Appendix NNN-8-18 February 27, 2012



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Daniel A. Nerad, Superintendent of Schools

- DATE: February 20, 2012
- TO: Board of Education

FROM: Daniel A. Nerad, Superintendent

RE: High School Graduation and Completion Rates

### I. Introduction

- A. Title/topic: Information paper regarding the calculation of high school graduation and completion rates and description of the high school completion gap among certain MMSD student subgroups
- B. Presenter/contact person: Andrew Statz
- C. Background information: As required by NCLB, a new four-year cohort graduation rate calculated by DPI provides an "on time" graduation rate. This calculation will eventually replace the so-called "legacy rate" that DPI has used for the past several years.

The presence of two official methods to calculate graduation rates and the typical addition of equivalencies to provide more inclusive completion rates has some caused confusion over the District's graduation/completion rate. This confusion is more apparent as the District builds its plan to address the achievement gap.

D. BOE action requested: Review and acceptance of this information paper

### II. Summary of Current Information

**SUMMARY:** DPI has two official models for calculating high school completion rates. Regardless of which model is used, MMSD has lagging graduation rates for among its student subgroups.

As required by NCLB, a new four-year cohort graduation rate calculated by DPI provides an "on time" graduation rate. This calculation will eventually replace the so-called "legacy rate" which DPI has used for the past several years. That means that we could characterize our graduation rates in the following two ways:

- Only 48% of black students graduate from Madison schools with a regular diploma in four years, compared to 87% of white students.
- Only 66% of black students complete high school in Madison schools with a regular diploma or equivalent, compared to 94% of white students.

The cohort calculation better identifies students who are continuing their education after four years and better identifies an official dropout rate. Specifically, for the 2009-10 school year 22%

of black students were not known to be continuing their education. Another 26% of black students did not graduate, but they remained in school. While graduating in four years is the goal, not graduating in four years does not automatically mean a student dropped out.

Four-year cohort graduation and completion rates were first available for the 2009-10 school year. This cohort began high school in 2006-07 school year. There is no historical data for the cohort calculation, and the so-called legacy calculation is the only historic data source currently available.

Overall, completion rates resulting from the legacy rate calculation have been largely stable, especially over the last six years. In that time some gains have been made by some student subgroups, particularly white and Asian students. Hispanic students have seen a varying completion rate. Completion rates among black students have remained relatively stable.

The four-year cohort calculation results in a lower completion rate because it excludes students that take longer than four years to complete high school. In two years, a six-year cohort calculation will also be in place. The six-year cohort calculation will likely be close to the current legacy calculation because both calculations include students that take longer than four years to finish high school. The legacy calculation will be discontinued once six-year cohort graduation and completion rates are in place for 2011-12.

Regardless of how completion rates are calculated, there are gaps among student subgroups. Non-white completion rates are lower than white completion rates. Low income, special education and ELL completion rates are lower than the completion rates for their respective counterparts.

**ANALYSIS.** Nearly all numbers in this report come from Wisconsin's Information Network for Successful Schools (WINSS) and can be found on the Department of Public Instruction's website at <u>www.dpi.state.wi.us/sig</u>. With the exception of data relating to "on track for credit attainment," all charts and graphs in this report have been copied from the WINSS website and may be recreated by users by selecting the same set of filters.

In this report the term "graduation" refers to the earning of a regular diploma. Each of the charts and graphs in this report specify "combined" in the title. This adds together the percent of students earning a regular diploma and students earning a high school equivalency diploma (HSED) or certificate of completion. Doing this creates a combined "completion rate" for a more comprehensive picture of students completing high school.

The most current year of graduation data on WINSS is for the 2009-10 school year. As of late mid-February 2012, DPI had not yet updated the graduation and completion rates in WINSS.

**Legacy calculation versus four-year cohort calculation.** The overall combined MMSD completion rate using the legacy calculation is 84.7%. Using the cohort calculation, the completion rate is 76.5%. The difference is driven by the cohort calculation's exclusion of students who take longer than four years to graduate.



