
An Introduction to the 4-Year Adjusted Cohort Graduation Rate Calculation in New Jersey

Background

In 2005, the National Governors Association (NGA) introduced the 4-year adjusted cohort graduation rate calculation in an effort to move all states towards using a common calculation. The Adjusted Cohort formula has been deemed more accurate than other calculations in its ability to track student movement over time. In 2008, the federal government adopted NGA's formula and mandated that states calculate cohort rates beginning with 2011 graduates.

The State of New Jersey introduced a new graduation rate calculation in 2011 to determine rates for schools and districts. Through NJ SMART, the State's longitudinal student data warehouse, the 4-year adjusted cohort graduation rate calculation is used to derive the graduation rates of students across the state. This newly calculated graduation rate will be published in NJ School Report Cards and No Child Left Behind (NCLB) State Reports, and will figure into Adequate Yearly Progress (AYP) status.

Previously, New Jersey has calculated graduation rates from aggregate data supplied by districts during annual NJ SMART fall collections. Since Cohort 2011, NJ SMART has calculated school, district, and state graduation rates using the adjusted cohort calculation, based on student-level data provided by districts over the past four years.

The adjusted cohort formula essentially divides the number of 4-year graduates (i.e., those students receiving a diploma) by the number of first-time ninth graders who entered the cohort four years earlier. In equation form, the rate calculates:

$$\frac{\text{4-Year Cohort Graduates in Year X}}{[\text{First-Time 9}^{\text{th}} \text{ Graders in Year X-4}] + [\text{Transfers In}] - [\text{Verified Transfers Out}] - [\text{Excluded From Cohort}]}$$

The adoption of a common national standard in calculating graduation rates will ensure that student movement in and out of districts is tracked over time and that all students are accounted for more accurately and consistently than in the past. NJ SMART's District Reports feature, which grants school districts the ability to view their graduation data from multiple points of analysis, empowers districts to track the status of students and their cohorts throughout their high school tenure. Using this tool, districts can identify emerging trends and effective interventions based on the student-level data that they submit through required and optional NJ SMART data submissions.

Since NJ SMART has tracked student data over time since 2006, it already captures the information necessary to calculate graduation rates with the newly adopted Adjusted Cohort formula.

NJ SMART

New Jersey Standards Measurement and Resource for Teaching (NJ SMART) was developed by the New Jersey Department of Education (NJDOE) for three primary reasons.

First, New Jersey's public education system must become more data-driven and evidence-based. NJ SMART supports districts in better understanding progress toward instructional goals and assessing the effectiveness and efficiency of educational programs more easily and objectively. To ensure this capacity for districts, education data must be collected, managed, and reported in a fashion that is more useful, accurate, consistent, and timely.

Second, regulations and funding requirements, such as those tied to the federal *No Child Left Behind Act* (NCLB) and the American Recovery and Reinvestment Act (ARRA), compel Local Education Agencies (LEAs) and State Education Agencies (SEAs) to collect greater quantities of data to fulfill mandatory reporting requirements. NJ SMART will ease the overall reporting burden on LEAs over time by collecting and maintaining information in a more efficient, powerful, and flexible way. Several redundant data collections have already been eliminated, and several more are planned over the next two school years.

Third, the NJDOE is committed to becoming more service-oriented to LEAs and the public. By providing better, timelier information to LEAs and other stakeholders, and through its strategy to streamline statewide data collections, the NJ DOE hopes to increase administrative efficiency while better connecting educators and district leaders to critical information through the use of technology.

Currently, NJ SMART tracks information for more than 1.4 million students in the New Jersey K-12 public education system. In 2011, districts began submitting their staff and faculty data to NJ SMART, which will provide the basis for establishing a teacher-student link that will inform strategies to improve student achievement and strengthen teacher preparation. In addition to streamlining reporting efficiencies and allowing for complex analyses through use of its longitudinal data collections, NJ SMART has become increasingly effective in promoting data quality in district submissions. In a recent SID Management submission, NJ SMART collected data for 1,419,506 students. Of those student records, only 106 records were submitted in error, resulting in an error rate for that submission of <0.01%.

4-Year Graduation Cohorts

With this new graduation calculation in place, each incoming 9th Grader in New Jersey is assigned to a graduation cohort based on the expectation that each will graduate in 4-years. For example, if a student entered ninth grade in 2012, then she/he would be assigned to the 2016 Cohort. Once a student is assigned a cohort year, they remain in that same cohort regardless of when they actually graduate. In other words, cohorts are assigned once and are not changed if a student becomes “off-track.”

