



**DATE:** April 9, 2012

**TO:** Board of Education

**FROM:** Daniel A. Nerad, Superintendent

**RE:** High School Graduation and Completion Rates – follow up

**APPENDIX NNN-10-2**  
**April 30, 2012**

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## I. Introduction

- A. Title/topic:** Follow up to the information paper regarding the calculation of high school graduation and completion rates presented in February 2012
- B. Presenter/contact person:** Andrew Statz
- C. Background information:** In February 2012, an information paper was presented to the Board describing the difference between the new four-year cohort graduation rate required by NCLB and the so-called legacy rate calculated by DPI that includes student that take longer than four years to complete high school.

This memo provides answers to questions asked during that discussion and provides updated data regarding on track status for students by subgroup.

- D. BOE action requested:** Review and acceptance of this follow up

## II. Summary of Current Information

- A. SUMMARY:** This memo is follow up to a discussion of MMSD high school completion rates and on track status from February. Highlights of this follow up are:
- Preparedness matters. Results from the Kindergarten Screener are predictive of a student's likelihood of completing high school. Of students starting their school years unprepared, over 25% will drop out and nearly half will take longer than four years to complete high school.
  - Attendance matters. Over half of the students with a high school attendance rate less than 80% will drop out.
  - Credits matter. Students not earning the required number of credits in Grade 9 are less likely to complete high school. Students earning one credit or less face a dropout rate of 63%.
  - Tenure matters. The length of time a student is with MMSD or in one of its high schools has an impact on the likelihood he or she will earn a diploma or equivalency. Getting a student to attend longer than his or her first year is critical.
  - Behavior matters. Students with one or more suspensions per year complete high school only one third of the time.

Revised on track calculations still indicate a decline among Hispanic, black and ELL students. However, the decline is not as pronounced as it was once the numbers for 2009-10 presented in February were revisited.

The Board had also asked about the characteristics of certain students. Students enrolled less than four years with MMSD are more likely to be black, Hispanic, low income, and ELL. They are less likely to have earned 5.5 credits in Grade 9 and are less likely to have high attendance. Interestingly, they are less likely to be identified as special ed and are less likely to have been suspended. These may reflect the shorter duration of their enrollment with MMSD.

Black students known to be continuing beyond four years in high school are more likely to be low income, special ed, enroll in SAPAR, and have at least one out-of-school suspension. They are also less likely to have earned 5.5 credits in Grade 9.

### **ANALYSIS:**

**Graduation and completion rates.** By way of a quick refresher, the following terms are key to our discussion.

- “Graduation rate” refers to the percent of students earning a regular diploma.
- “Completion rate” refers to the percent of students earning a regular diploma plus equivalencies. Accordingly, it is more inclusive than the graduation rate.
- “Four year cohort model” refers to the new calculations provided by DPI in response to federal requirements. This calculation represents an “on-time” graduation or completion rate that looks only at students that complete high school in four years.
- “Legacy model” refers to the historic calculations provided by DPI. This calculation includes students that may take longer than four years to complete high school. Accordingly, the legacy model is more inclusive than the four-year cohort model. When a six-year cohort model is available in two years, the legacy calculation will be discontinued.

Regardless of which rate or model is used, there are substantially lower graduation rates among MMSD’s black, Hispanic, low income, ELL and special education students than their counterparts.

All graduation and completion numbers in this follow up are based on the file used by DPI to calculate the District’s four-year cohort completion rates or on-time completion rates.

Other important terms used in the attached graphs related to the cohort model in this document follow.

- “Diploma Reg/HSED” refers to students that earned a regular diploma or equivalency in four years or less.
- “Continuing refers” to students that have not graduated but are known to be continuing their education with MMSD. These students may take longer than four years to complete high school, may drop out in the future, or may yet move to another district.

- “No Diploma/HSED” refers to students that have not completed high school and are not known to be continuing their education. The District had not received information from another district that the student has registered or enrolled elsewhere. These students may be counted as dropouts.

Impact student characteristics and other factors. Results that yield a count of fewer than five students have been suppressed to ensure the privacy of students.

*Race/Ethnicity and SES status.* Attachments #1 and #2 are simply other representations of completion data previously shared with the Board. The first illustrates an 89% on-time completion rate among white students compared to 60% for Hispanic and 52% for black students. The second illustrates a completion rate of 58% among low income students, 54% among ELL students and 49% among special education students.

In addition to race/ethnicity, birthplace appears to have an impact on completion rates. About half of the MMSD students born in Mexico or South America complete high school compared to over 75% for students born in the US or Canada.

*Length of time at MMSD.* Attachment #3 shows the completion, continuation or dropout status of students by the number of years they have spent at an MMSD high school. About 60% of students that are in an MMSD high school for less than one year drop out. That number decreases to 3% for students that attend an MMSD high school for 3½ to four years. This is not surprising because by definition, these longer-term students have been attending a high school long enough to earn a diploma or equivalency.

By definition, students that are counted as being in high school longer than four years are counted as continuing students. So, the rate of continuing students in this category approaches 100% and are not shown in the graph.

This measure gets close to a mobility factor, but the number of years spent in a high school is independent of when the student arrived. For example, a student in an MMSD high school for less than one year could have arrived in Grade 9 and dropped out or have done so in Grade 12.

Attachment #4 shows the completion, continuation or dropout status of students by the number of years they have spent at any MMSD school. Students enrolled in any MMSD school for less than one year have a 62% chance of dropping out. Students that attend an MMSD school for more than eight years have only a 6% chance of dropping out. This may speak more to a family’s lack of mobility than the duration of their time with MMSD.

Regardless if looking at the length of time spent by a student in MMSD or in one of its high schools, the first year is critical. Getting a student to attend MMSD for at least one year cuts that student’s risk of dropping out by 50% to 75%.

Special attention also should be paid to students that have attended an MMSD school from one to five and from five to eight years. The dropout rate for these students is around 15% and 20% for continuing. Taken in combination, students in both of these groups have a one-in-three chance of either not completing high school or not completing within four years.

It is commonly cited that MMSD has a hard time graduating students that had not been with the District for long, but students that have been here for five to eight years can be considered “MMSD’s students”. These longer term MMSD students still face a one-in-three chance of not graduating or not graduating on time.

Again, this measure is not dependent on what grade a student first enrolled in when arriving to MMSD.

For both of these measures, the number of students that attend MMSD schools or MMSD high schools is relatively small. While the numbers are small, the risk is high for either not completing high school on time or not completing at all.