Legacy calculation. From the DPI website, beginning with 2003-04 legacy rates are calculated as follows:

- Graduation Rate: number of graduates (regular diploma) divided by the total number of students expected to complete high school, expressed as a percentage.
- High School Completion Rate: number of high school completers (any credential) divided by the total number of students expected to complete high school in that year, expressed as a percentage.
- "The total number of students expected to complete high school" is the denominator used to calculate legacy graduation and completion rates and is the sum of the dropouts over four years (also known as cohort dropouts) plus students who reached the maximum age without completing high school plus high school completers (any credential).

So, the legacy rate gives credit for any student finishing high school up to age 21, regardless of how long it took him or her to do so.

<u>Cohort calculation</u>. In response to federal requirements, DPI has begun providing four-year cohort-based graduation and completion rate calculations.

From the DPI website, beginning with 2009-10 four-year adjusted cohort rates are calculated as follows:

- Graduation Rate: number of students in the cohort who graduate (regular diploma) within four years divided by the number of students who form the four-year adjusted cohort for the graduating class.
- High School Completion Rate: number of students in the cohort who complete high school (any credential) within four years divided by the number of students who form the four-year adjusted cohort for the graduating class.
- The "number of students who form the four-year adjusted cohort for the graduating class" is the denominator used to calculate four-year graduation and completion rates. This number is the "total expected to complete high school" by the year of the rate consistent with the four-year timeframe. Students are assigned to one and only one

statewide cohort when they first begin high school in Wisconsin public schools. Students are not counted in the graduation or completion rate until the end of the four-year timeframe for their assigned cohort. At the end of the four-year timeframe, adjustments are made to remove any non-graduate from the cohort if the student transferred out, emigrated to another country, or is deceased prior to the end of the four-year timeframe.

The focus of the new cohort calculation is strictly the four-year period. The calculation does not give a district or school credit for students that finish in more than four years. In two years, DPI will provide a six-year cohort calculation that will give credit for students that finish high school in more than four years.

Each student is assigned to a four-year cohort when they first enroll at a Wisconsin high school. That cohort identity follows them from one Wisconsin school or district to another. The last district and school to have the student gets the credit for his or her completion of high school or the blame for his or her dropping out. It does not matter how long a student is there. For example, a student transferring in as a junior and dropping out in two weeks counts against that school or district.

DPI will continue to provide legacy graduation and completion rates until 2011-12 results are calculated with both four-year and six-year cohorts. Six-year cohort rates will be released in Spring 2013. Once the six-year cohort calculation is in place, the legacy calculation will be discontinued.

**Legacy rate versus four-year cohort rate by race/ethnicity.** The three most important fields for the cohort graduation and completion rates are:

- 1. "% Regular Diplomas (Graduates)" This is the percent of students graduating from high school with a regular diploma. The "% HSEDs" and "% Certificates" rates are added to this to obtain a combined completion rate.
- "% Known to be Continuing" This is the percent of students that remain in school after four years. Just because a student does not complete high school does not mean they dropped out.
- 3. "% Not Known to be Continuing" This is the percent of students that did not complete high school, are not remaining in school, have not transferred to another district, have not moved out of the country, and have not died. This represents a "dropout rate".

Some additional orientation and key terms for the table below:

- "Timeframe" refers to the legacy calculation or the four-year cohort calculation.
- "Race" reflects the five student racial/ethnic subgroups as monitored by NCLB.
- "Total Expected to Complete High School" is the denominator used to calculate graduation rates. For the legacy rates, this total is the sum of actual high school completers, cohort dropouts, plus non-completers who reached the maximum age associated with the right to a free public education. For four-year cohort rates, this total is the count of students in the adjusted four-year cohort for the graduating class.

• "% Not Known to be Continuing" is the percent of non-graduating students who, as of the end of the given high school completion timeframe, were not known to be continuing high school. For four-year rates, this status is generally based on the student's most recent enrollment record as of the end of the four-year timeframe. For legacy rates, any cohort dropout is counted as not known to be continuing.

