social Media

platform NextDoor.com on February 3, 2019, the former District 86 Chief Communications Officer offered the following:

“80% Target Utilization Rate: This is the nationwide architecture industry standard rate for high schools. This number determines the functional capacity of a building. That 80 percent figure allows for flexibility in scheduling courses. If every classroom is filled every period of the day then there is no opportunity to change from current offerings (unless something is eliminated because it becomes a zero-sum game with available space).”

A Comparison with the Previous Calculation Methodology Provides an Estimate of Athletic Space Capacities Excluded from the Reported Estimates

Woven into the narrative surrounding the announcement of the 225-student drop in Hinsdale South capacity were explanations of how the need to reduce target class sizes impacted classroom capacities, which in turn fostered an expectation that the total classroom capacity of the schools could be expected to be commensurately lower.

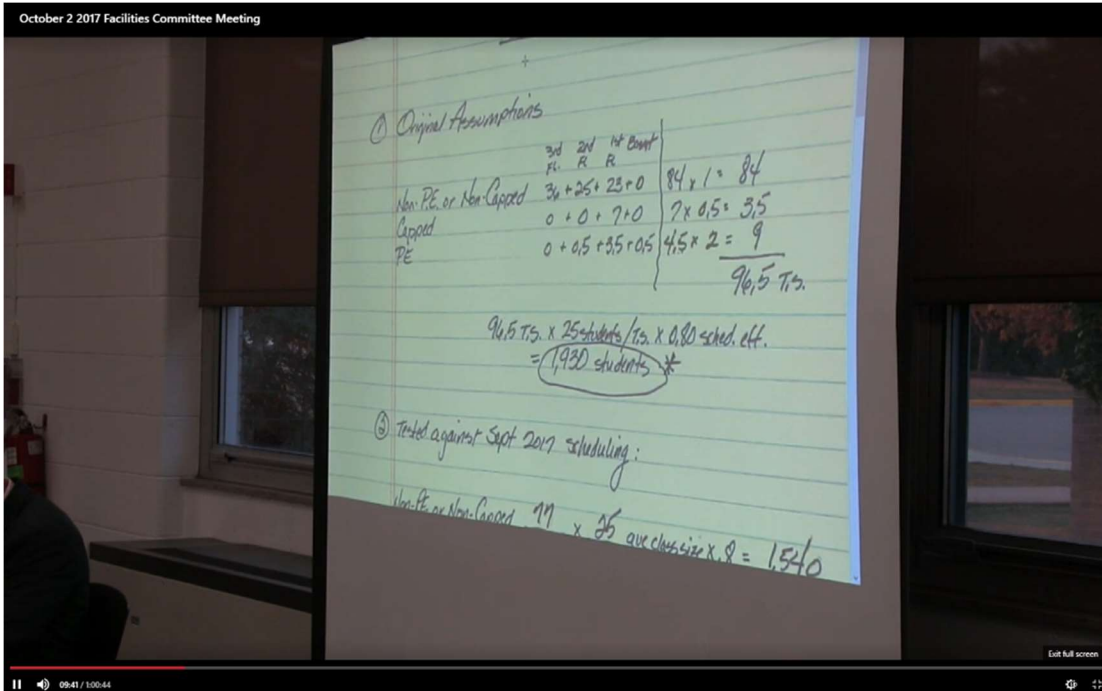
Though intuitively reasonable to believe, the adjustment for reducing class sizes turned out to be only a small portion of the overall reduction in Hinsdale South capacity.

Behind all the District 86 rhetoric about reducing class sizes and perhaps unbeknownst to the serving Board of Education members, District staff members made a sea change in the capacity calculation methodology. They no longer included Physical Education space in the calculation, resulting in calculated capacity reductions of 180 students at Hinsdale South and 220 students at Hinsdale Central.

In the FY 2017 CAFR, the estimated capacity for Hinsdale South was reported as 1,930 for both that year and for 2016, the prior year. This estimate was developed by the architectural firm ARCON.

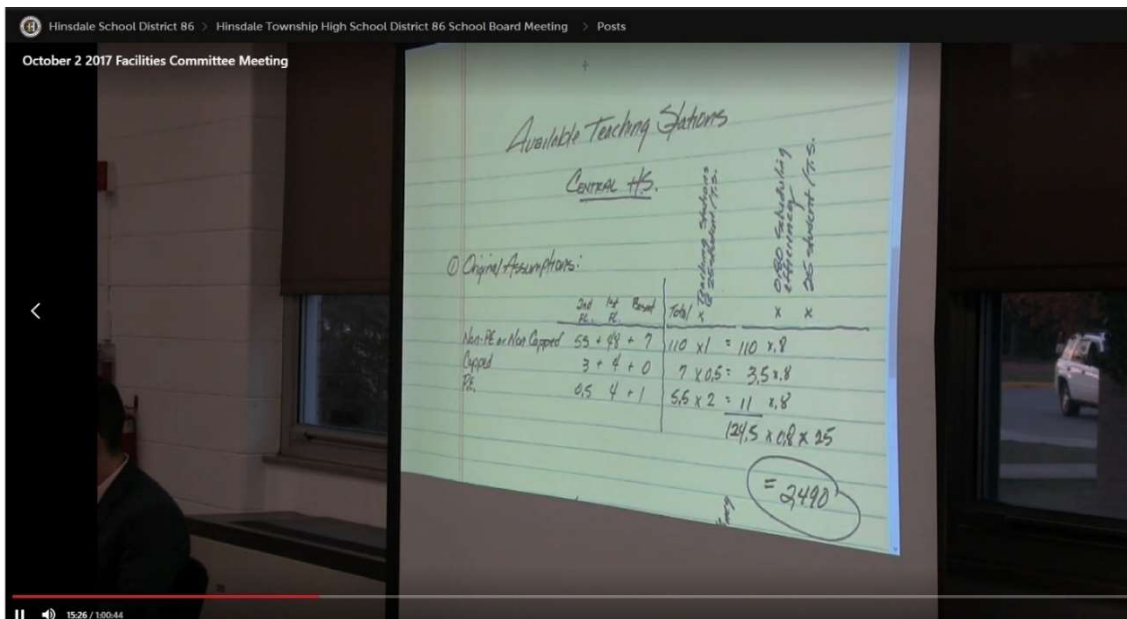
However, these ARCON estimates were changed in the FY 2018 CAFR to match the 1,705 student capacity calculated by District staff members for the year 2018. You have to look at the FY 2017 CAFR which has not been changed in order to find them.

Following is a screenshot taken from the District’s video recording of the October 2, 2017 Facilities Committee Meeting in which the ARCON representative displayed the equation behind their calculation of Hinsdale South capacity of 1,930 students:



Applying the distributive property of algebra to ARCON's equation tells us that ARCON estimated the 80% utilization capacity of Hinsdale South to include 1,680 students in what the District now calls general or specialty classrooms, as well as 70 students in capped classrooms. ARCON also added an additional 180 student capacity for the Hinsdale South Physical Education areas.

Here is another screenshot taken from the same ARCON presentation in which the ARCON representative showed the equation behind the calculation of Hinsdale Central capacity of 2,490 students:



Again, applying the distributive property of algebra to ARCON’s equation tells us that they estimated the 80% utilization capacity of Hinsdale Central to include 2,200 students in what the District now calls general or specialty classrooms, and 70 students in capped classrooms. ARCON also added an additional 220 student capacity for the Hinsdale Central Physical Education areas.

Hinsdale Central had an Invisible 307-Student Classroom Capacity Increase

In the aftermath of the District staff’s change in capacity calculation methodology, Hinsdale South’s reported capacity was 1,705, a precipitous drop of 225 students from what ARCON had provided the year before, while Hinsdale Central’s reported capacity was 2,515, a modest gain of 25 students from the ARCON estimate.

The following table shows how this occurred. Though the District staff lowered ARCON’s estimate for perfectly utilized classroom capacity by 55 students, the primary cause for the overall drop was the removal of Physical Education capacity from the calculations, causing an additional capacity drop of 225 students.

However, what is most stunning is the perfectly utilized classroom capacity increase of 307 students in Hinsdale Central classrooms over the previous ARCON estimate, possibly attributable to a classroom count increase from 117 to 130.

2017 CAFR per Arcon		2018 CAFR per District Staff		
Hinsdale South				
	Capacity		Capacity	Difference
91 Classroom Subtotal	2187	92 Classroom Subtotal	2132	-55
P.E. Teaching Area Capacity	225	P.E. Teaching Area Capacity	0	-225
Total	2412	Total	2132	-280
Target Utilization Factor	x 80%	Target Utilization Factor	x 80%	
Capacity at Target Utilization	1930	Capacity at Target Utilization	1705	-225
Hinsdale Central				
	Capacity		Capacity	Difference
117 Classroom Subtotal	2837	130 Classroom Subtotal	3144	307
P.E. Teaching Area Capacity	275	P.E. Teaching Area Capacity	0	-275
Total	3112	Total	3144	32
Target Utilization Factor	x 80%	Target Utilization Factor	x 80%	
Capacity at Target Utilization	2490	Capacity at Target Utilization	2515	25

However, in the hands of the District staff, that stunning revelation was washed away. The 307-student increase in classroom capacity revealed by the BCSUR was offset by a 275-student drop in capacity caused by the District staff’s elimination of Physical Education from the capacity calculation which made the net difference at Central unremarkable.

On the other hand, as previously pointed out, the elimination of Physical Education from the calculation at South caused a capacity drop of 180 students (225 x 80%) which furthered the District’s narrative of low South capacity.

The next table shows how the FY 2018 CAFR would have looked had the District staff not revised the capacity calculation methodology and merely carried forward the ARCON estimates for P.E. capacity from the 2017 CAFR. Reported capacity of the Hinsdale South building would have dropped only 45 students to reflect the impact of reduced target class sizes, and the capacity of the Hinsdale Central building would have increased by 245 students due primarily to the capacities of 13 additional classrooms offset somewhat by the impact of reduced target class sizes.

	2017 CAFR per Arcon		2018 CAFR per District Staff		
Hinsdale South					
		Capacity		Capacity	Difference
	91 Classroom Subtotal	2187	92 Classroom Subtotal	2132	-55
	P.E. Teaching Area Capacity	225	P.E. Teaching Area Capacity	225	0
	Total	2412	Total	2357	-55
	Target Utilization Factor	x 80%	Target Utilization Factor	x 80%	
	Capacity at Target Utilization	1930	Capacity at Target Utilization	1885	-45
Hinsdale Central					
		Capacity		Capacity	Difference
	117 Classroom Subtotal	2837	130 Classroom Subtotal	3144	307
	P.E. Teaching Area Capacity	275	P.E. Teaching Area Capacity	275	0
	Total	3112	Total	3419	307
	Target Utilization Factor	x 80%	Target Utilization Factor	x 80%	
	Capacity at Target Utilization	2490	Capacity at Target Utilization	2735	245

The District's 80% Utilization Claim is Mathematically Impossible to Achieve

The 11/05/2018 BCSUR specifies on page 4 that as of September 28, 2018 enrollment at Hinsdale South was 1,445. So that would mean that Hinsdale South needed only 276 more students, a total of 1,721, to achieve 80% utilization.

