



ATTAINMENT AND PERFORMANCE INDICATORS

NORTH CAROLINA'S OVERALL ATTAINMENT GOAL³⁸

After the myFutureNC Commission identified the age range of 25 to 44 for its postsecondary attainment goal, myFutureNC partner ECONorthwest calculated the postsecondary attainment rate for this age cohort for all 50 states using the U.S. Census Bureau's 2016 American Community Survey Public Use Microdata Sample (ACS PUMS) data. ACS PUMS data contain anonymized person-level observations that can be used to create custom tabulations of U.S. Census data. To calculate the postsecondary attainment rate, ECONorthwest relied on the ACS PUMS variable that indicates an individual's educational attainment ("SCHL"). Using SCHL, it is possible to code individuals with no college, some college, an associate degree, bachelor's degree, or graduate degree.

Unfortunately, ACS PUMS does not include high-quality certificates. To add certificates, ECONorthwest added certificate rates from a 2012 Georgetown University report (Carnevale et al., 2012; one of the few studies in which certificate rates by state are calculated) to ACS PUMS attainment rates. ECONorthwest assumed that the share of the population with certificates remained constant across all analysis years. If a Georgetown University

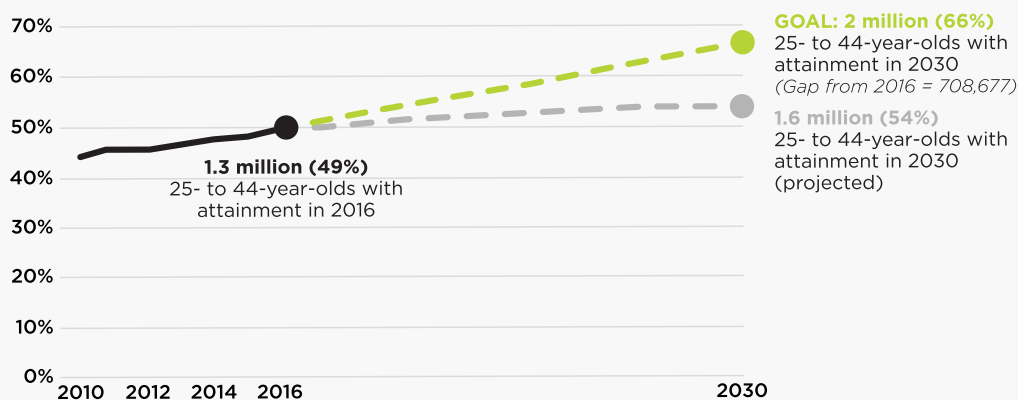
38. Some text and all figures for this Appendix: Dyke and True (2018)



certificate estimate was unavailable, ECONorthwest assumed a value of 5 percent (approximately the national average for high-quality certificate attainment).

Figure B1 shows North Carolina’s actual and projected attainment levels for 25- to 44-year-olds using this approach.

FIGURE B1. OVERALL ATTAINMENT GOAL: NORTH CAROLINA ATTAINMENT PROJECTION AND GAP



Data sources: Carnevale et al. (2012); US Census Bureau (2016)

The gray dotted line indicates North Carolina’s projected attainment level if the state remains on its current educational trajectory. The green dotted line shows how North Carolina’s trajectory will need to shift to reach a goal of 2 million 25- to 44-year-old North Carolinians with a high-quality postsecondary credential or degree by 2030.

TOP-LINE INDICATORS

Table B1 includes nine educational attainment indicators and three workforce outcome measures as originally proposed by ECONorthwest in October 2018. The myFutureNC Commission added a tenth educational attainment indicator (5. K-12 Student Chronic Absenteeism Rate). Other changes to these indicators and measures as proposed by myFutureNC Commission members are reflected in the main report text and also are noted in the descriptive text that follows the table.