The cohort calculation's "% Not Know" better captures a dropout rate because it only counts a dropout once at the end of the cohort's four years. With the legacy calculation, each time a student dropped out he or she contributed to the "% Not Known" rate, regardless of which grade the student dropped out of or how often a student came back and left again.

- "% Reached Maximum Age" is the percent of students who have reached the age after which they are no longer guaranteed the right to a free education. Per the state constitution, this is guaranteed through age 20. Students who turned 21 prior to the beginning of the school term without completing high school are counted as students who reached the maximum age during the preceding school year.
- "% Known to be Continuing" is the percent of non-graduating high school students who known to be continuing in high school. For the four-year calculation, this status is generally based on the student's most recent enrollment record as of the end of the fouryear timeframe. For legacy rates, this status does not apply because non-completers are either cohort dropouts or students who have reached the maximum age. So, the cohort calculation provides a more accurate picture of how many students are taking longer than four years to graduate.
- "% Certificates" is the percent of students earning a high school completion credential granted to any student that is neither a regular diploma issued by a school board nor a high school equivalency diploma issued by the State Superintendent. Examples include certificates of high school attendance or completion.
- "% HSEDs" is the percent of students earning a high school equivalency credential issued by the State Superintendent. For students enrolled in school districts, this typically involves passing the general educational development test with additional requirements in citizenship, health, career awareness and employability skills. Students often access these programs through contracts between school districts and third party providers like technical colleges.
- "% Regular Diplomas (Graduates)" is the percent of students earning a regular high school diploma granted by a school board. High school completers who are granted regular high school diplomas are considered graduates.

High School Completion Rate - Combined All Timeframes by Race/Ethnicity Madison Metropolitan 2009-10 Compared to State											
				N	oncomplete	rs	Completers				
	Timeframe	Race	Total Fall Enrollment Grade 12	Total Expected to Complete High School**	Known to	% Reached Maximum Age	% Known to be Continuing	% Certificates	% HSEDs	% Regular Diplomas (Graduates)	
	1948 - 1949	American Indian or Alaska Native	15	12	0.0%	0.0%	41.7%	0.0%	0,0%	58.3%	
	4-Year	Asian or Pacific Islander	189	197	4.1%	1.0%	11.7%	0.0%	1.0%	82.2%	
		Black Not Hispanic	379	439	21.9%	0.0%	26.4%	0.0%	3.4%	48.3%	
		Hispanic	191	208	19.7%	0.5%	20.2%	0.0%	2.9%	56,7%	
District:		White Not Hispanic	1,133	1,098	4.6%	0.0%	6.8%	0.0%	1.5%	87.2%	
Summary	Legacy	American Indian or Alaska Native	15	13	7.7%	0.0%	0.0%	0.0%	0.0%	92.3%	
		Asian or Pacific Islander	189	211	12.3%	0.5%	0.0%	0.0%	1.4%	85.8%	
		Black Not Hispanic	379	468	32.5%	1.3%	0.0%	0.0%	4.7%	61.5%	
		Hîspanic	191	233	26.2%	1.7%	0.0%	0.0%	3.9%	68.2%	
		White Not Hispanic	1,133	1,128	5.6%	0.1%	0.0%	0.0%	1.9%	92,5%	

Adding up all the percentages by race/ethnicity yields 100% of student in that subgroup's cohort. This accounts for the status of each student assigned to that statewide four-year graduation cohort by subgroup.

Using black students as an example, 48.3% earned a regular diploma in 2009-10 after four years of high school. Another 26.4% were continuing their high school studies. Another 21.9% had likely dropped out. They were not known to have not transferred to another district, for example.

So, 48% of black students graduated on time (i.e. within four years) with a regular diploma. That timeframe and reference to a regular diploma must be added to make it an accurate statement.

Further, to say that 48.3% of black students graduated does not mean that the other 52% dropped out. Dropout rate is not 100% less the "% Regular Diplomas" value. Over half of the other 52% are continuing students who may earn a regular diploma in five or six years or may earn an HSED or other certificate, drop out, attend another district, or continue for an additional

year – it is simply too soon to tell. A dropout rate of 21.9% is too high, but it is not 52% as some have suggested.