*Kindergarten Screener.* Attachment #5 shows the distribution of Kindergarten Screener results for about half of the students included in the four-year cohort. Score ranges before 2003 were:

- 0-3 = Age appropriate skills
- 4-5 = Borderline
- 6-8 = Eligible for supportive programming (at the time these students took the screener, this was individual based Title I)
- 9-18 = Severe

The scores refer to the number of items in the review category for the student. This differs from the current score ranges of:

- 0-2 = Age appropriate skills
- 3 = Borderline
- 4-5 = Eligible for supportive programming
- 6-14 = Severe

About 92% of in-coming Kindergarten students found to have age appropriate skills completed high school. This drops to 29% for students at the severe level. Of students in the severe category, 45% were known to be continuing and 26% had dropped out. In short, early childhood preparation matters greatly when it comes to high school completion.

*Grade 9 Credits.* Attachment #6 illustrates the distribution of students by their Grade 9 earned credits. Students earning zero to one credit will complete high school only 11% of the time. About 63% of these students drop out. In contrast, students with 5.5 credits or more will drop out only 3% of the time and complete high school in four years 88% of the time.

Please note that the graph represents the distribution of students relative to 5.5 credits earned at the end of Grade 9. The requirement for La Follette students is 6.5 credits. In this graph, 5.5 credits is used because of the difficulty in determining where the student may have earned the credits and the last school they attended. Use of 5.5 credits is a somewhat coarse but effective measure.

*Attendance.* Attachment #7 illustrates the impact of attendance on completion rates. About 21% of students with a high school attendance rate of less than 80% completed high school on time. About 28% were known to be continuing. About 52% had dropped out.

In contrast, students with attendance rates over 94% completed high school on time 92% of the time. Only 2% dropped out.

*Behavior.* Attachment #8 compares the completion rates of students based on the number of suspensions over a five year period. Students identified as “low” had one suspension or fewer per year; students identified as “high” averaged one or more.

Students without any suspensions completed high school on time 87% of the time. Students averaging one or more per year completed on time only 37% of the time. Of these students about one-third were known to be continuing; about one-third dropped out.

Incarceration or participation in Metro. During the discussion in February, a specific question was asked about the impact of incarcerated students on the District's graduation rate.

In the DPI cohort calculation, 82 out of 1,954 students had some enrollment in a Metro Middle or High School program. These include students enrolled while on Huber work release, in the Dane County Jail or Juvenile Reception Center, or at the Dane County Shelter Home. This represents 4.2% of the total cohort. Of the 82, 39 did not complete and had left. This accounts for 47.6% of Metro students.

Of the 82, 24 were still enrolled (29.3% of Metro students), 19 received either an HSED or regular diploma (23.2% of Metro students). In the cohort of 1,954 students, 198 students did not complete high school on time and were not continuing. Metro students comprised 39 of these 198 students, or about 20%. So, about one out of five of MMSD's dropouts participated in Metro programming at some point during their enrollment with MMSD.

Because under the DPI cohort model the completion or dropping out of a student is attributed to the last district to have a student, a question was asked about the impact of students that attended a district other than MMSD, enrolled in Metro and subsequently dropped out.

There were only six Metro students who were enrolled in MMSD for less than one year, so the number of students falling into this category is likely small. If these six students were excluded from the counts, the effect on MMSD's overall graduation rate would be minimal. Excluding these six Metro students from the cohort calculation, the District's overall graduation rate would go from 76.5% to 76.7%.

Characteristics of students attending MMSD less than four years. During the discussion in February, a specific question was asked about the characteristics of students that attend fewer than four years with MMSD.

Of the cohort of 1,954 students, 280 attended MMSD for less than four years. Characteristics of these 280 students compared to students attending more than four years in MMSD follows.

	<b>Fewer than four years at MMSD</b>	<b>More than four years at MMSD</b>
Completed high school on time	53%	80%
Continuing	19%	13%
No diploma, maximum age	29%	7%
White	33%	60%
Black	38%	20%
Hispanic	17%	10%
Asian	11%	10%
Low income	61%	34%
ELL	22%	8%
Special education	13%	20%
Average high school attendance	85%	92%
At least one out-of-school suspension	35%	40%
Average credits earned in Grade 9	4.9	6.3

Students attending MMSD for fewer than four years are more likely to not complete high school on time. They are three times more likely to drop out.

They are about half less likely to be white and almost twice more likely to be black. They approach being twice more likely to be low income and three times more likely to be an English Language Learner.

They are more likely to be under the generally required 5.5 credits to be earned by the end of Grade 9. Their high school attendance rate is lower.

Interestingly, they are less likely to be identified as special education. This may be due to the short period of time they are with MMSD, which reduces the time available to identify them as a special education student through their performance or behavior while enrolled in MMSD.

Also, they are less likely to have at least one out-of-school suspension. This may also be due to the relatively short period of time they are with MMSD.

Of the 280 students, 16 (or 5.7%) spent some time enrolled in Metro School.

Very few of these short-term students had test scores. For those that did have it, the average Kindergarten Screener score was six items in the review category making them eligible for supportive services. This contrasts with students attending MMSD for four years or more with an average score of 3, which identified them as having age appropriate skills when entering Kindergarten.

Characteristics of black students known to be continuing. During the discussion in February, a specific question was asked about the characteristics of black students that were identified as continuing with their education beyond four years.

In the four-year cohort of 1,954 students, 439 are black. Of this subgroup, 116 were identified as continuing (or 26.4% of all black students) and 227 were identified as completing high school (or 51.7% of all black students). A comparison of the characteristics of continuing black students to black high school completers follows.

	<b>Continuing n = 116</b>	<b>Completers n = 227</b>
Low income	89%	74%
Special education	62%	24%
Average credits earned in Grade 9	4.6	5.9
High school attendance	82%	91%
At least one out-of-school suspension	80%	63%
Enrollment in SAPAR	9%	2%

Compared to black students that complete high school in four years, black continuing students are more likely to be low income, special education, suspended at least once during their time with MMSD, and enroll in SAPAR. They have lower high school attendance rates. They are also less likely to have earned the generally required minimum of 5.5 credits at the end of Grade 9.

For the most common disabilities among black continuing students were:

- 30% with Learning Disability
- 12% with Emotional Behavior Disability
- 10% with Cognitively Disability
- 7% with Other Health Impairment

Black continuing students were more likely to have been identified by the Kindergarten Screener as eligible for supportive programming or as severe. About half of black continuing students had a Kindergarten Screener score. Of those with scores, 60% had six or more items in the review category making them eligible for supportive programming, and 40% had nine or more putting them in the severe category. A little less than half of black completers had a Kindergarten Screener score. Of those with scores, 55% were age appropriate, 25% eligible for supportive programming and 11% were severe.

Black continuing students were more likely to be identified as Minimal in reading proficiency on the WKCE. Of the 116 continuing black students, 62% had a WKCE Grade 10 Reading score. Of those with a score, 53% were Minimal. Of black completers, 78% had a Grade 10 WKCE Reading Score. Of those, 18% were Minimal.