The 11/05/2018 BCSUR further specified on page 15 how seat utilization was calculated:

“The number of students actually enrolled in classes divided by the number of seats available for the entire day, stated as a percentage.”

Accordingly, on pages 22-25, report study authors enumerated 8,651 instances of seats being occupied in classrooms that had a Grand Total capacity across seven periods of 15,057 seats (2151 seats per period x 7 periods per day) and concluded on page 25 that their quotient, 57.4%, was the Hinsdale South Total Average Seat Utilization.

So, let's overlay 276 additional students upon last year's enrollment tally and stipulate that, like today, 81% of them (221 students) spent 6 class periods a day in Hinsdale South's studied classrooms and one period in a Physical Education area. Let's further stipulate that none of these students qualified for late arrival or early dismissal and there were no incremental enrollments at the Technology Center of DuPage. In other words, there were absolutely no reasons for any of these students to be out of the classrooms more than the one period a day, and that applied only to the 221 students taking Physical Education.

That would increase seat occupancy by an additional 1711 instances (221 students x 6 periods per day + 55 students x 7 periods per day). So, the new total of seat occupancy would have risen from 8,651 instances to 10,362. Would that have gotten Hinsdale South to 80% utilization as the District staff claims? No. The quotient of 10,362 divided by 15,057 is 68.8%.

Office Utilization at Hinsdale South Deserves a Closer Look

The 11/05/2018 BCSUR provides some profound insights into offices and conference spaces at each school.

The report designated 15 rooms as offices or conference spaces at South with a total floorspace of 12,136 square feet, in comparison to only 10 rooms at Central with just 8416 square feet.

Hinsdale South, the smaller school with about half the enrollment of the larger and with about 28% fewer staff members according to the on-line school directories, had 44% more space designated as offices or conference spaces than did Hinsdale Central.

How could this be? The most plausible hypothesis is that as Hinsdale South enrollment has plummeted over the last 12 years, rooms that had lost their utility as classrooms were converted to offices or conference spaces.

Once a room is designated as an office, that designation carries over to the BCSUR despite the fact that it might serve as a classroom if the need arose. Somebody in authority has to volunteer it up for consideration as an additional classroom in order for it to count as one for purposes of capacity calculation. That does not sound like a reasonable expectation, given the abundance of unused classroom space at South to begin with as well as possible apprehensions that doing so might foster a forthcoming loss of a coveted office space. Thus, capacity calculations become understated for failure to offer up possibilities.

Inspection of existing office sizes in the BCSUR's coupled with a mindfulness of target class size objectives suggests a simple rule of thumb. Simply put, every normal sized classroom that gets converted to an office reduces the overall capacity calculation by about 25 students per period, and vice versa.

Here is a case in point. Suppose the allotment of office and conference space at Hinsdale South were reduced to match Central's--not proportionally less, but the same, just 8416 square feet instead of 12,136. That could free up 5 of the 15 offices to serve as classrooms, each with a capacity to serve 25 students. That in turn would increase Hinsdale South classroom capacity at 80% utilization by another 100 students ($5 \times 25 \times 80\%$), bringing its total capacity to 1,980 students.

To calculate authentic classroom capacity, the Building Capacity and Space Utilization Report needs to challenge existing office and conference room designations rather than consider them as sacrosanct.

Concluding Remark

District 86 already has the data needed to calculate an accurate 80% capacity utilization level for its schools. To be accurate, the *capacity calculation* has to recognize (1) the substantial amount of the school day that enrolled students spend outside classrooms, (2) the substantial capacity that non-academic contact space offers, and (3) the usability of office space to serve as classrooms in a high enrollment scenario.

From: [Kedrowski,Debra](#) on behalf of [BOE](#)
To: [Prentiss,Tamara](#); [Kedrowski,Debra](#)
Cc: [Jasculca,Chris](#); [Koutavas,Christopher](#)
Subject: FW: My Concerns Over the Building Capacity and Space Utilization Report
Date: Monday, February 3, 2020 12:45:58 PM
Attachments: [D86 Capacity.pdf](#)

Debra Kedrowski
Administrative Chief of Staff
Hinsdale District 86
630.655.6108



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From: Alan Hruby <ahruby@sbcglobal.net>
Sent: Friday, November 8, 2019 4:41 PM
To: BOE <boe@hinsdale86.org>
Cc: Prentiss,Tamara <tprentis@hinsdale86.org>; Stephenson,Joshua <jstephen@hinsdale86.org>; cbaker@hinsdaleD86.org
Subject: My Concerns Over the Building Capacity and Space Utilization Report

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Following are links to documents referenced in my memorandum:

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[11/05/2018 Building Capacity and Space Utilization Report:](#)
[FY 2017 Comprehensive Annual Financial Report:](#)
[FY 2018 Comprehensive Annual Financial Report:](#)
[FY 2019 Comprehensive Annual Financial Report:](#)
[FOIA R000712 response:](#)

From: [Alan Hruby](#)
To: [BOE](#)
Cc: [Prentiss, Tamara](#); [Stephenson, Joshua](#); cbaker@hinsdaleD86.org
Subject: My Concerns Over the Building Capacity and Space Utilization Report
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Cc: [Prentiss, Tamara](#); [Stephenson, Joshua](#); cbaker@hinsdaleD86.org
Subject: My Concerns Over the Building Capacity and Space Utilization Report
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To: [BOE](#)
Cc: [Prentiss, Tamara](#); [Stephenson, Joshua](#); cbaker@hinsdaleD86.org
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Cc: [Prentiss, Tamara](#); [Stephenson, Joshua](#); cbaker@hinsdaleD86.org
Subject: My Concerns Over the Building Capacity and Space Utilization Report
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Cc: [Prentiss, Tamara](#); [Stephenson, Joshua](#); cbaker@hinsdaleD86.org
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To: [BOE](#)
Cc: [Prentiss, Tamara](#); [Stephenson, Joshua](#); cbaker@hinsdaleD86.org
Subject: My Concerns Over the Building Capacity and Space Utilization Report
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Cc: [Prentiss, Tamara](#); [Stephenson, Joshua](#); cbaker@hinsdaleD86.org
Subject: My Concerns Over the Building Capacity and Space Utilization Report
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To: [BOE](#)
Cc: [Prentiss, Tamara](#); [Stephenson, Joshua](#); cbaker@hinsdaleD86.org
Subject: My Concerns Over the Building Capacity and Space Utilization Report
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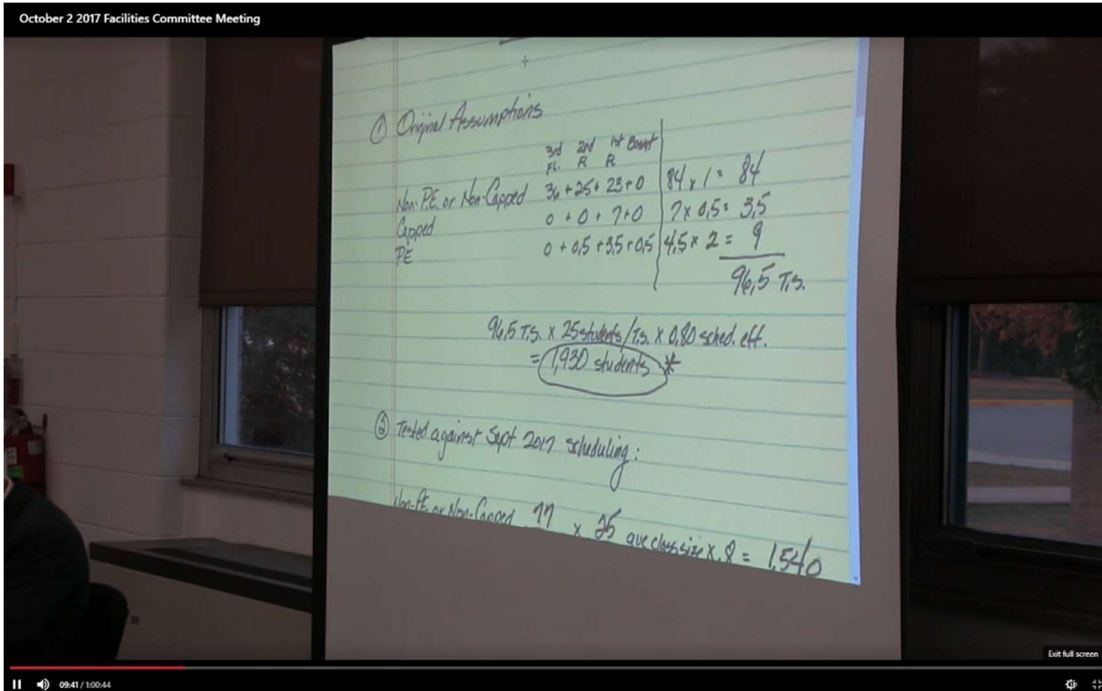
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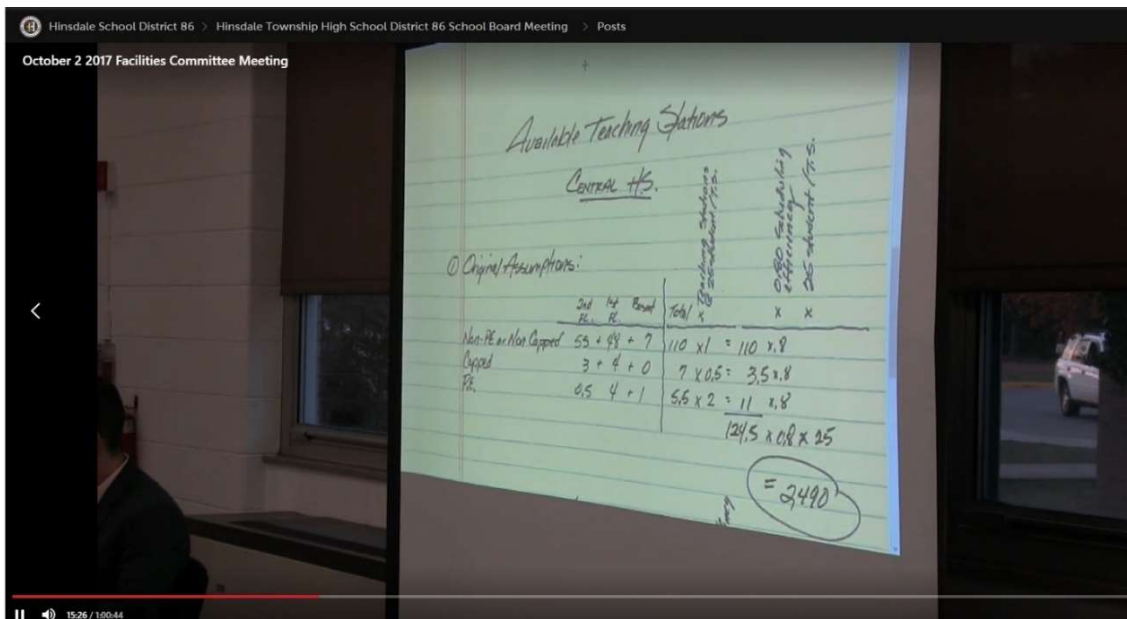
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However, what is most stunning is the perfectly utilized classroom capacity increase of 307 students in Hinsdale Central classrooms over the previous ARCON estimate, possibly attributable to a classroom count increase from 117 to 130.