While students are actively enrolled in high school, their status is tracked to determine whether they are on-track or off-track to achieving graduation in four years. Students’ grade levels determine their progress towards graduation. For example, if a student in Cohort 2016 is in eleventh grade during the Fall of 2014, they would be considered “on-track”. However, if a student from the 2016 cohort is enrolled in tenth grade during the Fall of 2014, then they would be considered “off-track” since she/he would be at risk of not graduating within four years.

When a student exits or enters a district, it may affect the district’s cohort size, resulting in an *adjusted cohort*. For example, if a Cohort 2016 student transfers from District A to District B, then District B’s cohort count is increased by one student and District A’s cohort count is decreased by one student. However, if that student dropped out of District A before being successfully transferring to another district, then District A would be responsible for that student and their cohort count would not be adjusted. Rules determining “district ownership” of individual students have not changed and are clearly documented in NJ DOE regulations.

Cohort Statuses

There are eight possible cohort statuses for any given high school student within NJ SMART. Four of these possible statuses refer to inactive students (i.e., students that have exited the school district and have not transferred to another New Jersey public school district) and four statuses refer to active students (i.e., students who are currently enrolled in a New Jersey school).

The Cohort status for individual students is updated through two different mandatory submissions in NJ SMART: *SID Management*, which provides basic student information such as school enrollment and demographic data, and *State Submission*, which provides supplemental information for those same students, including grade level and socioeconomic indicators. At the beginning and end of each school year, LEAs submit this data to NJ SMART. The quality of the data submitted in these collections impacts the accuracy of students’ cohort statuses. Table 1 lists the possible cohort statuses for both active and inactive students in a given cohort year.

Table 1: Cohort Statuses in NJ SMART

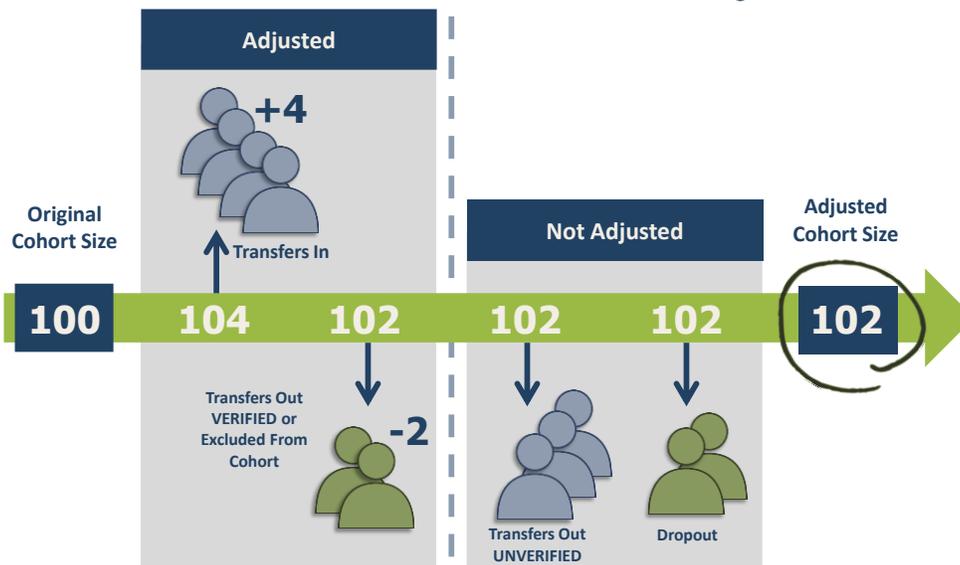
<u>Cohort Status</u>	<u>Submission for Updates</u>	<u>Enrollment Status</u>	<u>Description</u>
Graduated	SID Management	Inactive	Students that have been exited with a School Exit Withdrawal Code of 'L' (Graduated). <i>In addition, students that have been exited and then re-submitted with a grade level of 'PG' or Post-Graduate, are counted as graduates).</i>
On-Track Continuing	State Submission	Active	Submitted Grade Level suggests that a student is on-track to graduate by their assigned cohort year.
Off-Track Continuing	State Submission	Active	Submitted Grade Level suggests that a student is still attending school, but is at least one year behind their assigned cohort year.
Active Student - Status Unknown	State Submission	Active	Students have been assigned a cohort year but were not submitted in the most recent State Submission; therefore, it could not be determined whether the student is on- or off-track.
Transfer In	SID Management	Active	Students that were exited with a valid School Exit Withdrawal Code and have been successfully uploaded by another NJ SMART submitting district. These students will not yet have an 'On-Track Continuing' or 'Off-track Continuing' status until they are submitted to State Submission and their current Grade Level is compared to their assigned cohort year.
Transfer Out – Unverified*	SID Management	Inactive	Students that were exited with a transfer-out School Exit Withdrawal Code but have not yet been uploaded by another NJ SMART submitting district.
Dropout	SID Management	Inactive	Students that were exited with a dropout School Exit Withdrawal Code and not uploaded by another NJ SMART submitting district.
Excluded From Cohort	SID Management	Inactive	Students that are excluded from the adjusted cohort under special circumstances, including death of a student and transfer out of state/country.