#### Next steps.

*Upcoming meetings with DPI.* Research & Evaluation staff will be meeting in April with representatives of DPI to discuss the four-year cohort calculation. As the Board requested, part of this discussion will be about the fair and accurate representation of MMSD's graduation and completion rates. Another reason for the meeting is to seek clarification of various issues such as the coding of certain students and questions about students that return to MMSD to complete high school between the ages of 18 and 22.

*Graduation/completion rates for 2010-11.* DPI will be updating WINNS with graduation and completion rates for the 2010-11 school year sometime at the end of April or sometime in May. An update will be provided to the Board when these official numbers are available.

**On track for credit attainment.** The data presented to the Board in February indicated a large increase in the percent of several Grade 9 student subgroups that were on track for credit attainment in 2009-10 with a large decline in 2010-11.

Since February, staff has revisited the methodology for calculating on track status, checked underlying data, and re-run the query to pull the data to provide a more accurate accounting of on track status. Revised numbers are below.

**Percentage of students on track for credit attainment required for graduation in four years - Grade 9/Year 1**

	<b>Goal Met 2010-11?</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>	<b>2009-10</b>	<b>2010-11</b>	<b>Annual Change</b>	<b>Goal</b>	<b>Above/ Below Goal</b>
All Students	No	71.2%	73.8%	76.7%	80.0%	79.9%	-0.1%	85.5%	-5.6%
White	Yes	87.4%	87.0%	90.6%	89.1%	92.8%	3.8%	85.5%	7.3%
Black	No	37.7%	46.6%	54.5%	56.9%	51.0%	-5.8%	85.5%	-34.5%
Hispanic	No	50.7%	55.9%	65.0%	75.7%	66.4%	-9.3%	85.5%	-19.1%
Asian	Yes	81.1%	83.2%	85.2%	86.7%	93.2%	6.6%	85.5%	7.7%
Native Amer.	No	33.3%	57.1%	61.1%	70.0%	75.0%	5.0%	85.5%	-10.5%
Multi-racial	N/A					79.1%	N/A	85.5%	-6.4%
Low Income	No	45.4%	50.4%	56.3%	61.6%	61.6%	0.0%	85.5%	-23.9%
ELL	No	54.6%	53.5%	67.0%	74.0%	67.0%	-7.0%	85.5%	-18.5%
Special Educ.	No	47.0%	51.2%	54.9%	57.5%	58.1%	0.6%	85.5%	-27.4%

Attachment #9 shows this on track data in a five-year history by student subgroup. It includes a goal line adopted by the District as part of its Key Performance Indicators.

The 2010-11 goal for all student subgroups was 85.5%. Only white and Asian students met that goal.

Reductions from 2009-10 to 2010-11 still exist and can be seen in Attachment #9, but these one-year decreases are less pronounced once 2009-10 calculations were reviewed and updated since the version shared with the Board in February.



Methodology. Credit counts are pulled from the transcript ad hoc report in Infinite Campus based on the end-of-year student profile file. Regardless of how many days a student had been at that school or in the District, credits earned by Grade 9 students during that school year are totaled and attributed to that location. Results are compared to the minimum requirement of 6.5 credits for La Follette and 5.5 credits for other high schools. Results are pulled after summer school to capture those credits and attribute them to the school year in which they were earned. All credits are counted – they are not limited to core or required courses.

Possible reasons for inaccurate numbers in February. There are several possible reasons for differences in the data presented to the Board in February versus the data presented here. It is not possible to pinpoint the exact cause for the discrepancies, but it is very likely a combination of the following factors.

*Introduction of multi-racial.* Beginning in 2010-011, the District was required to report on seven official race/ethnic categories recognized by DPI. This transition has not been easy because it is a new requirement and does not mesh with requirements of the US Department of Education. Under federal requirements, the District reports on five race/ethnic categories. DPI currently uses seven, which includes a multi-racial category.

The following is a crosswalk used to bridge from one reporting environment to another.

<b>DPI race/ethnic categories</b>	<b>NCLB race/ethnic categories</b>
Hispanic	Hispanic
American Indian or Alaska Native	American Indian or Alaska Native
Asian	Asian or Pacific Islander
Black	Black
Pacific Islander	Asian or Pacific Islander
White	White
Two or More Races	Largest non-white category based on individual level “race key”

In either case, any student identifying himself or herself as Hispanic is counted as Hispanic regardless of any races cited by the student. For example, a student who is Hispanic and black is counted as Hispanic and a student who is Hispanic and white is counted as Hispanic.

When translating the race/ethnicity status of multi-racial racial students from DPI codes to NCLB codes, any non-Hispanic student identifying himself or herself as being multi-racial are identified as the most common non-white race cited by that student. For example, a student who identifies himself or herself as white and black is counted as black. A student who is white and Asian is counted as Asian. A student who is white, black and Asian is counted as black.

On track calculations in past years used the student's race/ethnicity on file, but 2010-11 introduced the use of multi-racial as an officially recognized race category. There had been some confusion about what to do with multi-racial students' on track results, and they had been left out of the data shared with the Board in February. The exclusion of multi-racial students drives some of the differences in the on track data, but it does not count for more than about five percentage points.

*Timing of the data pull.* The time of year the data is pulled can have an impact because of how and when credits are captured. Inflated results for 2009-10 were possibly the result of running the query at a different time than usual. Several complicating factors that would increase or decrease the on track percentage are possible.

It is possible that the profile file was not yet finalized. Transcripts could have been reloaded or edited. For example, an F may be changed based on fulfillment of required coursework after the last day of the school year. Credits from Madison Virtual Campus may be counted late. Another possibility is that other districts submit credit counts late, which this would be a small contributing factor.

*120-day filter.* Occasionally, staff runs on track calculations using a filter of 120 days. This filter indicates that a student has been with MMSD for a majority of the school year. It is intended to identify students with a significant dosage of MMSD services.

The 120-day filter was not applied to the numbers cited above, but it may have been included in previous years' data which would have led to inconsistencies. It is, however, not possible to recreate the impact of this.

*Ad hoc query language.* The query to pull the data may have changed from one year to the next. It is hard to determine how queries were run in previous years because the ad hoc tool does not store or repeat the code used.

SQL code would be better than the transcript ad hoc tool in Infinite Campus because it is more durable. A data dashboard report would be better still because the code is saved and may be redeployed verbatim at any time in the future.

Next steps. Staff has been trained in the report writing functions of the Data Dashboard. On track calculations will be adapted to this environment. Advantages of this approach are the durability of the query language that can be reused in the future without modification and the ability to have the query run at a set time each year.

On track calculations for the 2011-12 school year will be run after the end of the 2012 summer school session.