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The 11/05/2018 BCSUR specifies on page 4 that as of September 28, 2018 enrollment at Hinsdale South was 1,445. So that would mean that Hinsdale South needed only 276 more students, a total of 1,721, to achieve 80% utilization.

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That would increase seat occupancy by an additional 1711 instances (221 students x 6 periods per day + 55 students x 7 periods per day). So, the new total of seat occupancy would have risen from 8,651 instances to 10,362. Would that have gotten Hinsdale South to 80% utilization as the District staff claims? No. The quotient of 10,362 divided by 15,057 is 68.8%.

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The 11/05/2018 BCSUR provides some profound insights into offices and conference spaces at each school.

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To calculate authentic classroom capacity, the Building Capacity and Space Utilization Report needs to challenge existing office and conference room designations rather than consider them as sacrosanct.

Concluding Remark

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The District’s claim of a 1,705-student capacity of Hinsdale South continues to meet with the disbelief of the Hinsdale South community, particularly among residents who can recall very clearly when enrollments at their high school exceeded that level by 200 students. This memorandum, supported by citations to D86 school records, is an account of the events that led to a 225-student drop in the reported capacity of Hinsdale South between the FY 2017 CAFR (p. 108) and the FY 2018 CAFR (p. 116) that is at the root of this disbelief.

Please note that the issues raised in this memorandum are not challenges to the findings reported within the four corners of the BCSUR’s, especially given the narrowness of their stated scope. In fact, as discussed later herein, these BCSUR’s, supplemented only with publicly available school athletic area capacity data from the District’s architectural firm, provide invaluable support for a reasonable belief that the current building capacity of Hinsdale South could be 1,985 students at 80% utilization of target class sizes, 565 more students than the 1,420 currently reported as enrollment on illinoisreportcard.com. This is good news that should be celebrated!

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Athletic spaces are occupied by the vast majority of students during one of their seven class periods. To illustrate, according to the FOIA R000712 response, there are currently 1,146 registrations in P.E. classes held in Hinsdale South athletic areas in comparison to Hinsdale South's current reported enrollment of 1420. That's 81% of the total enrollment. When these 1,146 students are using Hinsdale South's athletic spaces, they are not sitting in its classrooms. Nonetheless, the Hinsdale South "building" is using its capacity to house them during their P.E. periods, periods during which they are making no demands upon classroom facilities.

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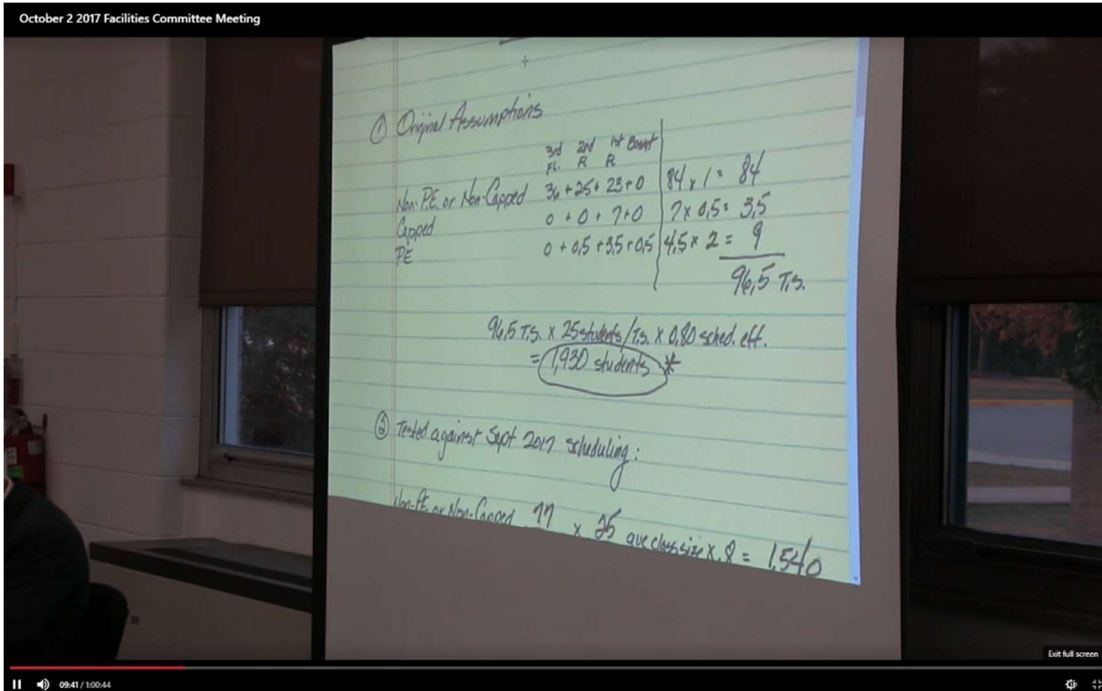
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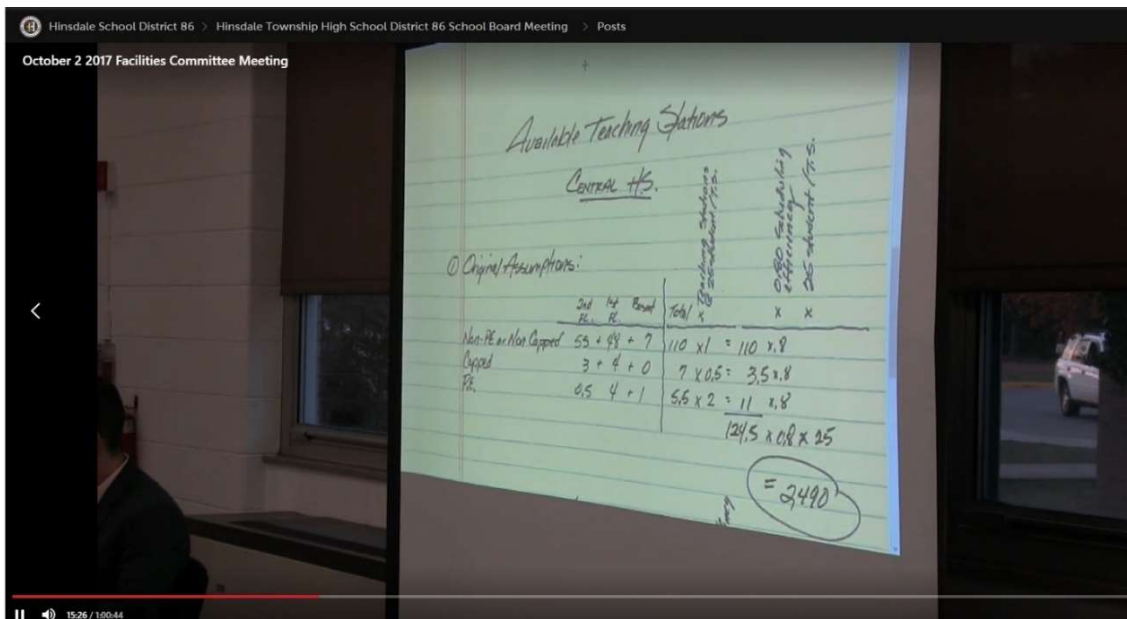
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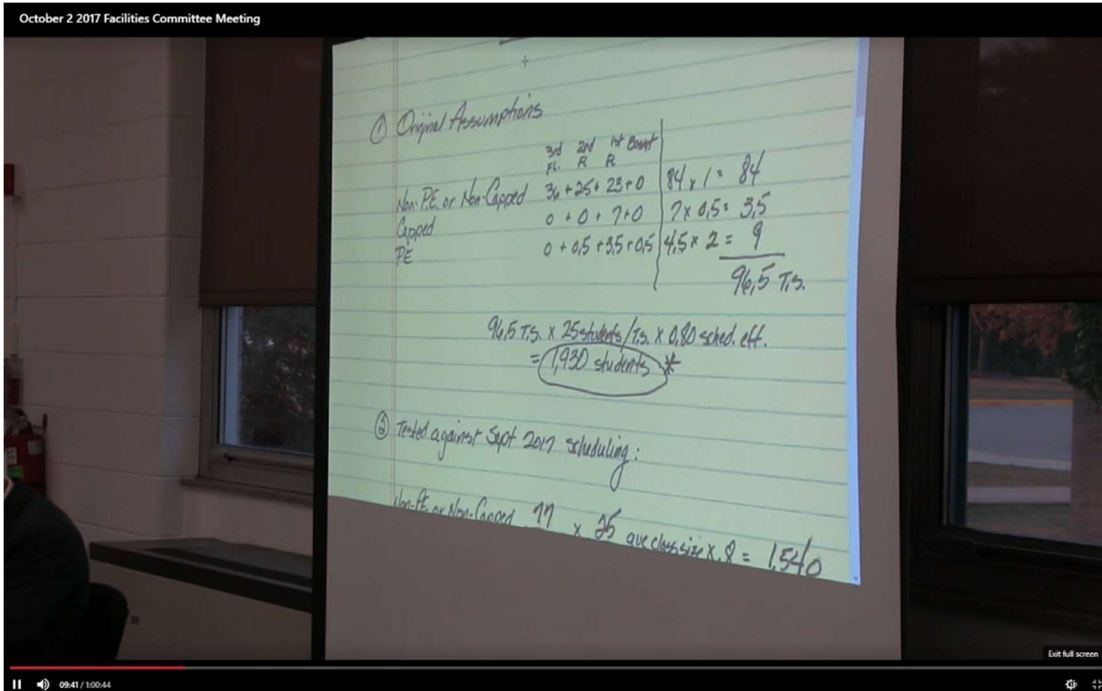
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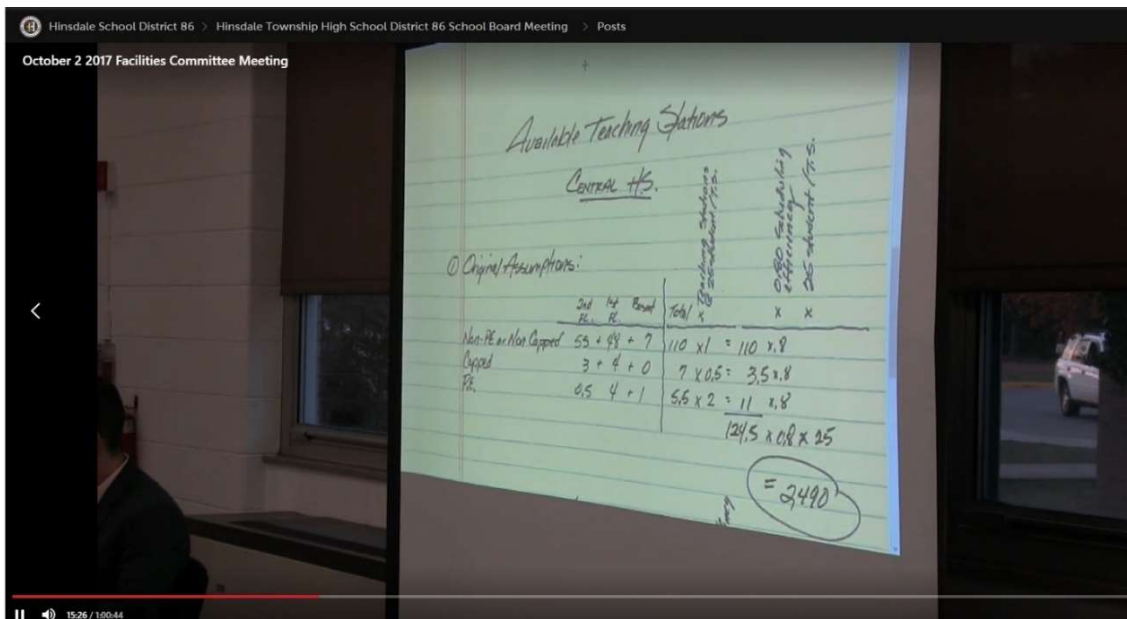
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However, what is most stunning is the perfectly utilized classroom capacity increase of 307 students in Hinsdale Central classrooms over the previous ARCON estimate, possibly attributable to a classroom count increase from 117 to 130.