Among Hispanic students, the "% Not Known to be Continuing" was 19.7% Among Hispanic students.

<u>Graduation gaps</u>. Similar to achievement gaps on standardized tests, there are graduation gaps among various racial/ethnic and other subgroups. The combined legacy completion rate for white students is 94.4% compared to Asian students at 87.2%, Hispanic students at 72.1% and black students at 66.2%.

The four-year cohort based combined completion rate is lower than the legacy calculation. For white students, the rate is 88.7% compared to Asian students at 83.2%, Hispanic students at 59.6% and black students at 51.7%.

The completion rate for American Indian students represents only 15 students. So, much of the variation is likely due to a small sample size.

The cohort calculation reduces the completion rate compared to the legacy calculation for all subgroups, but it has a greater impact in black and Hispanic students, students with disabilities and students who are low income and ELL. For Hispanic students there is a decrease of 12.5% from the legacy calculation to the cohort calculation, and for black students the decrease is 14.5% less compared to white students with a decrease of 5.7%. This is largely driven by the cohort calculation's omission of students that take longer than four years to complete high school to earn their diploma.

The following graphs illustrate both gaps among student subgroups and the differences between the four-year cohort and the legacy completion rate calculations.



Urban districts will likely continue to have lower completion rates than the state as a whole. This is not solely a function of the cohort calculation versus the legacy calculation. It is a reflection of higher mobility and low income. Both subgroups tend to be more numerous in urban district and statistically have lower completion rates.

Lower completion rates are also seen in urban districts in part as a reflection of high counts of special education students that statistically have lower completion rates. Urban districts are more likely equipped to provide special education services and may attract more special education students than smaller districts.

The legacy completion rate for Students with Disabilities is 72.7% compared to Students without Disabilities at 87.2%. For the cohort calculation, it is 49.3% compared to 82.8%.

The legacy completion rate for Economically Disadvantaged is 73.8% compared to Not Economically Disadvantaged students at 90.8%. For the cohort calculation, it is 57.5% compared to 88.2%.

The legacy completion rate for ELL/LEP students is 66.5% compared to English Proficient students at 87.0%. For the cohort calculation, it is 54.0% compared to 79.0%.





**Historic legacy completion rates.** Because 2009-10 was the first school year for which the four-year cohort calculation was provided, there is no historic cohort completion rate.

Because of changes to the completion rate calculation in 2003-04, it is important to focus on the school years 2004-05 through 2009-10. Results may not be complete for 2003-04 because it was a transition year to the Individual Student Enrollment System (ISES).





<u>Historic legacy completion rate by subgroup</u>. The legacy completion rate by race/ethnicity has varied more over the last 14 years than the overall rate. This is especially true for Hispanic and black students. However, the completion rate for both Hispanic and black students have been stable over the last three years – around 72% for Hispanic students and 66% for black students. The completion rate for American Indian students represents relatively few students, which accounts for the great variation from one year to the next.

The completion rate for Students with Disabilities has varied since 2004-05. The low was in 2007-08 at 70.1%; the high was 74.3% in 2005-06.

WINSS has only three years of data for Economically Disadvantaged and ELL students. An explanation of this was not immediately available. The completion rate for low income students has been stable at about 74% with a slight increase from 2007-08 to 2008-09. The rate for ELL students ranged around 70% with a decline between 2008-09 and 2009-10 from 74.2% to 66.5%.







Completion rates by high school. The following series of graphs compares MMSD's four conventional high schools. Because students in alternative locations are attributed to their home high school, a breakout for alternative programs is not available in WINSS.

The overall legacy completion rate for:

- East is 77.6%; 3
- La Follette is 87.0%; ۲
- Memorial is 92.0%: and
- West is 93.8%.