- B. Recommendations and/or alternative recommendation(s):** Accept a follow up report on high school graduation and completion rates and updated numbers relating to on track status by student subgroup
- C. Link to supporting detail:** Materials related to graduation rates and on track status presented to the Board in February are available at [https://boeweb.madison.k12.wi.us/files/boe/Appx%208-18\\_3.pdf](https://boeweb.madison.k12.wi.us/files/boe/Appx%208-18_3.pdf). Graduation and completion rates can be found on the Wisconsin Information Network for Successful Schools (WINSS) on the Department of Public Instruction's website at [www.dpi.state.wi.us/sig](http://www.dpi.state.wi.us/sig).

### III. Implications

- A. Budget:** N/A
- B. Strategic Plan:** N/A

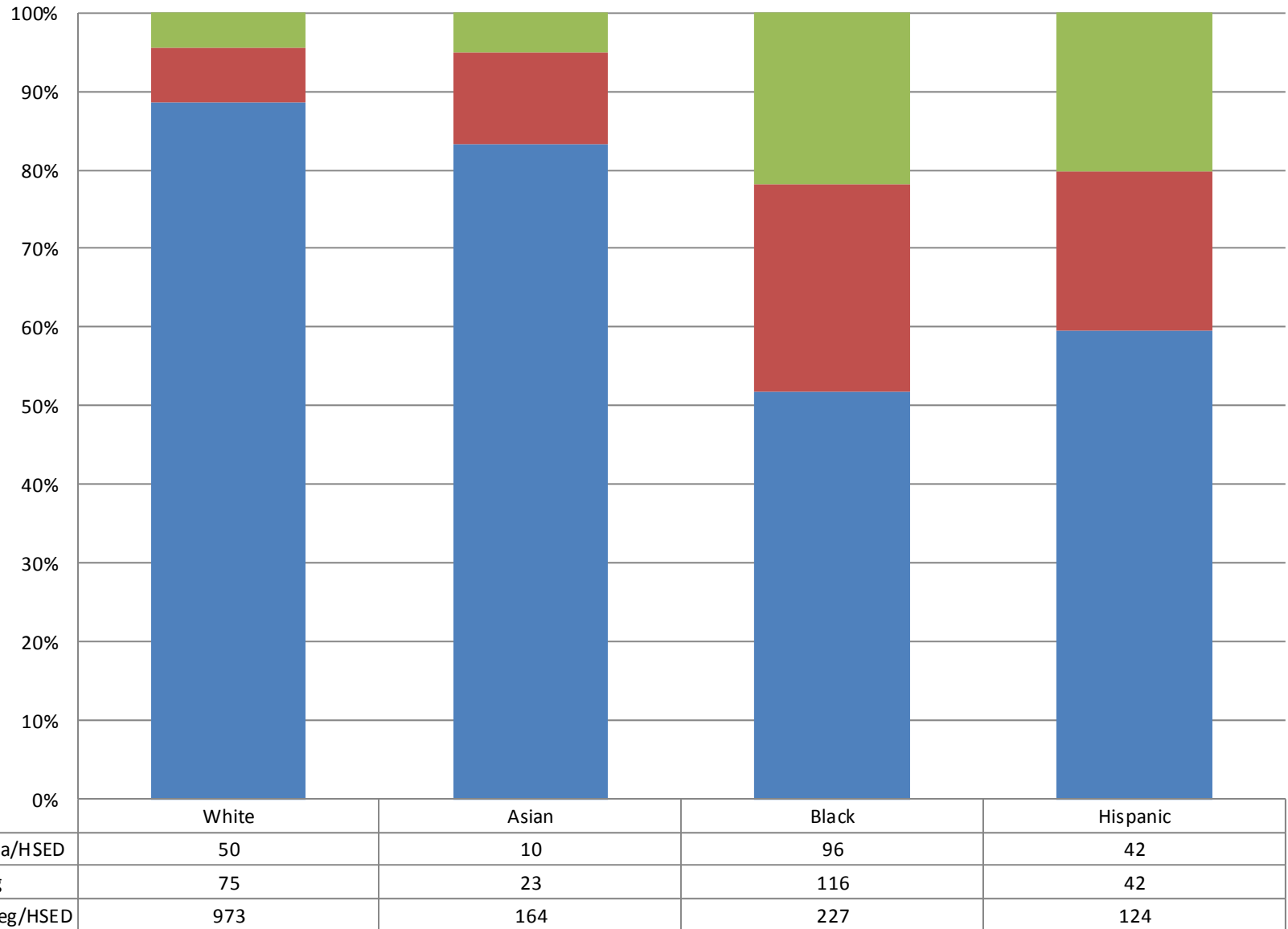