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That would increase seat occupancy by an additional 1711 instances (221 students x 6 periods per day + 55 students x 7 periods per day). So, the new total of seat occupancy would have risen from 8,651 instances to 10,362. Would that have gotten Hinsdale South to 80% utilization as the District staff claims? No. The quotient of 10,362 divided by 15,057 is 68.8%.

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To calculate authentic classroom capacity, the Building Capacity and Space Utilization Report needs to challenge existing office and conference room designations rather than consider them as sacrosanct.

Concluding Remark

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The District’s claim of a 1,705-student capacity of Hinsdale South continues to meet with the disbelief of the Hinsdale South community, particularly among residents who can recall very clearly when enrollments at their high school exceeded that level by 200 students. This memorandum, supported by citations to D86 school records, is an account of the events that led to a 225-student drop in the reported capacity of Hinsdale South between the FY 2017 CAFR (p. 108) and the FY 2018 CAFR (p. 116) that is at the root of this disbelief.

Please note that the issues raised in this memorandum are not challenges to the findings reported within the four corners of the BCSUR’s, especially given the narrowness of their stated scope. In fact, as discussed later herein, these BCSUR’s, supplemented only with publicly available school athletic area capacity data from the District’s architectural firm, provide invaluable support for a reasonable belief that the current building capacity of Hinsdale South could be 1,985 students at 80% utilization of target class sizes, 565 more students than the 1,420 currently reported as enrollment on illinoisreportcard.com. This is good news that should be celebrated!

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Athletic spaces are occupied by the vast majority of students during one of their seven class periods. To illustrate, according to the FOIA R000712 response, there are currently 1,146 registrations in P.E. classes held in Hinsdale South athletic areas in comparison to Hinsdale South's current reported enrollment of 1420. That's 81% of the total enrollment. When these 1,146 students are using Hinsdale South's athletic spaces, they are not sitting in its classrooms. Nonetheless, the Hinsdale South "building" is using its capacity to house them during their P.E. periods, periods during which they are making no demands upon classroom facilities.

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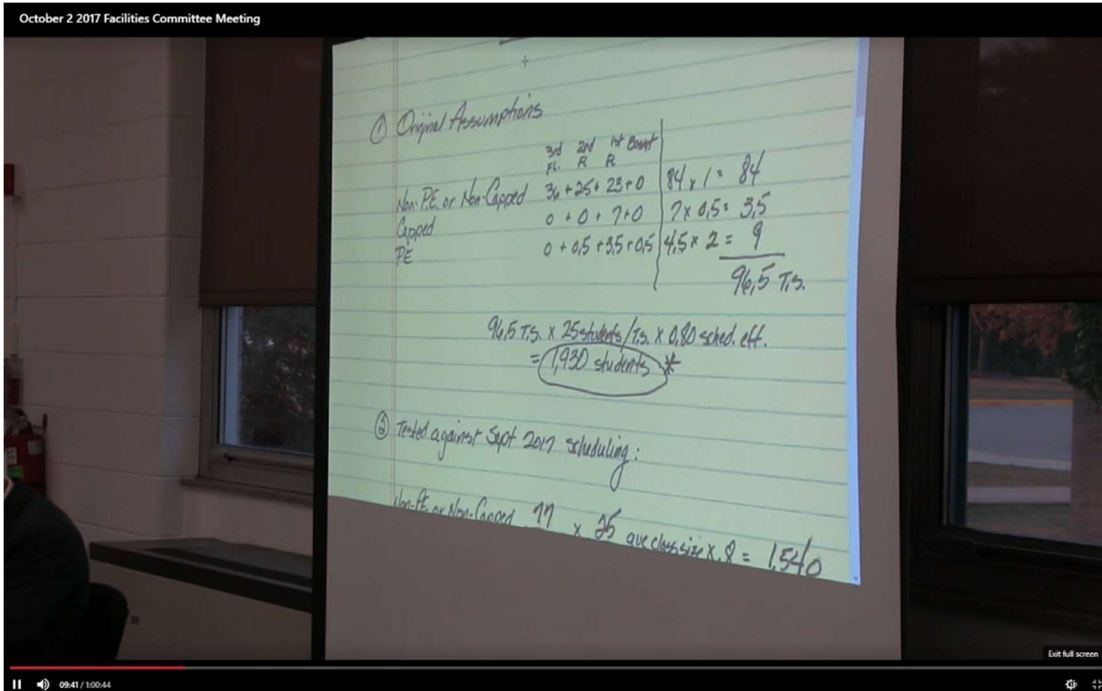
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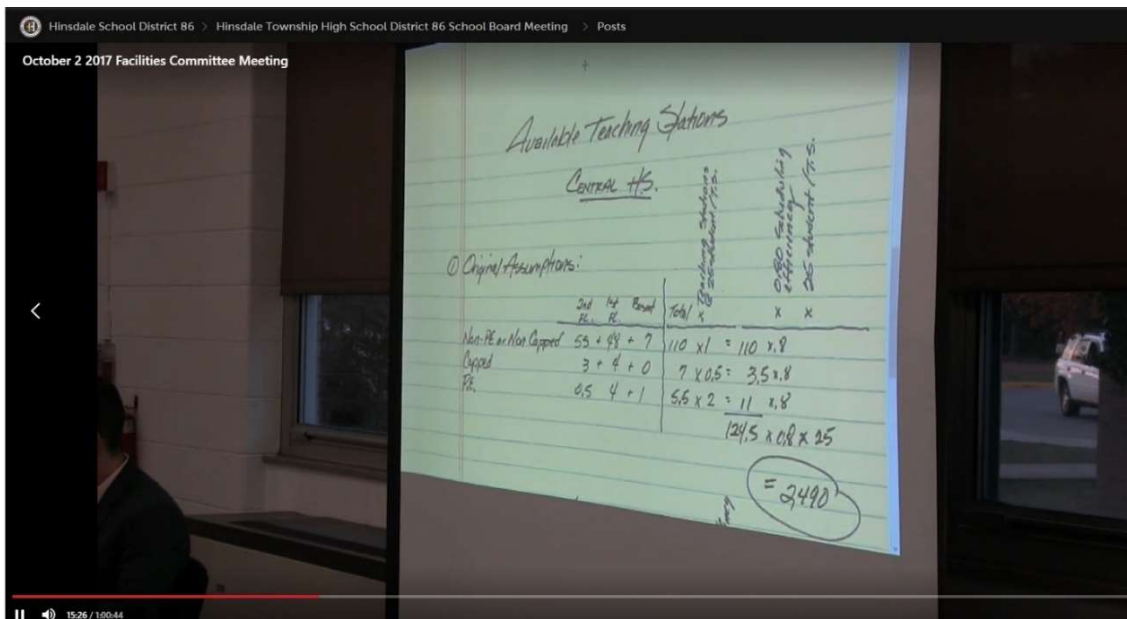
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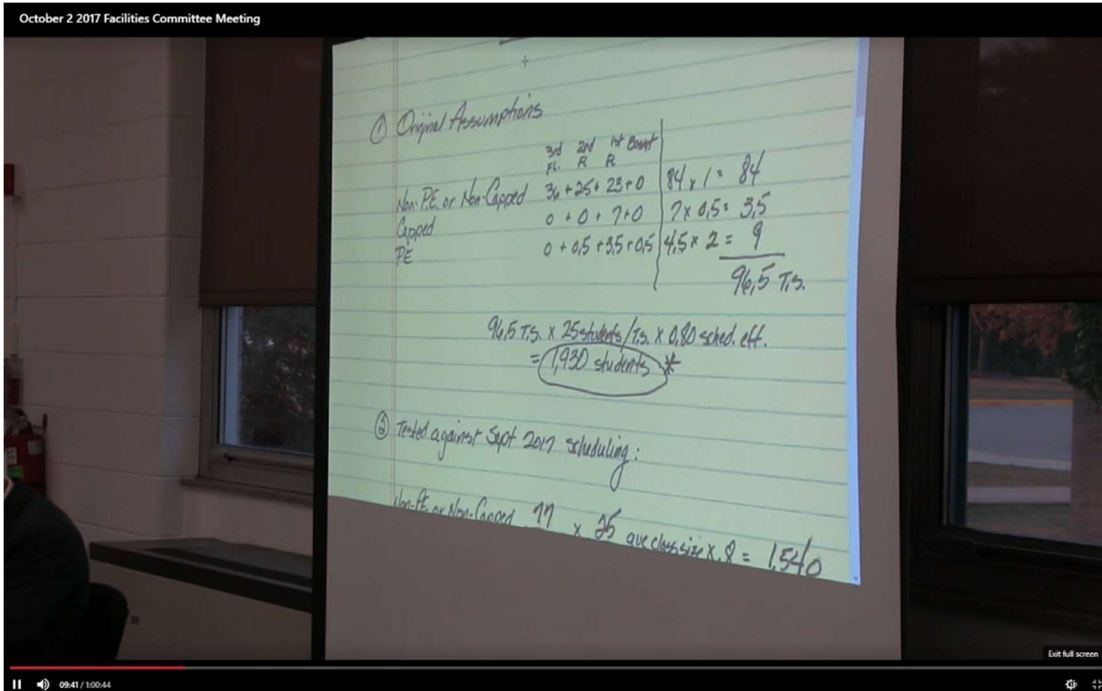
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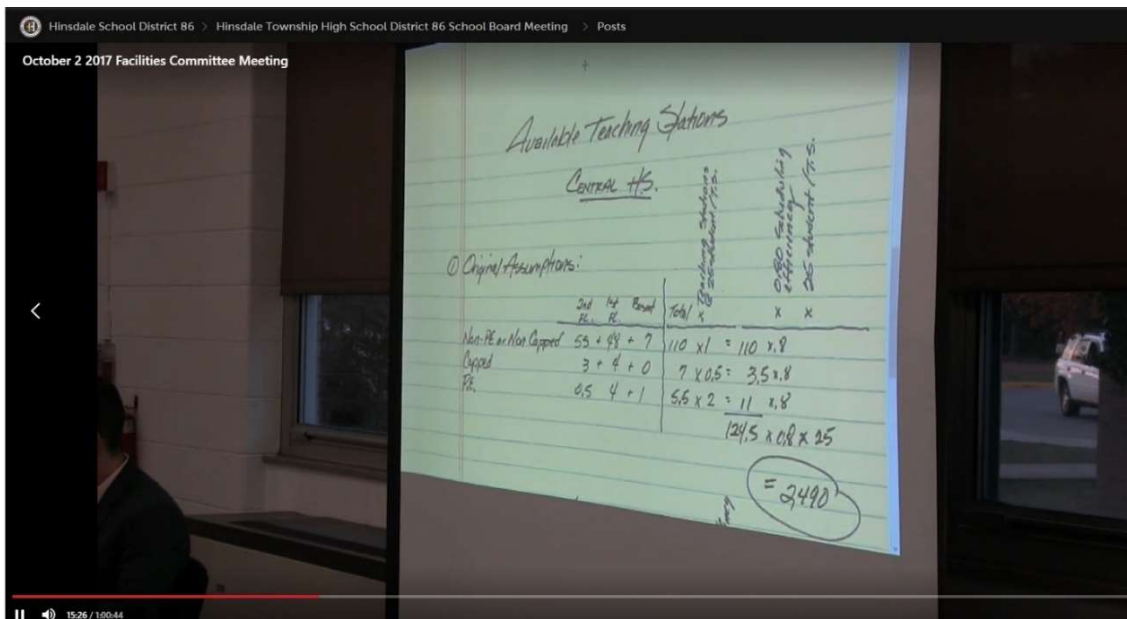
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That would increase seat occupancy by an additional 1711 instances (221 students x 6 periods per day + 55 students x 7 periods per day). So, the new total of seat occupancy would have risen from 8,651 instances to 10,362. Would that have gotten Hinsdale South to 80% utilization as the District staff claims? No. The quotient of 10,362 divided by 15,057 is 68.8%.