TABLE B1: **TOP-LINE INDICATORS**

| Indicator | NC Current Rate | 75th Percentile Rate (U.S.) | NC Percentile Rank (U.S.) | Target | Target Percentile Rank | Level of Possible Sub-State Disaggregation** | Data Source Year | |
|-------------------------------|---|-----------------------------|---------------------------|--------|------------------------|--|-----------------------------------|------|
| Educational Attainment | | | | | | | | |
| 1 | PreK enrollment (share of 4 year olds enrolled in NC PreK) | 22% | 37% | 41st | 37% | 75th | None | 2017 |
| 2 | Fourth grade NAEP proficiency, reading | 39% | 40% | 66th | 42% | 90th | Guilford Co. (NAEP TUDA district) | 2017 |
| 3 | Eighth grade NAEP proficiency, math | 35% | 38% | 54th | 42% | 90th | Guilford Co. (NAEP TUDA district) | 2017 |
| 4 | Share of ACT test takers with composite mean score of 17 or above | 59% | * | * | 70% | 90th* | District | 2017 |
| 5 | K-12 Student Chronic Absenteeism Rate | TBD | * | * | TBD | TBD* | School | TBD |
| 6 | 5-year cohort high school graduation rate | 88% | * | * | 95% | 75th* | School | 2018 |
| 7 | Share of HS seniors completing the FAFSA | 59% | 62% | 63rd | 66% | 90th | School | 2018 |
| 8 | Postsecondary enrollment rate (ages 18-24) | 40% | 45% | 36th | 47% | 90th | PUMA | 2016 |
| 9 | Postsecondary persistence rate | 77% | 77% | 65th | 80% | 90th | None | 2016 |
| 10a | Postsecondary completion rate (2yr) | 35% | 42% | 23rd | 45% | 82nd | None | 2016 |
| 10b | Postsecondary completion rate (public 4yr) | 74% | 72% | 80th | 80% | 96th | None | 2016 |
| 10c | Postsecondary completion rate (private 4yr) | 73% | 81% | 34th | 80% | 73rd | None | 2016 |



| Indicator | NC Current Rate | 75th Percentile Rate (U.S.) | NC Percentile Rank (U.S.) | Target | Target Percentile Rank | Level of Possible Sub-State Disaggregation** | Data Source Year |
|-----------------------------------|--|-----------------------------|---------------------------|--------|------------------------|--|------------------|
| Potential outcome measures | | | | | | | |
| A | Share enrolled in school or working (ages 16-24) | 86% | 89% | 34th | N/A | N/A | PUMA 2016 |
| B | Labor force participation rate (ages 25-64) | 76% | 80% | 30th | N/A | N/A | PUMA 2016 |
| C | Share with family income > 300% FPL (ages 35-44) | 51% | 60% | 24th | N/A | N/A | PUMA 2016 |

- *Note: PreK=Pre-kindergarten; NAEP=National Assessment of Educational Process; ACT=American College Test; FAFSA=Free Application for Federal Student Aid; FPL=Federal Poverty Level*
- **NC-based indicator*
- ***Based on available public use data. More granular data may be available for purchase or via data request.*

EDUCATIONAL ATTAINMENT INDICATORS

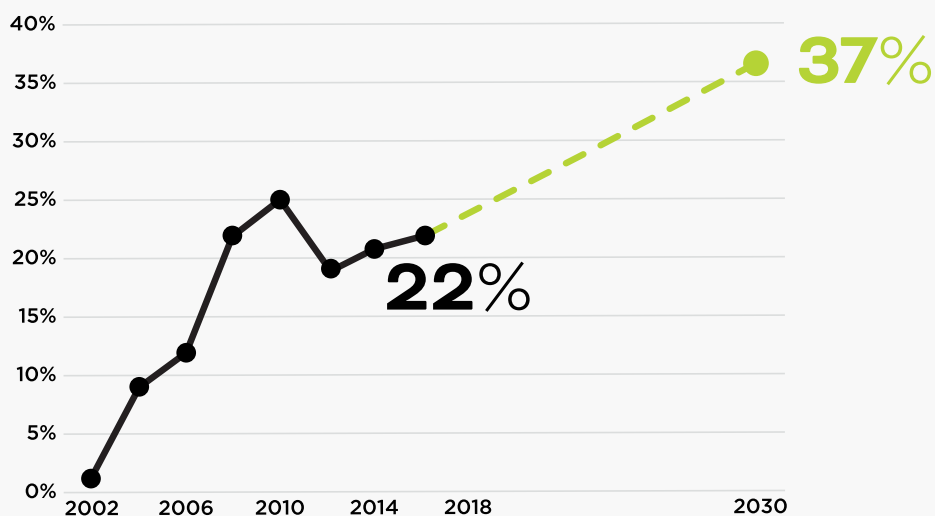
The ten educational attainment indicators span the pipeline from pre-kindergarten through postsecondary.