**C. Equity Plan:** N/A

**D. Implications for other aspects of the organization:** N/A

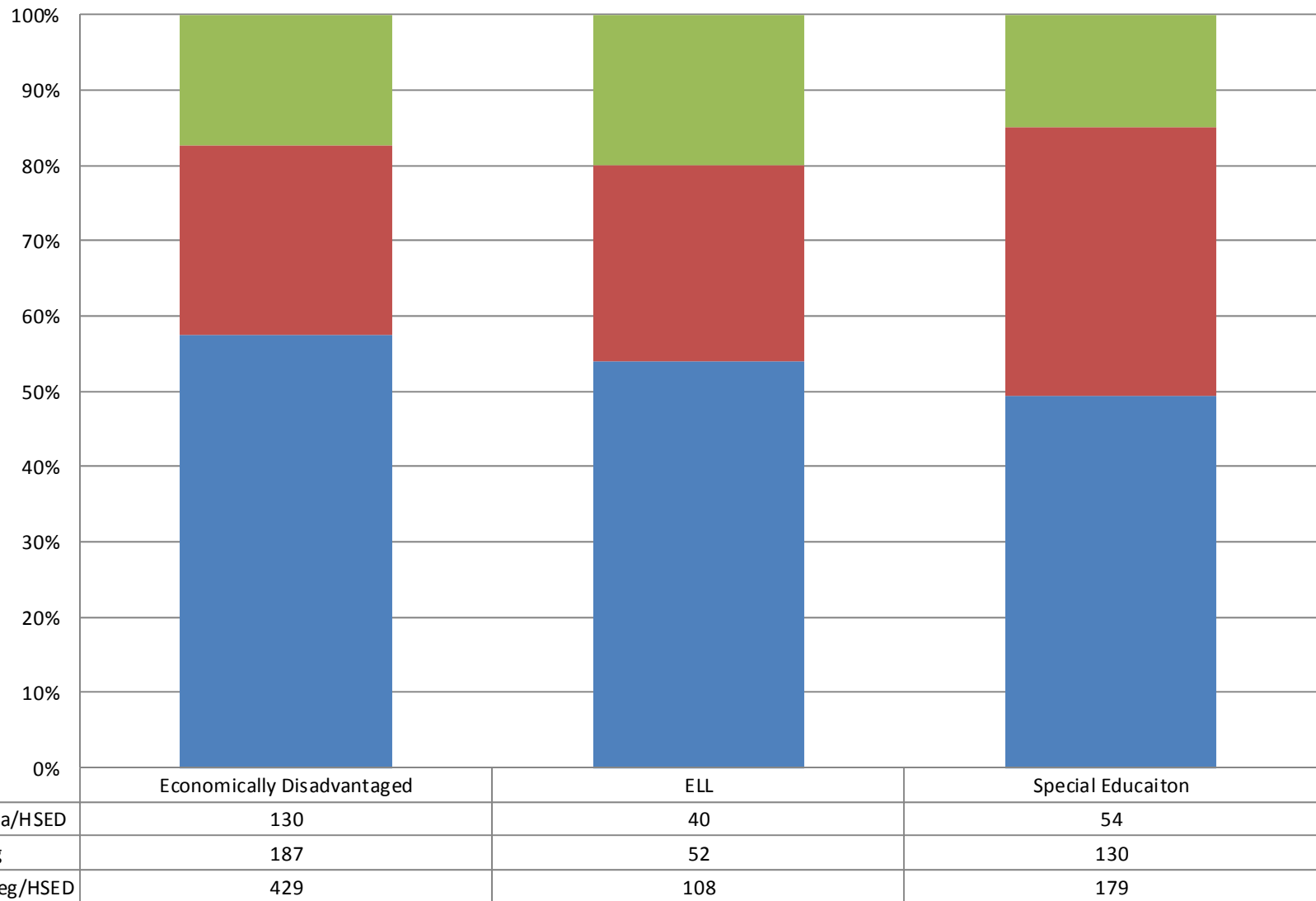
**IV. Supporting Documentation**

- A.** Attachment #1 – Completion Cohort by Ethnic and Outcome
- B.** Attachment #2 – Completion Cohort by Other Demographics and Outcome
- C.** Attachment #3 – Completion Cohort by Total Time in High School in MMSD
- D.** Attachment #4 – Completion Cohort by Total Time in MMSD
- E.** Attachment #5 – Completion Cohort by Kindergarten Screener Score
- F.** Attachment #6 – Completion Cohort by Grade 9 Credits Earned
- G.** Attachment #7 – Completion Cohort by High School Attendance Rate
- H.** Attachment #8 – Completion Cohort by Behavior
- I.** Attachment #9 – Percent of Students On Track for Credit Attainment, 2006-07 through 2010-11

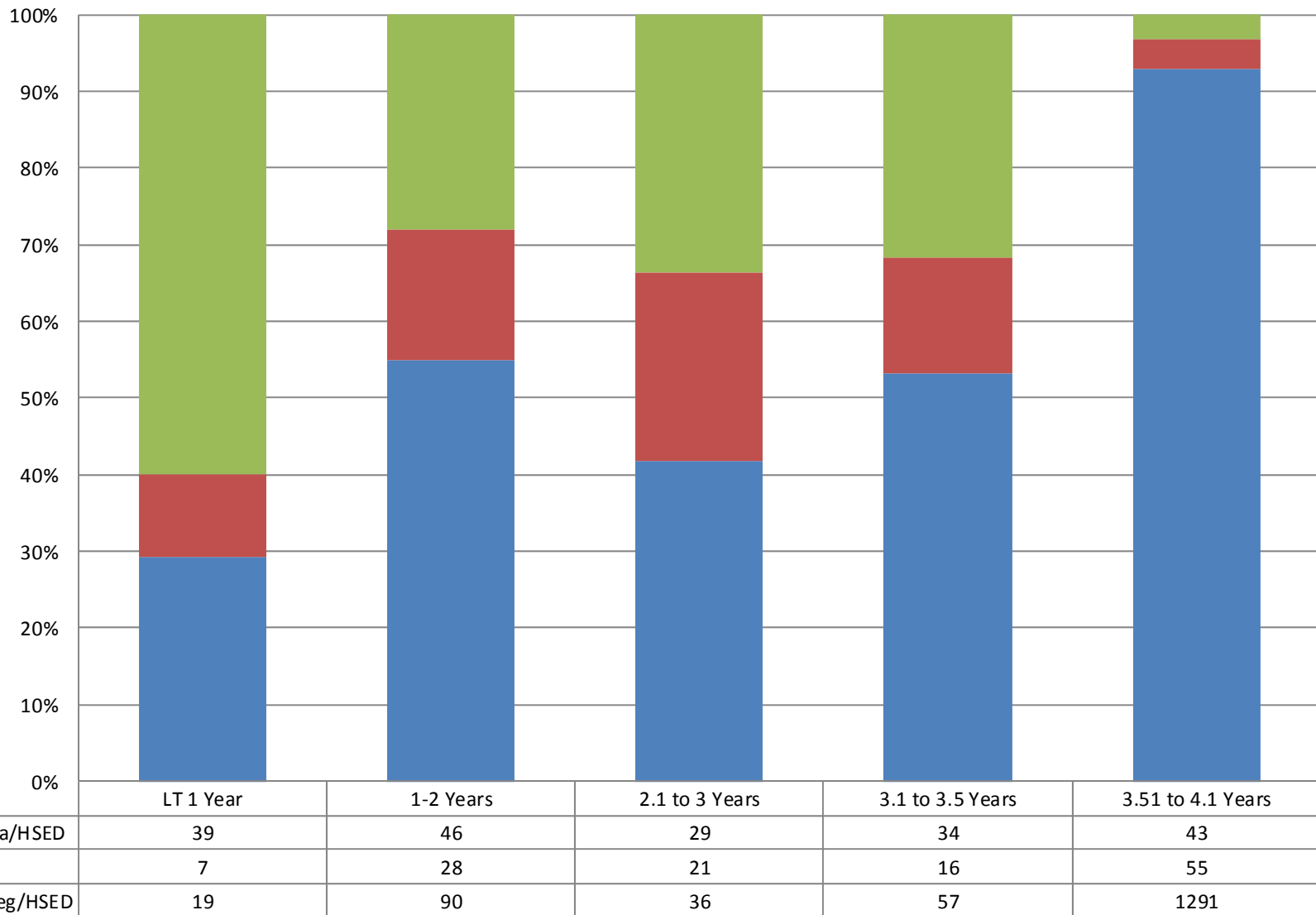
### MMSD 2009-10 DPI Completion Cohort (n=1954) by Ethnic and Outcome