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The 11/05/2018 BCSUR provides some profound insights into offices and conference spaces at each school.

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Concluding Remark

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The District’s claim of a 1,705-student capacity of Hinsdale South continues to meet with the disbelief of the Hinsdale South community, particularly among residents who can recall very clearly when enrollments at their high school exceeded that level by 200 students. This memorandum, supported by citations to D86 school records, is an account of the events that led to a 225-student drop in the reported capacity of Hinsdale South between the FY 2017 CAFR (p. 108) and the FY 2018 CAFR (p. 116) that is at the root of this disbelief.

Please note that the issues raised in this memorandum are not challenges to the findings reported within the four corners of the BCSUR’s, especially given the narrowness of their stated scope. In fact, as discussed later herein, these BCSUR’s, supplemented only with publicly available school athletic area capacity data from the District’s architectural firm, provide invaluable support for a reasonable belief that the current building capacity of Hinsdale South could be 1,985 students at 80% utilization of target class sizes, 565 more students than the 1,420 currently reported as enrollment on illinoisreportcard.com. This is good news that should be celebrated!

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As will be explained in more detail in the following section, the BCSUR authors never provided school *building* capacity estimates in their reports, only *classroom* capacity estimates. They had no need to address the impact of athletic areas on school building capacities because it was beyond the scope of their project.

Athletic spaces are occupied by the vast majority of students during one of their seven class periods. To illustrate, according to the FOIA R000712 response, there are currently 1,146 registrations in P.E. classes held in Hinsdale South athletic areas in comparison to Hinsdale South's current reported enrollment of 1420. That's 81% of the total enrollment. When these 1,146 students are using Hinsdale South's athletic spaces, they are not sitting in its classrooms. Nonetheless, the Hinsdale South "building" is using its capacity to house them during their P.E. periods, periods during which they are making no demands upon classroom facilities.

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The identical language is restated on page 6 of the 11/05/2018 BCSUR with minor adjustments to the numbers resulting in a perfectly utilized capacity of 3,164 based on target class enrollment for Hinsdale Central and 2,151 for Hinsdale South.

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Nonetheless, District staff recharacterized the "perfectly utilized" total Hinsdale South *classroom* capacity of 2,131 as though it included athletic spaces in order to present that total as a perfectly utilized *building* capacity.