The overall four-year cohort completion rate is lower than the legacy calculation for each of the high schools. The overall cohort completion rate for:

- East is 72.2%; Ø
- La Follette is 78.1%; Ð
- Memorial is 83.5%; and ø
- West is 85.2%. ø





Lecary

🖉 District Summary 🎆 State; Summary

Using the legacy calculation, the statewide combined completion rate is 90.5%. Using the cohort calculation, the statewide rate is 86.2%. Regardless of using which calculation is used, MMSD's four high schools generally have rates below the statewide rate. The only exception to this is West's legacy rate of 93.8% and Memorial's legacy rate of 92.0%.

Cohort completion rates by high school by subgroup. The following series of graphs shows cohort graduation and completion rates by high school by student subgroups - racial/ethnic, low income, ELL and special education. The cohort completion rate is a combination of regular diplomas, HSEDs and certificates if earned within four years.

Graphs for race/ethnicity are for regular diplomas only because the graphs generated by WINSS do not provide combined percentages if there are too few earners of HSEDs or certificates. This suppression causes the graphs to show zero Hispanic students completing high school from Memorial in 2009-10 for example, which is not true. So, for the purpose of illustration the racial/ethnic graphs below are based only on regular diplomas.

Some highlights:

- West has the highest black on-time completion rate (60.9%). East has the lowest (48.0%).
- West has the highest Hispanic on-time completion rate (71.2%). Memorial has the lowest (about 56.4%).
- Black and Hispanic on-time completion rates are generally below the statewide rate of 61.4% and 70.1%, respectively. The exception is for Hispanics at West at 71.2%.
- West has the highest ELL completion rate (64.6%). La Follette has the lowest (52.2%).
  None were above the statewide rate of 65.6%.
- La Follette has the highest low income completion rate (69.2%). Memorial has the lowest (58.0%). None were above the statewide rate of 72.6%.
- Memorial has the highest special education completion rate (60.2%). East has the lowest (47.1%). None were above the statewide rate of 65.7%.



























**On track for credit attainment.** While a useful assessment of student preparation and progress, WINSS does not offer data regarding how many students are on track for credit attainment required for graduation in four years.

Several years of data by student subgroup are below. Overall, it is encouraging to see increases in the number of students on track for graduation. The goal for 2010-11 is for 85.5% of students to be on track for graduation. Only white and Asian students met that goal, so improvements must still be made.

Some subgroups were below the mark, some as much as 30% to 40%. The percent of students on track has generally increased from 2007-08 through 2009-10, but several subgroups saw a decline from 2009-10 to 2010-11. Further study is needed to determine why this occurred and how it may correlate to completion rates.

	Goal Met 2010-11?	2007- 08	2008-09	2009-10	2010-11	Change	Goal	Above or Below Goal
All students	No	68.0%	78.3%	84.8%	75.0%	-9.8%	85.5%	-10.5%
White	Yes	84.9%	91.1%	89.1%	90.0%	0.9%	85.5%	4.5%
Black	No	37.1%	54.8%	69.4%	43.0%	-26.4%	85.5%	-42.5%
Hispanic	No	50.4%	70.6%	83.9%	61.0%	-22.9%	85.5%	-24.5%
Asian	Yes	79.6%	86.3%	81.0%	90.0%	9.0%	85.5%	4.5%
Native Amer.	No	44.4%	55.6%	81.0%	71.0%	-10.0%	85.5%	-14.5%
Low income	No	43.0%	59.6%	72.4%	55.0%	-17.4%	85.5%	-30.5%
ELL	No	47.0%	69.5%	81.2%	73.0%	-8.2%	85.5%	-12.5%
Special educ.	No	48.6%	59.9%	65.4%	55.0%	-10.4%	85.5%	-30.5%

**AYP and DIFI status.** The graduation rate goal for adequate yearly progress (AYP) under NCLB is 85%. Low graduation rates have not counted against MMSD in its identification as a District Identified for Improvement (DIFI) because graduation rate is paired with attendance rates for elementary and middle schools. Because of this the combination of into AYP's "other academic indicator", graduation rates have not been counted as a miss for the District.