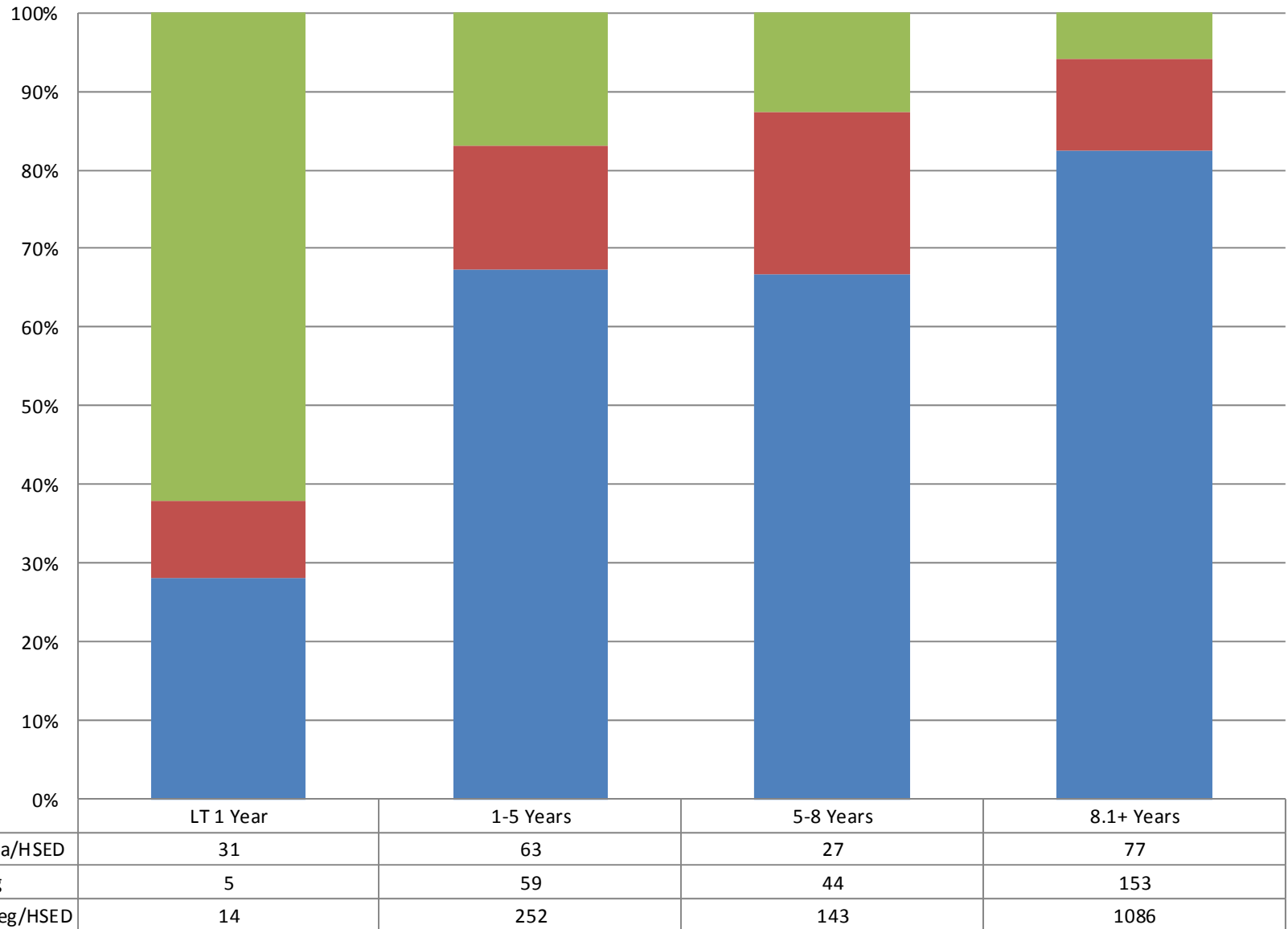
## MMSD 2009-10 DPI Completion Cohort (n=1954) by Other Demographics and Outcome



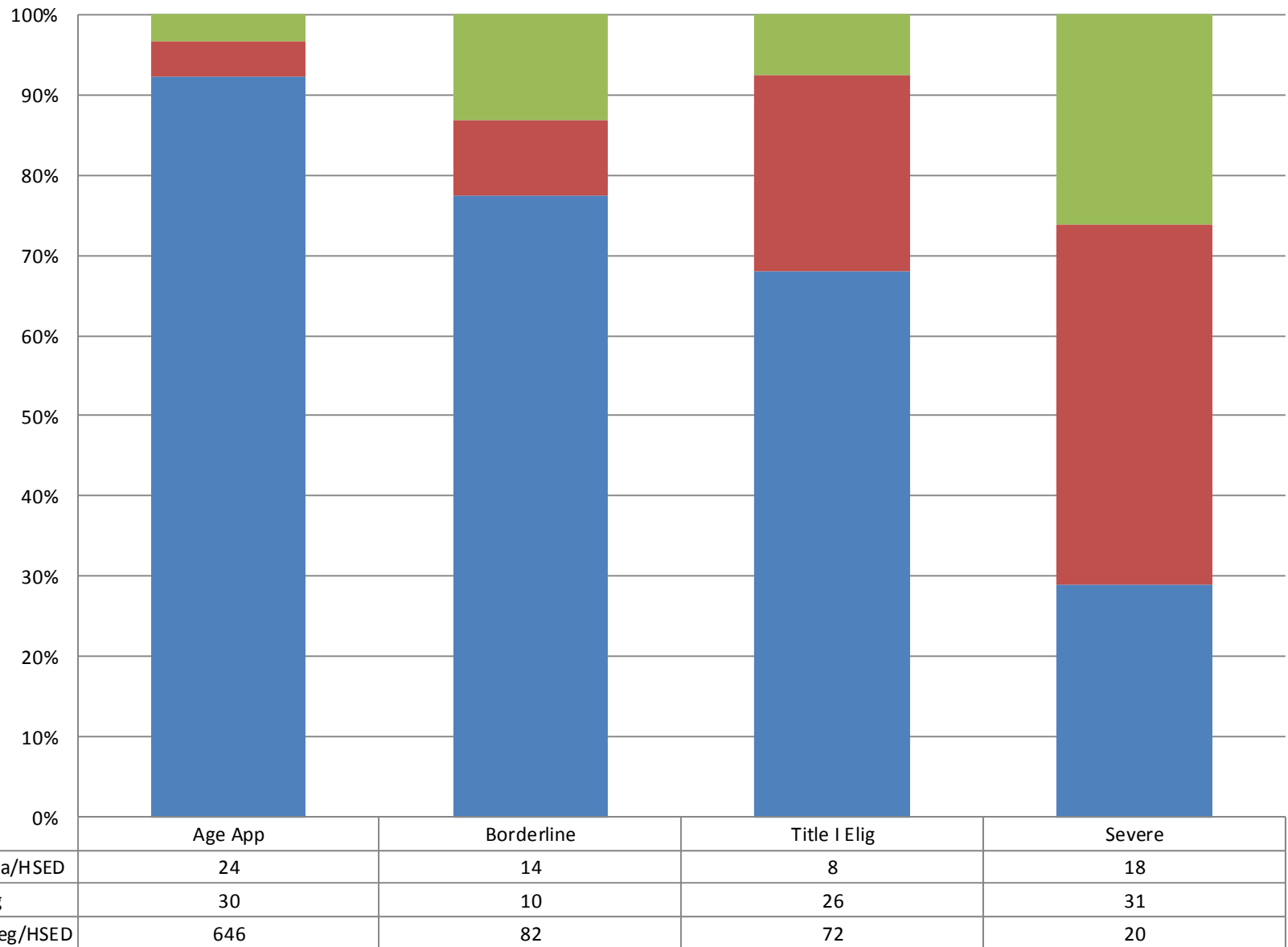
### MMSD 2009-10 DPI Completion Cohort (n=1954) by Total Time in High School in MMSD