1. PRE-KINDERGARTEN ENROLLMENT (4-YEAR-OLDS ENROLLED IN NC PRE-KINDERGARTEN)³⁹

For this indicator, ECONorthwest retrieved data from the National Institution for Early Education and Research (NIEER). NIEER publishes an annual state preschool yearbook that reports state levels of pre-kindergarten enrollment in state-run, public programs over time.

ECONorthwest used this data to create a time series of enrollment in North Carolina pre-kindergarten from 2002 through 2017 and to compare North Carolina's enrollment with that of other states. ECONorthwest relied on historical trends in North Carolina enrollment to determine a 2030 enrollment target for North Carolina of 37 percent (75th percentile among states). This target is less ambitious in an absolute sense than most other targets, as it reflects North Carolina's below-average current enrollment levels, relative to other states.

FIGURE B2. TARGET SHARE OF NORTH CAROLINA 4-YEAR-OLDS ENROLLED IN PRE-KINDERGARTEN



Data source: Friedman-Krauss, Barnett, Weisenfeld, DiCrecchio, & Horowitz (2017)

39. Note: Per myFutureNC Commission discussion, this indicator will be amended to: Enrollment in High-Quality Pre-Kindergarten (Share of Eligible 4-Year-Olds Enrolled)



Please note that the myFutureNC Commission has amended this indicator. The Commission recommends measuring the proportion of *eligible* 4-year-olds who are enrolled in pre-kindergarten. In addition, the Commission recommends establishing a common definition for “high-quality.” Values and projections for this revised indicator will be completed during the next phase of myFutureNC’s work.

2. FOURTH-GRADE NAEP READING⁴⁰

The National Assessment of Educational Progress (NAEP), administered by the National Center for Education Statistics (NCES), provides a national snapshot of student performance in a variety of subjects.

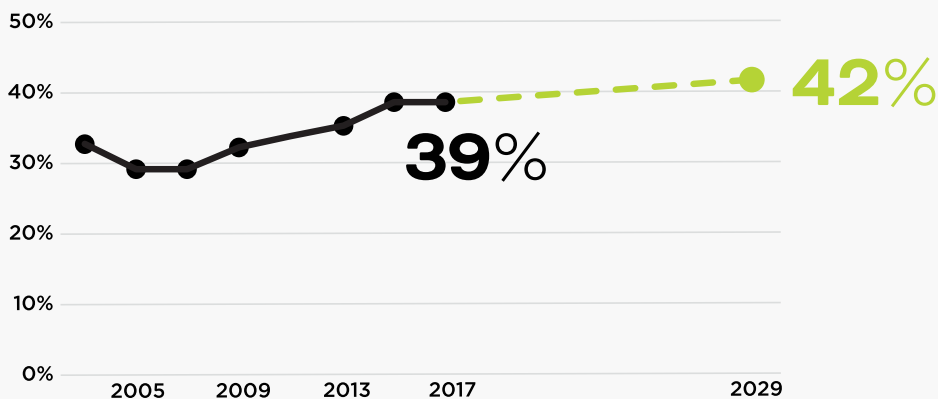
ECONorthwest used NAEP data to create a time series of the share of North Carolina fourth graders scoring “at or above proficient” on their NAEP reading assessments (both overall and by race/ethnicity) from 2003 through 2017. In addition, ECONorthwest benchmarked North Carolina’s reading performance against that of other states. Students scoring “at or above proficient” have mastered the reading material at their grade level. Reading proficiency in the fourth grade is highly correlated with student performance on future NAEP assessments and with American College Test (ACT) scores.

