

Arizona Mayors Education Dashboards Report:

An Explanatory Guide

This brief guide is intended to explain the information contained in the latest Arizona Mayors Education Dashboards report and answer frequently asked questions about the significance of the measures the report discusses.

What the Report Shows

The Arizona Mayors Education Dashboards report profiles 15 localities in Arizona. The locality profiles show the rates of high school non-completion and youth disconnection in each and the estimated lifetime economic effects associated with those rates.

In so doing, the report highlights a key consideration for Arizona's cities and towns, as well as for the state as a whole: that youth educational outcomes have a significant economic impact on local and statewide economic prosperity.

Differences Between Original Report and New Report

This second, and most recent, version of the Education Dashboards report differs from the original report with respect to the key metrics presented. In particular, whereas the original version of the report showed high school dropout rates for each locality, the latest version shows high school non-completion rates. This change reflects an effort to provide clearer, more easily understood data. After many conversations with mayors in Arizona, their teams, and education partners, it was decided that the variability of how high school dropouts are defined and how dropout rates are calculated can cause public confusion (e.g., if a dropout rate published by the Arizona Department of Education differs from the one published by a school district in a locality). Non-completion rates, by contrast, offer a simple, straightforward way to analyze the economic effect of students not graduating from high school.

Another major change reflected in the latest version of the Education Dashboards report has to do with the disconnected youth data the report presents. Rather than showing youth disconnection rates at the locality level, as in the original report, the latest report shows these rates at the county level. This change represents an attempt to increase the precision of the data used to calculate the estimated economic impacts of youth disconnection; the locality level data, though more specific to each of the cities and towns profiled in the report, inherently contains more uncertainties (resulting from smaller survey sample sizes) than county level data.

More detailed information about the data and calculations in the Education Dashboards report is available in the report's appendices.

Explaining the Data and Calculations

The sections below provide explanations of the data and calculations included in the Education Dashboards report. They answer fundamental questions about what the different metrics show, how rates are calculated, and the sources of the data used in the analyses. The sections are ordered thematically, as follows:

- High School Non-Completion
- Disconnected Youth
- Estimated Economic Losses

High School Non-Completion

What Does a High School Non-Completion Rate Show?

The high school non-completion rate presented in the Education Dashboards report shows the percentage of students in the 2015 academic year cohort who, for whatever reason, did not graduate high school in four years. This percentage is calculated by subtracting the number of students in the 2015 cohort who graduated in four years from the total number students in the cohort. For example, if there are 100 students were in the 2015 cohort for a given locality and 85 graduate in four years, then the non-completion rate for that cohort is 15 percent (i.e., $(100-85)/100=0.15$, or 15 percent).

How is Non-Completion Defined in the Report?

Students are considered non-completers when they not graduate from high school in four years. Students are counted as on-time graduates if they meet the requirements for high school graduation before September 1 of the school year following their cohort year.

The Education Dashboards report looks at the 2015 cohort, as defined by the Arizona Department of Education. Cohort membership is determined by when a student enrolls in a high school grade at a public school in Arizona for the first time. Cohort membership is based on the expectation that a student will graduate in four years (e.g., a student who enrolled in grade 9 during the 2011-12 academic year is a member of the 2015 cohort).

For more information about graduation requirements and cohort designations, please see the Arizona Department of Education's technical manual, please visit: <https://cms.azed.gov/home/GetDocumentFile?id=5515c6921130c0115c1a351f>

What Were the Criteria for Selecting Schools to Be Included in the Analysis for Each Locality?

All public high schools, including charter schools, physically located in each locality are included in our analysis. To ensure that the non-completion rates are as precise and relevant to each locality as possible, schools were included based on actual geographic location, rather than according to school district boundaries. Private and religious high schools are excluded from the analysis, as are high schools that did not report complete data to the state of Arizona.

Where Does the Non-Completion Data Come From?

The Arizona Department of Education publishes the cohort and graduation data in a report titled “Cohort 2015 Four Year Grad Rate Data,” used to calculate the non-completion rates for each locality. The Cohort 2015 Four Year Grad Rate numbers are based on data reported to the Arizona Department of Education by schools and local education agencies.

To access the original data file from the Department of Education, interested parties can visit <http://www.azed.gov/accountability-research/data/> and download the “Cohort 2015 Four Year Grad Rate Data” file.

Disconnected Youth

What Does a Disconnected Youth Rate Show?

The disconnected youth rate shows the percentage of youth (aged 16-24) in a locality who are not attending school and who are not employed. For example, if there were 1,000 individuals aged 16-24 in a given locality and 250 of those individuals were neither in school nor employed, then the youth disconnection rate for that year is 25 percent.

How is Youth Disconnection Defined in the Report?

The Education Dashboards report relies on a commonly used definition of youth disconnection. This definition considers any individual, aged 16-24, who are neither in school (secondary or postsecondary) nor employed, to be a disconnected youth.