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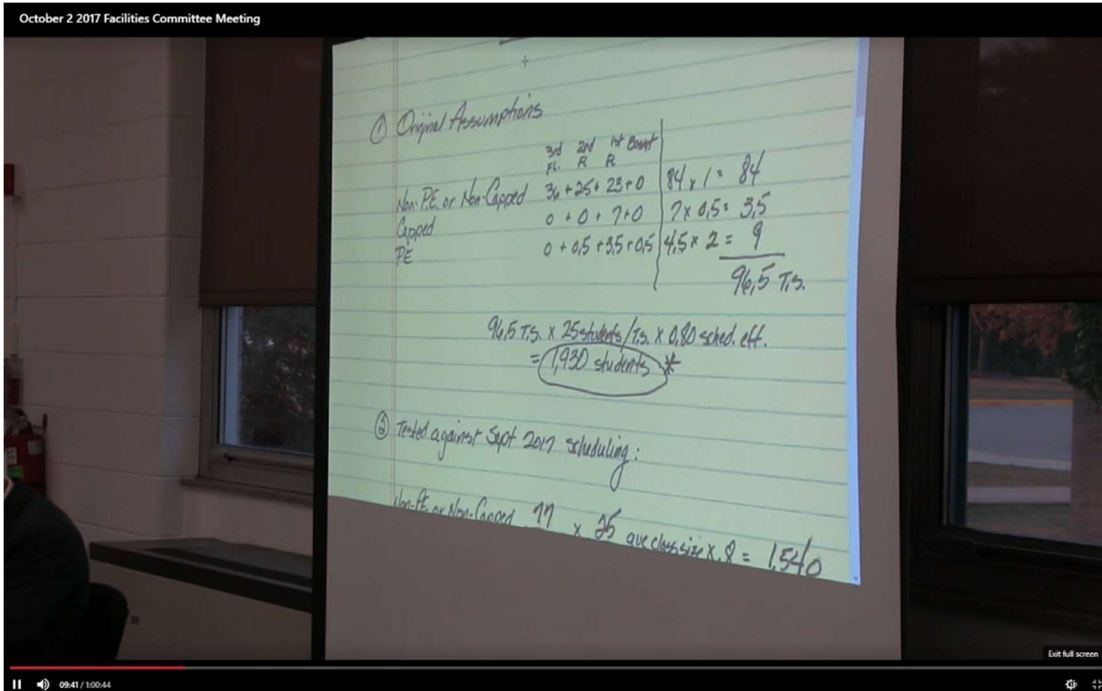
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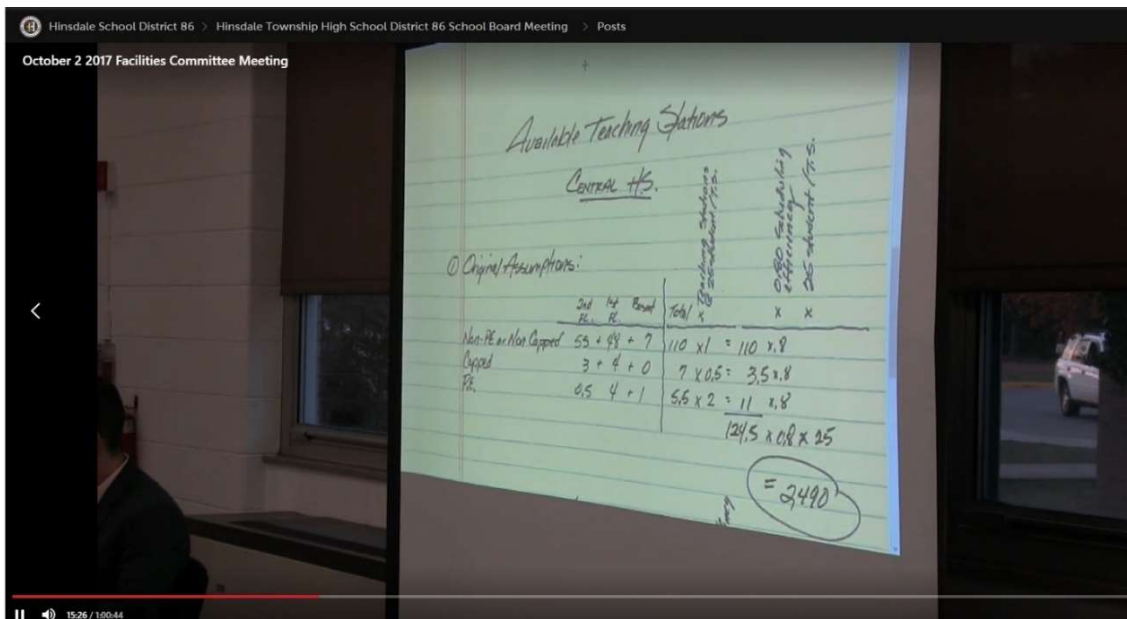
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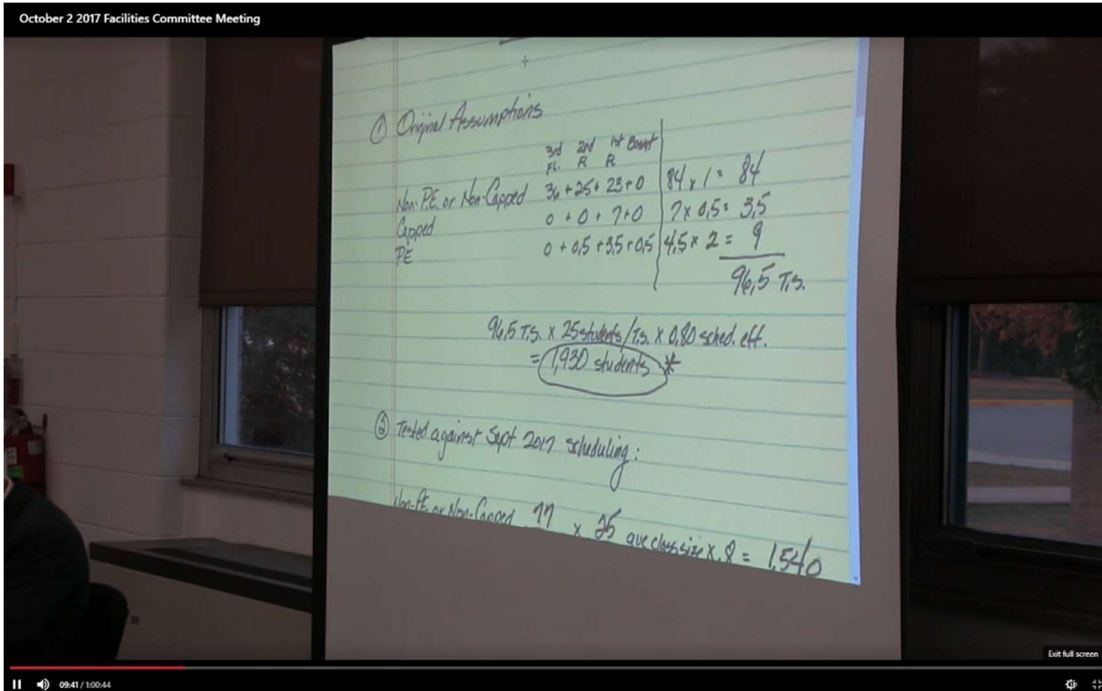
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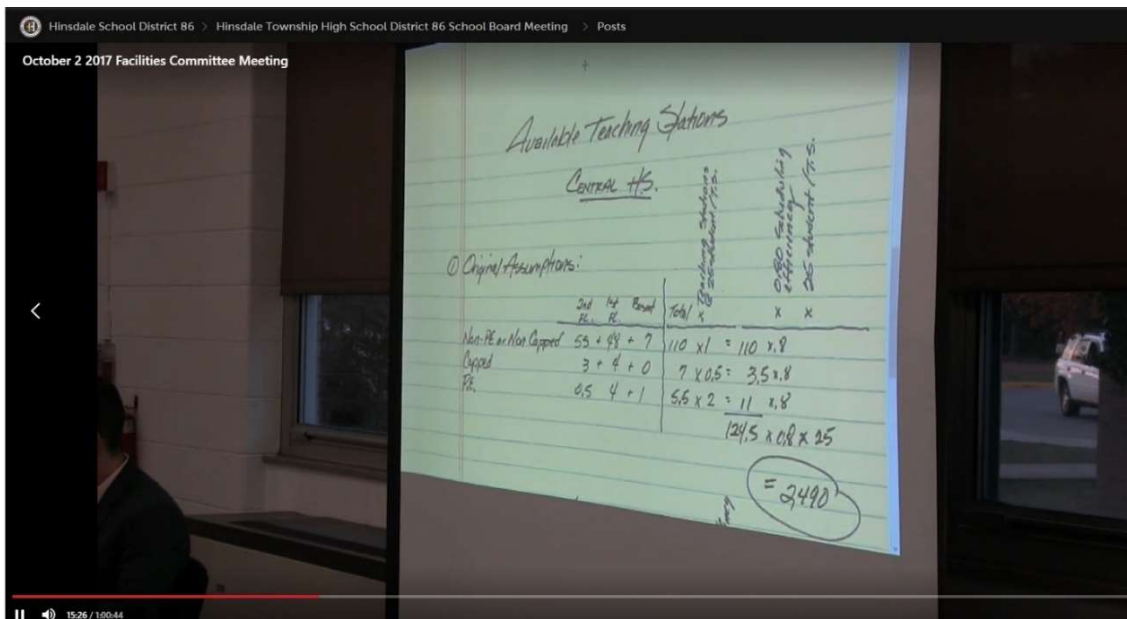
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Concluding Remark

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The District’s claim of a 1,705-student capacity of Hinsdale South continues to meet with the disbelief of the Hinsdale South community, particularly among residents who can recall very clearly when enrollments at their high school exceeded that level by 200 students. This memorandum, supported by citations to D86 school records, is an account of the events that led to a 225-student drop in the reported capacity of Hinsdale South between the FY 2017 CAFR (p. 108) and the FY 2018 CAFR (p. 116) that is at the root of this disbelief.

Please note that the issues raised in this memorandum are not challenges to the findings reported within the four corners of the BCSUR’s, especially given the narrowness of their stated scope. In fact, as discussed later herein, these BCSUR’s, supplemented only with publicly available school athletic area capacity data from the District’s architectural firm, provide invaluable support for a reasonable belief that the current building capacity of Hinsdale South could be 1,985 students at 80% utilization of target class sizes, 565 more students than the 1,420 currently reported as enrollment on illinoisreportcard.com. This is good news that should be celebrated!

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Athletic spaces are occupied by the vast majority of students during one of their seven class periods. To illustrate, according to the FOIA R000712 response, there are currently 1,146 registrations in P.E. classes held in Hinsdale South athletic areas in comparison to Hinsdale South's current reported enrollment of 1420. That's 81% of the total enrollment. When these 1,146 students are using Hinsdale South's athletic spaces, they are not sitting in its classrooms. Nonetheless, the Hinsdale South "building" is using its capacity to house them during their P.E. periods, periods during which they are making no demands upon classroom facilities.

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The identical language is restated on page 6 of the 11/05/2018 BCSUR with minor adjustments to the numbers resulting in a perfectly utilized capacity of 3,164 based on target class enrollment for Hinsdale Central and 2,151 for Hinsdale South.