**Note: Transfer Out – Verified is not an official cohort status for a student, because once a transfer has been verified, that student officially exits the initial district and appears as a "Transfer In" in the new district*

As students transfer enrollment into and out of respective districts, the cohort count of each district is continually adjusted. Since the graduation rate is calculated by dividing the number of graduates by adjusted cohort count, this movement will affect a given district's graduation rate.

Chart 1 illustrates how the different cohort statuses affect cohort count.

Chart 1: How is Cohort Size Adjusted Over Time?



High School Graduation Cohort Status Profile

Data from NJ SMART profiles will serve as graduation data for the State. In addition, NJ SMART provides this student-level data directly to districts through its District Reports tool. The High School Graduation Cohort Status Profile is available on the District Reports tab in the NJ SMART portal for LEA use. It is highly encouraged that superintendents, business administrators, curriculum coordinators, principals, and other critical education staff familiarize themselves with these profiles. Trainings on these and other profiles are offered on a continual basis and the NJ SMART Help Desk is available each day to provide any necessary guidance for district users. Beyond serving as a data warehouse, the NJ SMART system is a critical and useful educational tool for educators, school administrators, and school districts.

The Cohort Status Profile summarizes student counts in the eight cohort statuses for schools within a given district. In addition, the profiles disaggregates each cohort status by various subgroup indicators, such as Gender, Lunch Status, and Special Education Status. From the Profile, districts have the ability to drill down to look at individual student lists in each of these categories. For example, a district could drill down to view a list of all of their female graduates, or a list of all of their 11th grade dropouts. From the student list, districts can drill down further to view an individual student's enrollment record, which displays key demographic data, enrollment history, and many other valuable pieces of information for any given student.

In addition to identifying trends across different indicators, districts can utilize this profile to investigate their student data. For example, by taking advantage of NJ SMART optional submissions, districts can analyze the short- and long-term impact of different strategies, programs, and interventions that they have deployed and tracked. In addition, this profile marks the first time that districts are able to access information on students that have exited their district through NJ SMART. Districts are able to drill down to Student Lists of Transfer Out-Unverified students, in order to identify which students they transferred out of the district (assuming the student was transferring to another NJ district) but are still accountable for because those students never actually enrolled in the new district. District personnel responsible for tracking transfer documentation can use this list as a basis for tracking down these students, verifying documentation of transfers, and communicating with the intended transfer district.



Official vs. Unofficial Profiles

The High School Graduation Cohort Status Profile allows districts to view their submitted student data using either Official Snapshots (data they reported to the NJDOE) or Unofficial Data (Local Data Mart, which is for district use/view only).

In viewing a given Cohort over the course of a year, districts have three options for the Official Profile, which will display students' cohort statuses at the time of that snapshot: October 15th, June 30th, and August 31st. The profile will display information submitted during SID Management as well as State Submission, as indicated in Chart 2.

Chart 2: Official Snapshots

Oct. 15 th	Jun. 30 th	Aug. 31 st Official Graduation Snapshot
<ul style="list-style-type: none"> • SID 10/15 • State 10/15 	<ul style="list-style-type: none"> • SID 6/30 • State 6/30 	<ul style="list-style-type: none"> • SID 8/31 • State 6/30

Graduation rates will be calculated using the August 31st Official High School Graduation SID Management Snapshot, which will be matched with End-Of-Year State Submission data. August 31st marks the NJDOE's official end to a given school year for graduation rate calculation purposes. This end-of-summer deadline allows for the inclusion of summer graduates. The August 31st SID Snapshot is unique to the Graduation Profile and is displayed only in graduation-related district profiles. It captures student movement in and out of districts during the summer months. This snapshot is used to calculate high school graduation rates for the State, and is, therefore, only applicable to viewing graduating cohorts. For example, the August 31, 2016 snapshot will be available solely for viewing Cohort 2016 students.