Importantly, in the context of the Education Dashboards report, some of the youth counted as high school non-completers are likely—but not necessarily—counted among the disconnected youth in any given locality. For example, while some non-completers will be dropouts who are unemployed—and are therefore considered disconnected—others may have left school to work (and so would not be considered disconnected).

Where Does the Disconnected Youth Data Come From?

The employment and school enrollment data used in our youth disconnection calculations are published in the U.S. Census Bureau's American Community Survey (ACS). In the Education Dashboards report, the youth disconnection rates are based on ACS 2015 data for Arizona.

ACS is a reliable data source used by prominent organizations to report on youth disconnection. The data are updated annually and enable calculations at the state and county levels, as well as by metro area. In the Education Dashboards report, youth disconnection rates are reported at the county level; Phoenix and Tucson are the only localities included in the report for which youth disconnection rates are shown at the city level (due to their large size).

The requisite ACS data for calculating youth disconnection rates are available for Public Use Microdata Areas (PUMAs), areas with populations of at least 100,000. PUMAs do not perfectly align geographically with the county borders; consequently, each PUMA is assigned to each of the counties it overlaps with using a geocode crosswalk.

It is also important to note that because ACS is an annual survey that samples a subset of the entire population in a locality—it is not an actual count of individuals—ACS data, as is true of data from all similar sample surveys, should not be considered exact as it has an inherent degree of uncertainty.¹

Another major publication that uses ACS data to analyze disconnected youth rates is Measure of America. To access Promising Gains, Persistent Gaps, the latest report (with related interactive tools) from Measure of America, please visit: <http://www.measureofamerica.org/youth-disconnection-2017>

Although the Arizona Mayors Education Dashboards report uses the same data source as Measure of America (American Community Survey), the disconnection rates in the two reports should not be directly compared. Due to methodological differences, the youth disconnection numbers and rates for Arizona that Measure of America publishes differ from those we present in this report. In particular, Measure of America presents disconnection rates for the Phoenix and Tucson metro areas, whereas this report presents those rates for the cities exclusive of the metro area. For more information about Measure of America's methodology, please visit: https://ssrc-static.s3.amazonaws.com/moa/DY2017_Methods.pdf

¹ For more information on ACS margins of error, please visit: <https://www.census.gov/programs-surveys/acs/guidance/training-presentations/acs-moe.html>

Estimated Economic Losses

What Do the Estimated Economic Losses Show?

The estimated economic losses presented in the Education Dashboards report are not actual losses reported by each locality. Rather, they are based on a robust economic model that estimates the lifetime losses each locality would experience for every high school student who does not complete high school and for every young person who is disconnected (based on data for 2015).

The estimated economic losses associated with high school non-completion, as presented in the Education Dashboards report, are lifetime losses that result from lower earnings, increased health care costs, increased crime costs, and other losses (including higher welfare dependence, tax distortions, and lost productivity). Taken together, these losses add up to the per-student loss presented in the Education Dashboards report.

Note that, due to local differences in average earnings, health status, and crime rates, the total estimated economic loss per non-completer differs among localities. For example, while the estimated total loss per non-completer in Douglas is \$276,500, in Marana the estimated loss is \$594,700.

As with high school non-completion, the economic losses associated youth disconnection result from lower earnings, poorer health status, greater burdens on the criminal justice system, and other costs. These losses are effective during youth, when a young person is disconnected, as well as over an individual's lifetime after a disconnected youth enters full adulthood. The estimated losses, as modeled and presented in the Education Dashboards report, assume that each youth is disconnected for five years.

Where Does the Estimated Economic Losses Data Come From?

The data used to calculate the estimated lifetime economic losses for each locality come from a variety of sources. Some of these sources are specific to each locality, some are county-specific, and others are statewide averages. In particular:

- Earnings data are taken from the Current Population Survey and U.S. Census
- Health data are taken from the Medical Expenditure Panel survey and Public Use Micro-Areas (PUMA)
- Crime data are taken from the FBI's Uniform Crime Records (reported by urban area)

Note that while the methods for calculating the losses associated with high school non-completion and youth disconnection are similar, the data and economic consequences differ.

The methods for modeling these economic losses are described, in detail, in Belfield (2014ab). To access these studies, please see: a) Belfield, C. R. (2014, March). *The Economic Burden of High School Failure and Opportunity Youth Evidence across Arizona: Cost-Benefit Analysis, Return on Investment and Social Value*. <https://www.crbelfield.org/articles> and b) Belfield, C. R. (2014, November). *The Economic Loss from High School Failure and Disconnected Youth: Subgroup Evidence across America*. <https://www.crbelfield.org/articles>. These studies refer to the economic losses presented in the Education Dashboards report as “social losses.”

Copyright © 2018 WestEd. All rights reserved. Permission to reproduce for non-commercial use, with attribution to WestEd, is hereby granted.

Suggested citation: Belfield, C.R. & Hickox, I. (2018). *Arizona Mayors Education Dashboards: An Explanatory Guide*. San Francisco, CA: WestEd.