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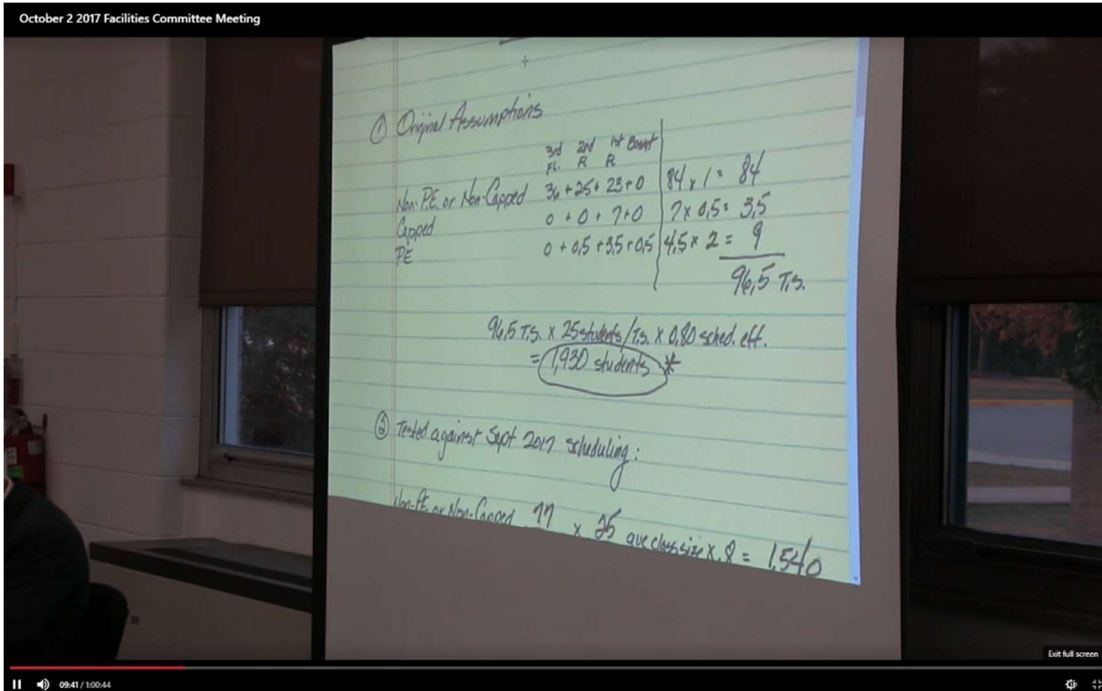
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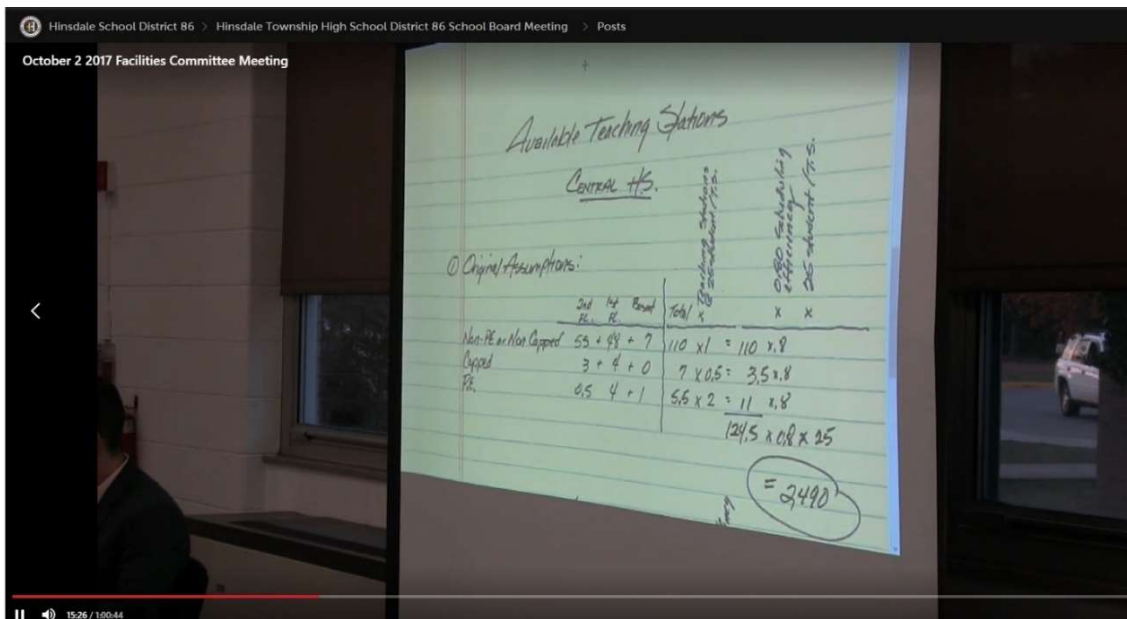
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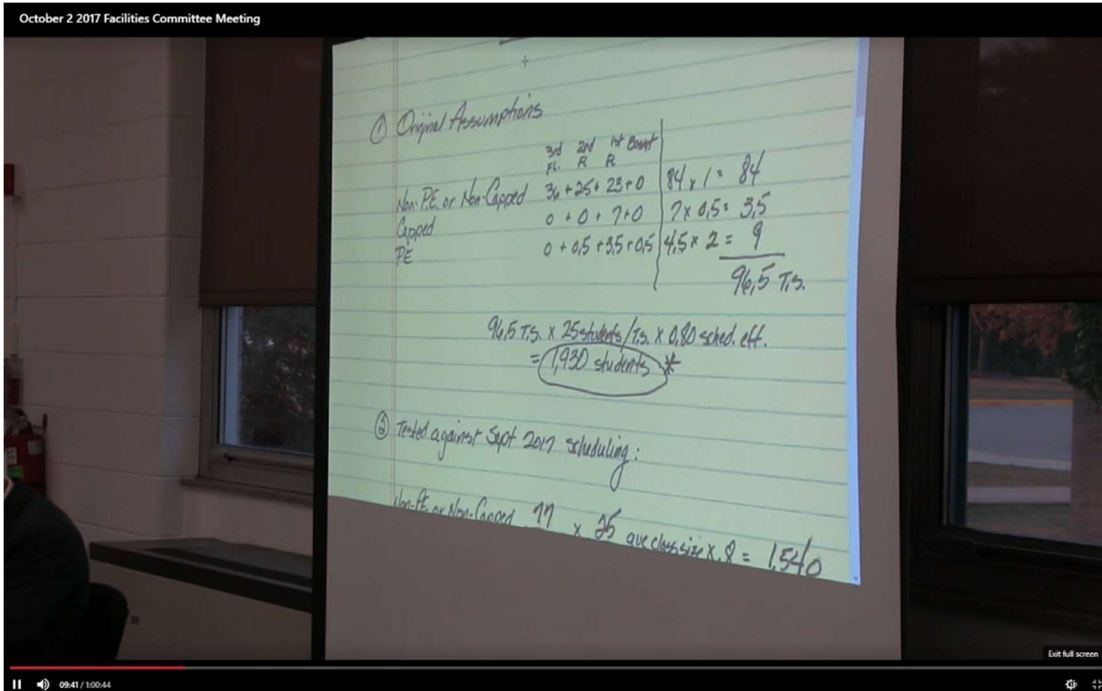
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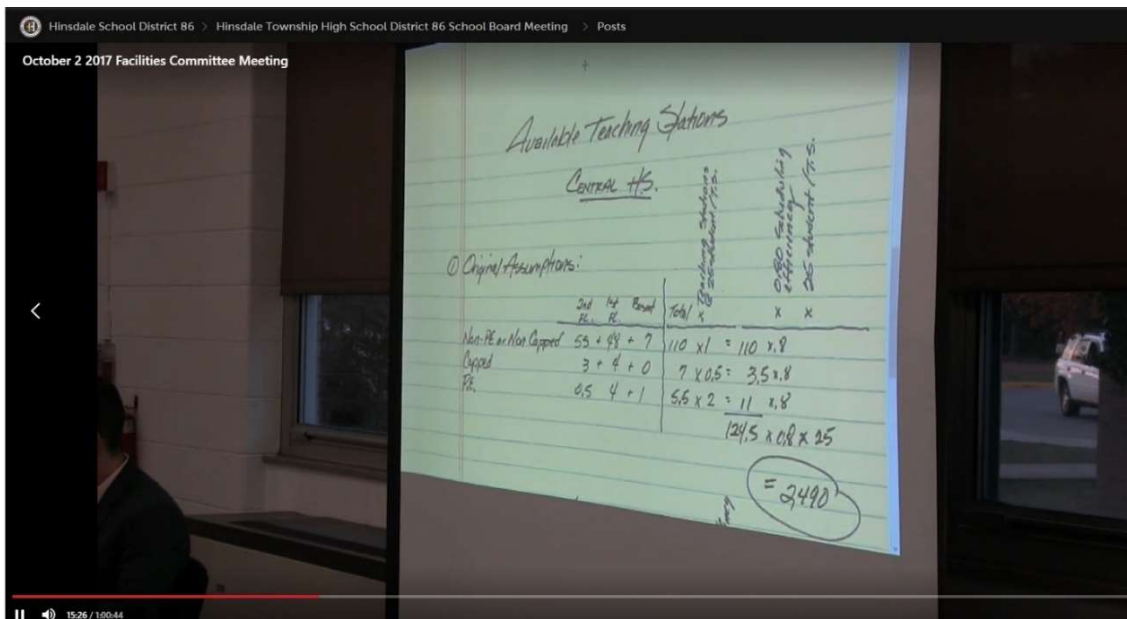
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Hinsdale Central had an Invisible 307-Student Classroom Capacity Increase

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The following table shows how this occurred. Though the District staff lowered ARCON’s estimate for perfectly utilized classroom capacity by 55 students, the primary cause for the overall drop was the removal of Physical Education capacity from the calculations, causing an additional capacity drop of 225 students.

However, what is most stunning is the perfectly utilized classroom capacity increase of 307 students in Hinsdale Central classrooms over the previous ARCON estimate, possibly attributable to a classroom count increase from 117 to 130.

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The next table shows how the FY 2018 CAFR would have looked had the District staff not revised the capacity calculation methodology and merely carried forward the ARCON estimates for P.E. capacity from the 2017 CAFR. Reported capacity of the Hinsdale South building would have dropped only 45 students to reflect the impact of reduced target class sizes, and the capacity of the Hinsdale Central building would have increased by 245 students due primarily to the capacities of 13 additional classrooms offset somewhat by the impact of reduced target class sizes.

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The District's 80% Utilization Claim is Mathematically Impossible to Achieve

The 11/05/2018 BCSUR specifies on page 4 that as of September 28, 2018 enrollment at Hinsdale South was 1,445. So that would mean that Hinsdale South needed only 276 more students, a total of 1,721, to achieve 80% utilization.

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Accordingly, on pages 22-25, report study authors enumerated 8,651 instances of seats being occupied in classrooms that had a Grand Total capacity across seven periods of 15,057 seats (2151 seats per period x 7 periods per day) and concluded on page 25 that their quotient, 57.4%, was the Hinsdale South Total Average Seat Utilization.

So, let's overlay 276 additional students upon last year's enrollment tally and stipulate that, like today, 81% of them (221 students) spent 6 class periods a day in Hinsdale South's studied classrooms and one period in a Physical Education area. Let's further stipulate that none of these students qualified for late arrival or early dismissal and there were no incremental enrollments at the Technology Center of DuPage. In other words, there were absolutely no reasons for any of these students to be out of the classrooms more than the one period a day, and that applied only to the 221 students taking Physical Education.

That would increase seat occupancy by an additional 1711 instances (221 students x 6 periods per day + 55 students x 7 periods per day). So, the new total of seat occupancy would have risen from 8,651 instances to 10,362. Would that have gotten Hinsdale South to 80% utilization as the District staff claims? No. The quotient of 10,362 divided by 15,057 is 68.8%.

Office Utilization at Hinsdale South Deserves a Closer Look

The 11/05/2018 BCSUR provides some profound insights into offices and conference spaces at each school.

The report designated 15 rooms as offices or conference spaces at South with a total floorspace of 12,136 square feet, in comparison to only 10 rooms at Central with just 8416 square feet.

Hinsdale South, the smaller school with about half the enrollment of the larger and with about 28% fewer staff members according to the on-line school directories, had 44% more space designated as offices or conference spaces than did Hinsdale Central.

How could this be? The most plausible hypothesis is that as Hinsdale South enrollment has plummeted over the last 12 years, rooms that had lost their utility as classrooms were converted to offices or conference spaces.

Once a room is designated as an office, that designation carries over to the BCSUR despite the fact that it might serve as a classroom if the need arose. Somebody in authority has to volunteer it up for consideration as an additional classroom in order for it to count as one for purposes of capacity calculation. That does not sound like a reasonable expectation, given the abundance of unused classroom space at South to begin with as well as possible apprehensions that doing so might foster a forthcoming loss of a coveted office space. Thus, capacity calculations become understated for failure to offer up possibilities.

Inspection of existing office sizes in the BCSUR's coupled with a mindfulness of target class size objectives suggests a simple rule of thumb. Simply put, every normal sized classroom that gets converted to an office reduces the overall capacity calculation by about 25 students per period, and vice versa.

Here is a case in point. Suppose the allotment of office and conference space at Hinsdale South were reduced to match Central's--not proportionally less, but the same, just 8416 square feet instead of 12,136. That could free up 5 of the 15 offices to serve as classrooms, each with a capacity to serve 25 students. That in turn would increase Hinsdale South classroom capacity at 80% utilization by another 100 students ($5 \times 25 \times 80\%$), bringing its total capacity to 1,980 students.

To calculate authentic classroom capacity, the Building Capacity and Space Utilization Report needs to challenge existing office and conference room designations rather than consider them as sacrosanct.

Concluding Remark

District 86 already has the data needed to calculate an accurate 80% capacity utilization level for its schools. To be accurate, the *capacity calculation* has to recognize (1) the substantial amount of the school day that enrolled students spend outside classrooms, (2) the substantial capacity that non-academic contact space offers, and (3) the usability of office space to serve as classrooms in a high enrollment scenario.