### MMSD 2009-10 DPI Completion Cohort (n=1954) by Total Time in MMSD

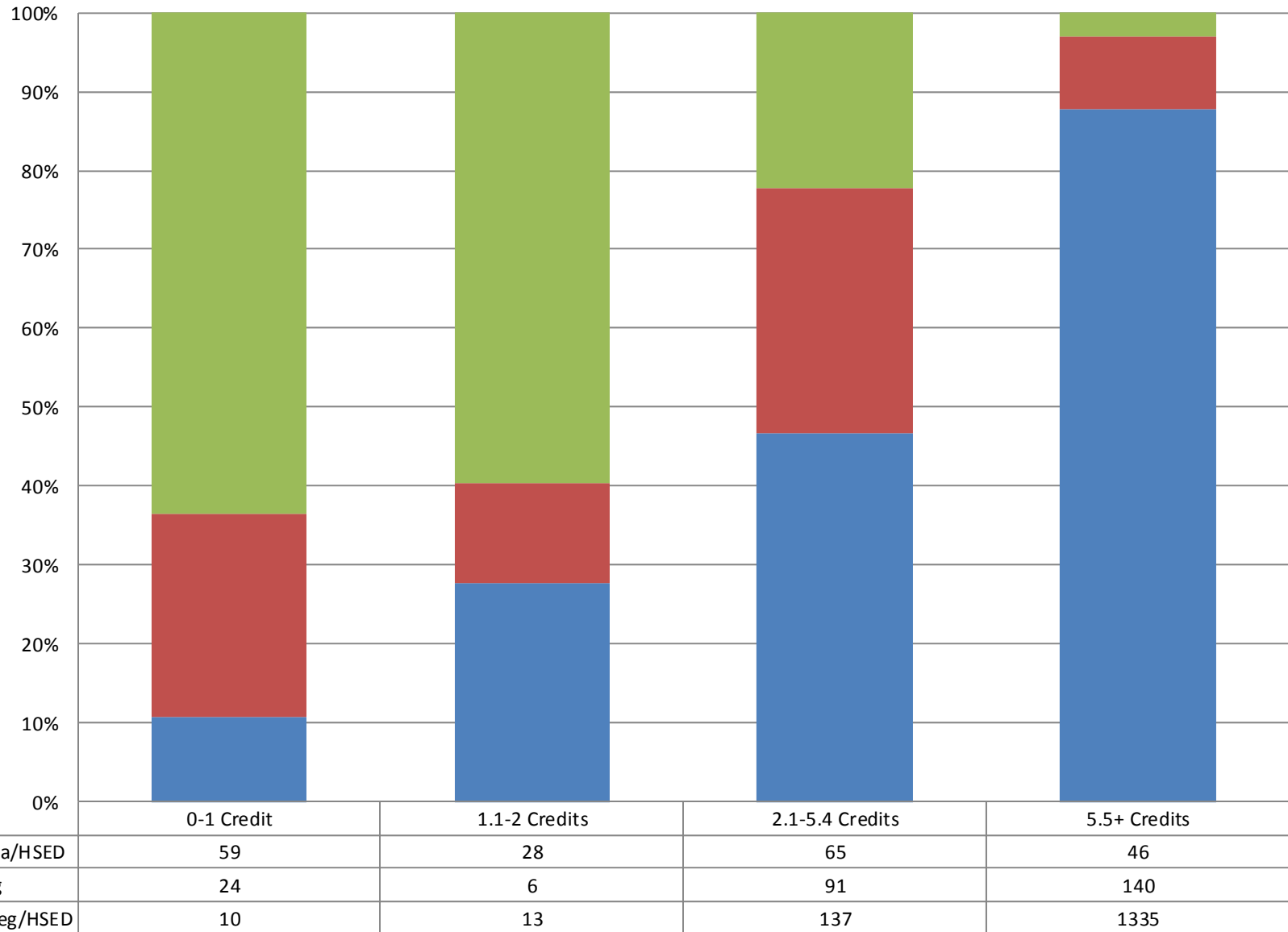


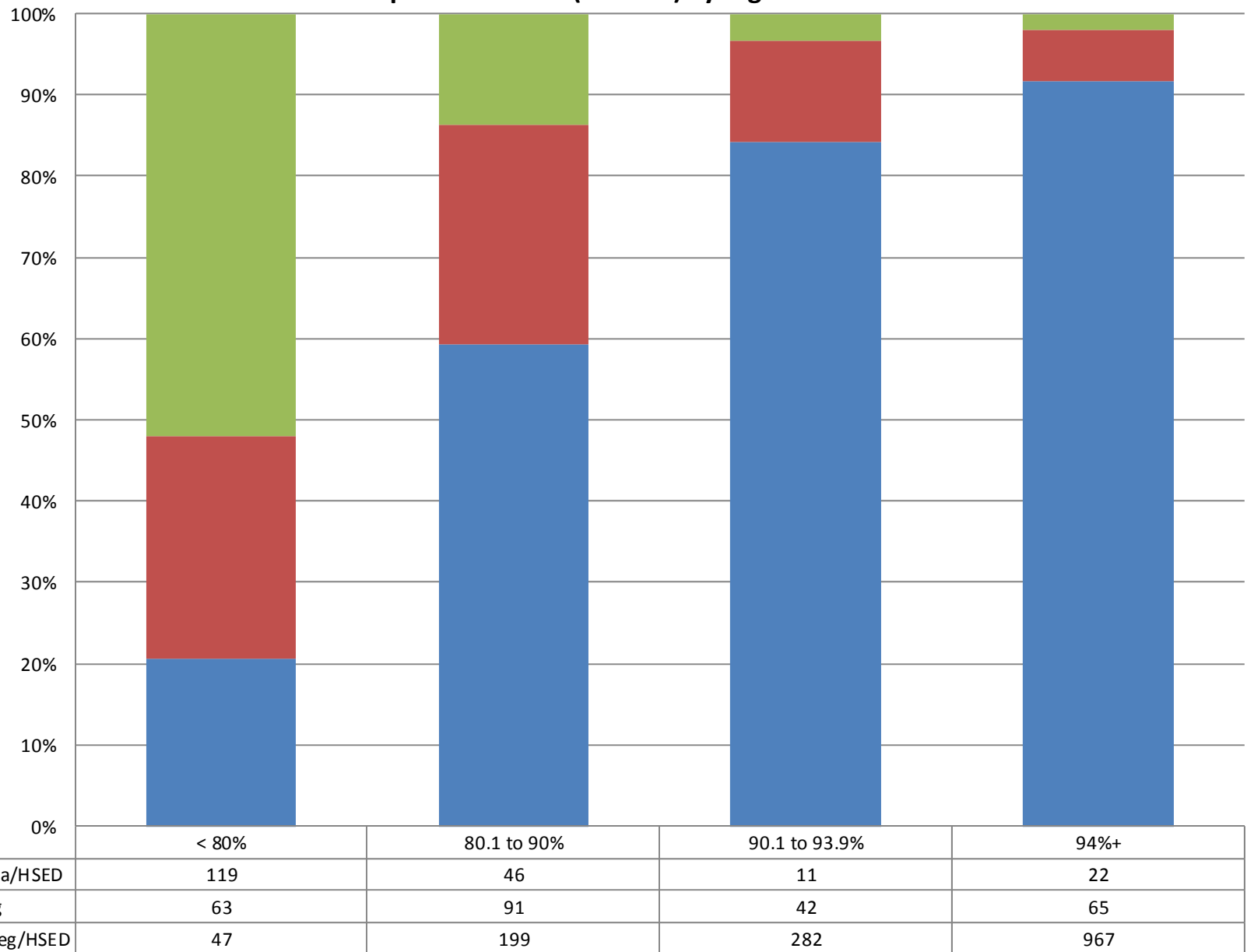
**MMSD 2009-10 DPI Completion Cohort (n=1954) by Kindergarten Screener Score  
(50% of this cohort had a screener score)**





### MMSD 2009-10 DPI Completion Cohort (n=1954) by Grade 9 Credits Earned

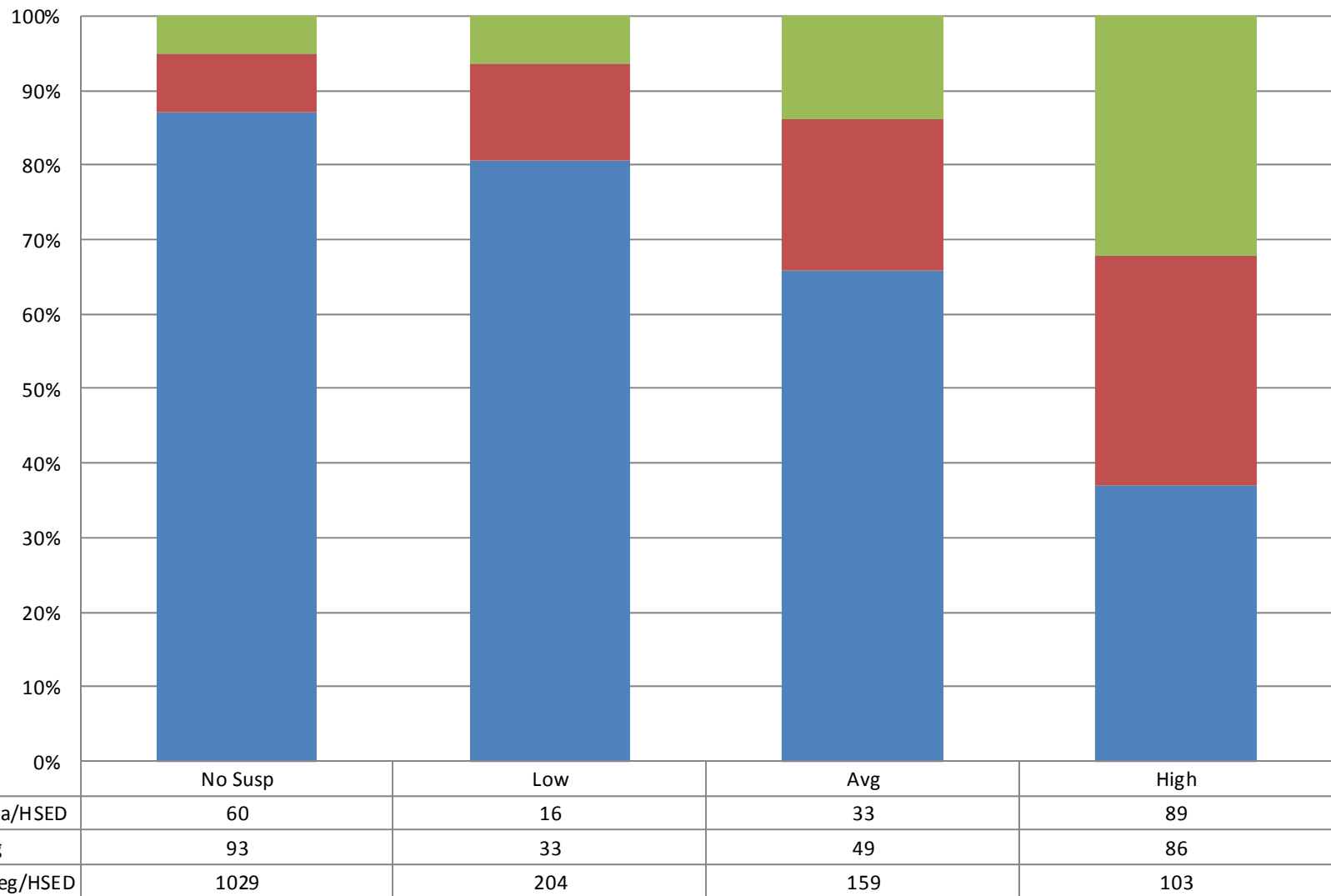


**MMSD 2009-10 DPI Completion Cohort (n=1954) by High School Attendance Rate**

### MMSD 2009-10 DPI Completion Cohort (n=1954) by Behavior (Suspensions Per Year)

Low = 1 suspension per 5 years of enrollment or less

High = 1 suspension per year of enrollment or more



### Percent of Students On Track for Credit Attainment for Graduation in Four Years, Grade 9/Year 1, 2006-07 through 2010-11