**Next steps.** Release of six-year cohort graduation and completion rate calculations will provide a more complete picture of those students who complete high school. Naturally, attempts to get students on a four year track or focus on regular diplomas do not have to wait for new calculations to be released.

In addition, a review of MMSD records has yielded some important findings about the characteristics of dropouts. This knowledge may be applied to help reduce the District's dropout rate.

Dropouts are more likely to be male. If they are female, they are more likely to be the School Aged Parent Program (SAPAR). They are more likely to be special education. They are more likely to have more than six out-of-school suspensions. They are more likely to have low attendance. Program enhancements and new initiatives could be developed to specifically address the needs of students with these characteristics.

- **B.** Recommendations and/or alternative recommendation(s): Accept a report describing various models for the calculation of high school graduation and completion rates and a discussion of gaps among certain MMSD student subgroups.
- C. Link to supporting detail: Nearly all numbers in this report come from Wisconsin's Information Network for Successful Schools (WINSS) and can be found on the Department of Public Instruction's website at <u>www.dpi.state.wi.us/sig</u>.

### III. Implications

- A. Budget: N/A
- B. Strategic Plan: N/A
- C. Equity Plan: N/A
- D. Implications for other aspects of the organization: N/A

### **IV. Supporting Documentation**

A. Graduation and completion rate discussion guide

# N NSD E Graduation and Completion Rates

Discussion Guide February 20, 2012 ç....ç

### **MMSD High School Completion Rates**

- Two models can be used to determine graduation/completion rates:
  - In four years using the "cohort calculation"
  - Longer than four years using the "legacy calculation"
- Vocabulary terms matter:
  - "Graduation rate" refers to regular diplomas
  - "Completion rate" refers to diplomas plus equivalencies
- Regardless of which model is used, there are substantially lower graduation rates among MMSD's black, Hispanic, low income, ELL and special education students

High School Completion Rate - Combined All Timeframes by Race/Ethnicity Madison Metropolitan 2009-10 Compared to State										
					N	oncomplete	rs	(	Complete	rs
	Timeframe	Race	Total Fall Enrollment Grade 12	Total Expected to Complete High School**	Known to	% Reached Maximum Age	% Known to be Continuing	% Certificates	% HSEDs	% Regular Diplomas (Graduates)
		American Indian or Alaska Native	15	12	0.0%	0.0%	41.7%	0.0%	0.0%	58.3%
	4-Year	Asian or Pacific Islander	189	197	4.1%	1.0%	11.7%	0.0%	1.0%	82.2%
		Black Not Hispanic	379	439	(21,9%)	0.0%	26.4%	0.0%	3.4%	48.3%)
		Hispanic	191	208	19.7%	0.5%	20.2%	0.0%	2.9%	56.7%
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Summary		American Indian or Alaska Native	15	13	7.7%	0.0%	0.0%	0.0%	0.0%	92.3%
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		White Not Hispanic	1,133	1,128	5.6%	0.1%	0.0%	0.0%	1.9%	92.5%

## Cohort vs. Legacy Completion Rates



MMSD's overall completion rate is 84.7% with the legacy calculation Based on the four-year cohort calculation, it is 76.5%



Each racial/ethnic subgroup's completion rate goes down with the four-year cohort calculation Regardless of which calculation is used, the completion rate for white students is higher



Each SES subgroup's completion rate goes down with the four-year cohort calculation Regardless of which calculation is used, the completion rate is lower than their counterparts

🖩 4-Year 🗌 Legacy

Eng Prof

ELL/LEP

0%



Only the legacy completion rate for Memorial and West are above the statewide rate (90.5% vs. 92.0% and 93.8%, respectively)

## History of Legacy Completion Rates

## (There is no history of cohort completion rates yet)



Overall historic completion rates by the legacy calculation have been stable for the last six years



Persistent completion gaps exist between white on non-white subgroups Legacy completion rate among white students has generally increased Some variation among particularly black and Hispanic students over the last six years<sup>11</sup>



The legacy completion rate among SES subgroups are lower than their counterparts 12