Members of the District 86 School Board:

At the Board of Education meeting on November 14, 2019 you are scheduled to review and discuss the 2019 version of the District 86 “Building Capacity and Space Utilization Report” (hereinafter, “BCSUR”).

Over the last two years District staff members have interpreted previous versions of this report to claim Hinsdale South capacities of 1,705 (based on the 01/08/2018 BCSUR) and most recently 1,721 (based on the 11/05/2018 BCSUR). The 1,705 student estimate was subsequently reported as the capacity of Hinsdale South on page 116 of the District’s FY 2018 “Comprehensive Annual Financial Report” (hereinafter “CAFR”) as well on page 116 of its FY 2019 CAFR.

The District’s claim of a 1,705-student capacity of Hinsdale South continues to meet with the disbelief of the Hinsdale South community, particularly among residents who can recall very clearly when enrollments at their high school exceeded that level by 200 students. This memorandum, supported by citations to D86 school records, is an account of the events that led to a 225-student drop in the reported capacity of Hinsdale South between the FY 2017 CAFR (p. 108) and the FY 2018 CAFR (p. 116) that is at the root of this disbelief.

Please note that the issues raised in this memorandum are not challenges to the findings reported within the four corners of the BCSUR’s, especially given the narrowness of their stated scope. In fact, as discussed later herein, these BCSUR’s, supplemented only with publicly available school athletic area capacity data from the District’s architectural firm, provide invaluable support for a reasonable belief that the current building capacity of Hinsdale South could be 1,985 students at 80% utilization of target class sizes, 565 more students than the 1,420 currently reported as enrollment on illinoisreportcard.com. This is good news that should be celebrated!

Elected fiduciaries need a clear-eyed understanding of the reports they are provided so they can make proper decisions. Accordingly, please consider this memorandum as an alternative perspective to the school capacity reports previously created by District staff members before you make judgments of how to use District 86 facilities.

The Scope of the BCSUR’s Deliberately Did Not Include Athletic Spaces

In discussing the scope of its report, each of the previous BCSUR’s provided the following on Page 1:

“The purpose of the report is to determine utilization of our high schools, and including all the athletic spaces and lunchrooms in the calculations do [*sic*] not help us answer the question of utilization.”

Excluding athletic spaces and lunchrooms is perfectly reasonable in measuring classroom utilization, but doing so is, particularly with respect to athletic areas, is completely inappropriate in measuring building capacity.

As will be explained in more detail in the following section, the BCSUR authors never provided school *building* capacity estimates in their reports, only *classroom* capacity estimates. They had no need to address the impact of athletic areas on school building capacities because it was beyond the scope of their project.

Athletic spaces are occupied by the vast majority of students during one of their seven class periods. To illustrate, according to the FOIA R000712 response, there are currently 1,146 registrations in P.E. classes held in Hinsdale South athletic areas in comparison to Hinsdale South's current reported enrollment of 1420. That's 81% of the total enrollment. When these 1,146 students are using Hinsdale South's athletic spaces, they are not sitting in its classrooms. Nonetheless, the Hinsdale South "building" is using its capacity to house them during their P.E. periods, periods during which they are making no demands upon classroom facilities.

District Staff Members Recharacterized "Classroom Capacities" as "Building Capacity"

The BCSUR authors stated the following on page 5 of the 01/08/2018 version:

"Based on the allocation summarized below, if all academic contact spaces were perfectly utilized such that every classroom were used every period and every class had the exact target enrollment, perfectly utilized student capacity at Hinsdale Central is 3,384 based on square footage; it is 3,144 based on target class enrollment. Perfectly utilized capacity at Hinsdale South is 2,449 based on square footage; it is 2,131 based on target class size." (emphasis added)

The identical language is restated on page 6 of the 11/05/2018 BCSUR with minor adjustments to the numbers resulting in a perfectly utilized capacity of 3,164 based on target class enrollment for Hinsdale Central and 2,151 for Hinsdale South.

The BCSUR authors were not talking about the buildings. As previously noted, they already told their readers that they were excluding non-academic contact spaces. It would be nonsense to expect them to fabricate athletic space capacities if they didn't study them.

Nonetheless, District staff recharacterized the "perfectly utilized" total Hinsdale South *classroom* capacity of 2,131 as though it included athletic spaces in order to present that total as a perfectly utilized *building* capacity.

Then, in order to scale Hinsdale South's reported perfectly utilized capacities of 2,131 down to 1,705, the District staff applied an 80% factor to it. In explanation, in a post on the Social Media

platform NextDoor.com on February 3, 2019, the former District 86 Chief Communications Officer offered the following:

“80% Target Utilization Rate: This is the nationwide architecture industry standard rate for high schools. This number determines the functional capacity of a building. That 80 percent figure allows for flexibility in scheduling courses. If every classroom is filled every period of the day then there is no opportunity to change from current offerings (unless something is eliminated because it becomes a zero-sum game with available space).”

A Comparison with the Previous Calculation Methodology Provides an Estimate of Athletic Space Capacities Excluded from the Reported Estimates

Woven into the narrative surrounding the announcement of the 225-student drop in Hinsdale South capacity were explanations of how the need to reduce target class sizes impacted classroom capacities, which in turn fostered an expectation that the total classroom capacity of the schools could be expected to be commensurately lower.

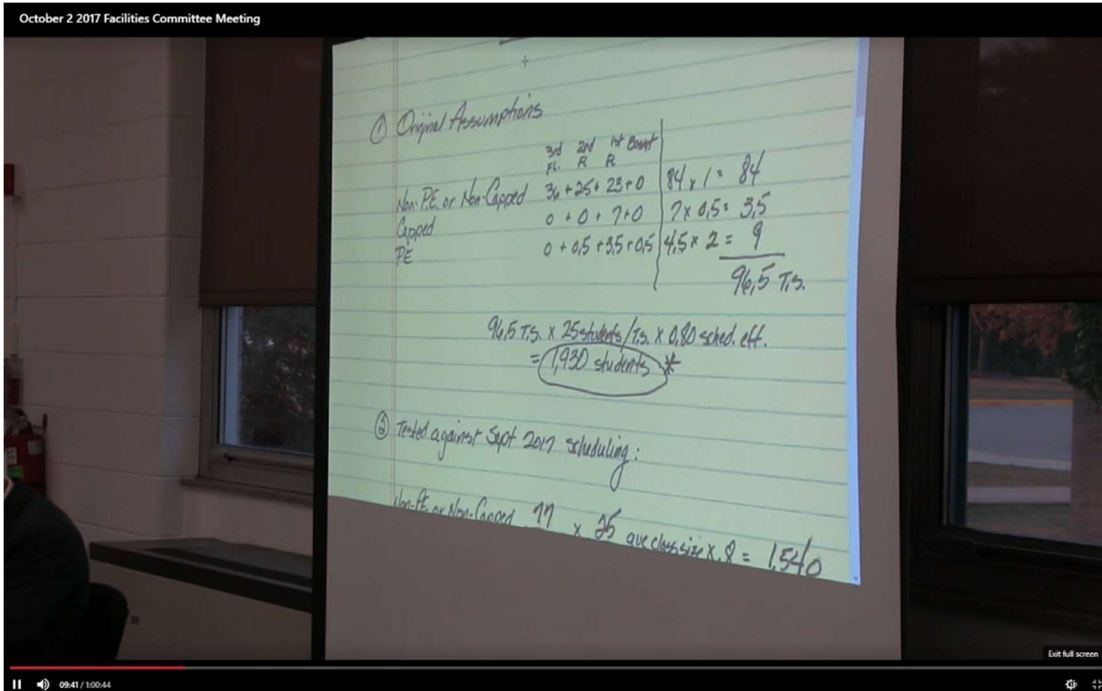
Though intuitively reasonable to believe, the adjustment for reducing class sizes turned out to be only a small portion of the overall reduction in Hinsdale South capacity.

Behind all the District 86 rhetoric about reducing class sizes and perhaps unbeknownst to the serving Board of Education members, District staff members made a sea change in the capacity calculation methodology. They no longer included Physical Education space in the calculation, resulting in calculated capacity reductions of 180 students at Hinsdale South and 220 students at Hinsdale Central.

In the FY 2017 CAFR, the estimated capacity for Hinsdale South was reported as 1,930 for both that year and for 2016, the prior year. This estimate was developed by the architectural firm ARCON.

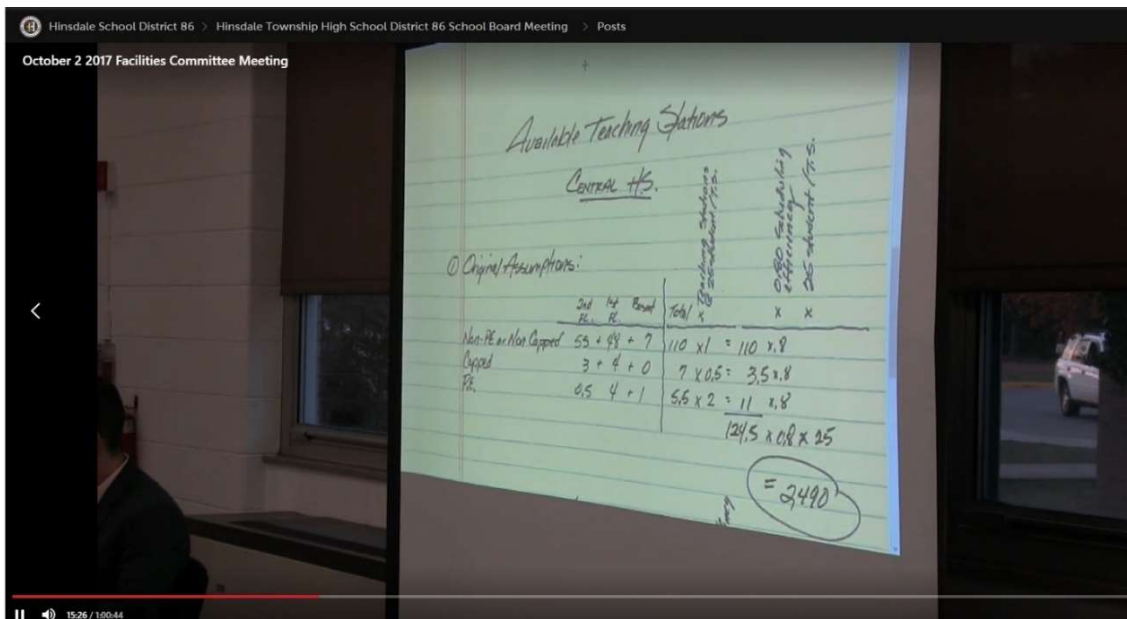
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