Official snapshot profiles reflect student data at a specific point in time. This data is reported to the NJDOE. In addition to snapshot profiles, districts have the option of running Local Data Mart (LDM) profiles that allow them to review and analyze current data in the portal. This data is for district's individual use only and is not reported to the state. The LDM is intended to be a tool that allows districts real-time access to critical data and analysis tools. Districts that regularly use LDM functionality typically perform better in managing year-end submissions and find greater benefits from the NJ SMART system.

Viewing the Cohort Status Profile with LDM data is particularly useful to districts in examining their graduating cohort's status in summer months between June 30th Snapshot and the official August 31st Snapshot. In order to run this LDM profile, districts must have uploaded SID Management and State Submission files.

Chart 3: Official State Snapshot Profiles vs. LDM Profiles

Official State Snapshot Reports	LDM Reports
<ul style="list-style-type: none"> • Periods of time when all LEA' must submit official student data for state and federal reporting purposes. • Official snapshots include: October 15th, June 30th, and August 31st. • Snapshots include the most recent official SID Management and State Submission data. • <i>To view official state data from these periods in District Reports, choose "Official State Snapshot Report".</i> 	<ul style="list-style-type: none"> • Periods of time between official snapshots when LEAs can update student records and run district reports with real-time data. • LDM data is pulled from real-time SID Management and (refreshed) State Submission. • <i>To view LDM data, upload files to SID Management and State Submission, REFRESH on the Refresh/Release page in State Submission, and choose "Local Data Mart Report" in District Reports.</i>

High School Graduation Profile

After appeals have been applied, NJ SMART will submit high school graduation rates at the school, district, and state levels to the NJDOE. The High School Graduation Profile, which will be submitted to the US DOE and used in national comparisons of high school graduation rates, will include the following information:

- 1) **August 31st Snapshot**, amended by any district appeal decisions made by the NJDOE
- 2) **Accountable Perspective**, showing graduation rates for schools/districts of the students that they are *accountable* for, which may not always correspond to the students *attending* their schools, per outlined regulations

- 3) **Entering Values for Key Subgroup Elements:** Gender, Race/Ethnicity, Lunch Status, Special Education Status, Limited English Proficient, Migrant Status, and Homeless Status. (Other variables appear in the Cohort Status Profile, like Time in District and Attendance, but these breakdowns by Cohort Status are not submitted to the NJDOE.)

At the time of this August 31st Snapshot, students with any cohort status besides 'Graduated' or 'Excluded from Cohort' will count as non-graduates in the rate calculation.

$$\frac{\text{Graduated}}{\text{Adjusted Cohort Count}} = \frac{\text{Graduated}}{\text{Graduated} + \text{Transfer Out-Unverified} + \text{On-Track}^* + \text{Off-Track} + \text{Status Unknown}}$$

**Note: Districts may see On-Track Continuing students in their August 31st Snapshot, since the previous State Submission (which updates Grade Level for active students) occurred at the end of the 2015-2016 school year. This would represent students who were in twelfth grade in 2015-2016 but had not graduated by August 31st, 2016.*

Entering Values for Subgroup Data

In most NJ SMART District Reports, districts view their most recent data for students – either reported (Snapshots) or real-time (LDM). The High School Graduation Cohort Status Profile is unique in that it will display “Entering Values” for some subgroup variables, instead of most recent. Entering Values refer to the subgroup values that districts assigned to students when they entered their 4-year graduation cohort. For example, for most Cohort 2016 students, subgroup data will reflect the 2012-2013 values that districts assigned to these students in relevant NJ SMART submissions.

Entering Values will be displayed and reported to the NJDOE for the following subgroup data in graduation profiles: Gender, Race / Ethnicity, LEP Status, Special Education Classification, Migrant Status, Homeless Status, and Free and Reduced Lunch. The values assigned for these variables will be unaffected by later submissions once this initial (or, entering) value has been assigned.

The August 31st 2011 High School Graduation Snapshot marked the first appearance of these Entering Values in the Cohort Status Profile.

Table 2: Entering Values for Subgroup Data in Graduation Profiles

Subgroup Variable	Submission for Updates	Description
Gender	SID Management	Derived from the snapshot when the 4-Year Graduation Cohort Year was first assigned.
Race/Ethnicity	SID Management	
Lunch Status	State Submission	

Special Education¹	Special Education Submission	
Limited English Proficient	State Submission	
Migrant Status	State Submission	
Homeless²	State Submission	

¹As Special Education Classification was not collected until 2008, the Entering Value will be derived from the October 15th, 2008 Submission for all students assigned a cohort year prior to that school year.

²As Homeless was not collected until 2011, the Entering Value will be derived from the June 30th, 2011 Submission for all students assigned a cohort year prior to that school year.

5-Year Graduation Rate Profile

Since 2012, the NJ SMART High School Graduation Cohort Status Profile has been displaying 5-year graduation rates for graduation cohorts, in addition to 4-year rates. Students will remain in their same 4-year adjusted cohorts, and the profile will show cohort status after five years from the cohort entry point. For example, most Cohort 2016 students entered their cohort in September of 2012 when they were in ninth grade. Their 4-year graduation rate will be calculated through the August 31, 2016 Official Snapshot. Districts will later be able to view that cohort’s 5-year graduation rate using the August 31, 2017 Official Snapshot, in order to see all of their Cohort 2016 students that graduated in 4 years plus students that graduated (or changed cohort status) in their fifth year.

Chart 4: Illustration of 5-Year Graduation Rates



Graduation by Assessment Profile

NJ SMART provides an additional profile to the NJDOE that analyzes graduates by assessment type. For each district, graduates will be categorized by the type of assessment they passed to earn their high school diploma, including the High School Proficiency Assessment (HSPA) and the Alternative High School Assessment (AHSA). AHSA Appeals students and those exempt from assessment will also be included in this detailed Profile. The Graduation by Assessment profile will be made available as a District Report for districts to use and analyze in the Fall of 2012. Trainings will be offered to users so that they best understand how to access and view this information.

Graduation Appeals Process

LEAs can appeal specific graduation data in the NJ SMART High School Graduation Status Profile through requests made during NJ SMART's Graduation Appeals Process. The NJDOE considers each request and makes all rulings on appeals. This Appeals Process is specific to NJ SMART data and is a separate process from the NJDOE's AHSA appeals protocol.

An example of a potential appeals scenario would be if District A exited a student from NJ SMART as a transfer, knowing that they would be transferring and enrolled in District B, but District B did not upload the student to NJ SMART in a timely fashion. In all appeals scenarios related to conflicts with other districts, LEAs must first make a reasonable attempt to resolve the situation through inter-district communication. Districts must document these outreach attempts. If communication fails, then District A can appeal that student's status as a "non-graduate" in their district through the NJ SMART Appeals Process.

In order to submit an appeal request, LEAs must submit all relevant information through an online Appeals Form, available in the Reporting tab of the NJ SMART portal. After the DOE has evaluated the appeal request, the district will be notified of the decision. Communication attempts in regards to transfer conflicts should be documented in the appeal request in order for the request to be considered. Please refer to the *High School Graduation Appeals Guidelines* for further details.

Training & Resources

NJ SMART hosts a series of web-based trainings throughout the summer and fall to instruct school district personnel on the new graduation rate and on how to utilize the High School Graduation Cohort Status Profile. It is highly recommended that superintendents, business administrators, and other relevant district personnel begin to familiarize themselves with the adjusted cohort formula and this NJ SMART reporting tool. Training schedules are posted in the NJ SMART portal (www.njsmart.org), as well as on the DOE website. In addition, numerous resources are made available to LEAs, including the training PowerPoint presentation, FAQs, *User Guide to the High*

School Graduation Cohort Status Profile, and *NJ SMART High School Graduation Appeals Guidelines* that describes the components found in the profile and how to drill-down to student-level data.

The NJDOE's website has additional information regarding the development of the new high school graduation rate, a comprehensive list of frequently asked questions for school districts, and a link to the Federal Guidelines: <http://www.nj.gov/education/data/grate/>. In addition, please visit the National Governors Association (NGA) website for more information on the development of the adjusted cohort formula and the motivation behind moving towards a common calculation: <http://www.nga.org>.

Finally, for further information on NJ SMART and available resources, please visit the NJDOE's NJ SMART website: <http://www.nj.gov/education/njsmart/>. Questions regarding NJ SMART functions and data submissions should be directed to the NJ SMART Help Desk by calling (800) 254-0295 or e-mailing NJSMART@pcgus.com.