Based on trends in North Carolina NAEP performance and the relationships between NAEP reading proficiency and other indicators, ECONorthwest recommended that North Carolina bring 42 percent (90th percentile among states) of its fourth graders up to the “at or above proficient” level by 2030 in order to achieve its overall educational attainment goal. Achieving the target would result in a seemingly small numeric increase in the indicator but represents a potentially significant improvement in this relatively hard-to-move indicator.

40. Note: Per myFutureNC Commission discussion, this indicator will be amended to: fourth Grade NAEP (covering both reading and mathematics)



FIGURE B3. TARGET NAEP FOURTH GRADE READING PROFICIENCY



Data source: U.S. Department of Education: National Center for Education Statistics (2018)

Please note that the myFutureNC Commission has amended this indicator. The Commission recommends tracking annual progress on both fourth grade reading and mathematics results. Projections for NAEP fourth-grade mathematics to be determined as part of the next phase of the work.

3. EIGHTH GRADE NAEP MATH⁴¹

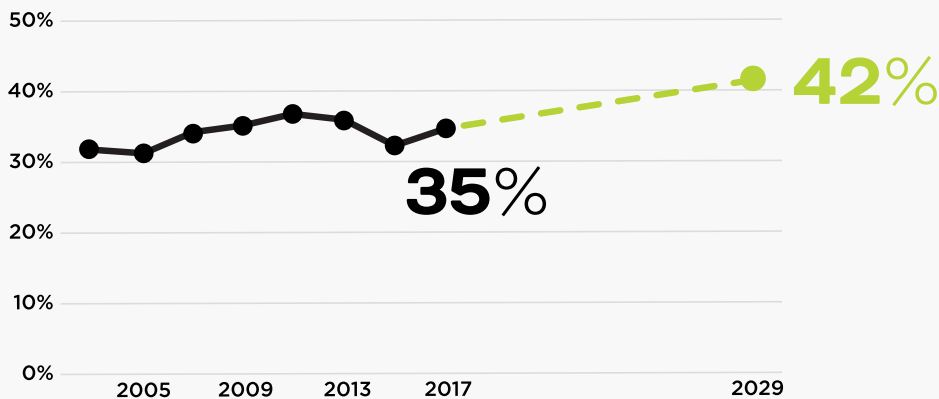
ECONorthwest gathered NAEP data from NCES to create a time series of the share of North Carolina eighth graders scoring “at or above proficient” on their NAEP math assessments (both overall and by race/ethnicity) from 2003 through 2017. In addition, ECONorthwest benchmarked North Carolina’s math performance with that of other states.

Based on trends in North Carolina eighth grade NAEP math performance and the relationships between NAEP math proficiency and other indicators, ECONorthwest recommended that North Carolina bring 42 percent (90th percentile among states) of its eighth graders up to the “at or above proficient” level by 2030 in order to achieve its overall educational attainment goal.

41. Note: Per myFutureNC Commission discussion, this indicators will be amended to: Eighth Grade NAEP (covering both reading and mathematics)



FIGURE B4. TARGET NAEP EIGHTH GRADE MATHEMATICS PROFICIENCY



Data source: U.S. Department of Education: National Center for Education Statistics (2018)

Please note that the myFutureNC Commission has amended this indicator. The Commission recommends tracking annual progress on both eighth-grade reading and mathematics results. Projections for NAEP eighth-grade reading to be determined as part of the next phase of the work.

4. ACT SCORE OF 17 AND ABOVE

ECONorthwest examined detailed North Carolina Department of Public Instruction (NCDPI) Accountability Services Division ACT data disaggregated by district and by race/ethnicity. The data included the share of North Carolina test takers receiving composite scores of 17 or above by district and by race/ethnicity for 2013 through 2017. ECONorthwest selected this metric to align with the UNC System minimum for college admission.⁴²

Because this indicator was specific to North Carolina, ECONorthwest included two comparisons between North Carolina’s average ACT composite scores⁴³ and those of other states to understand how North Carolina performs nationally. Not every state requires all high school students to take the ACT like North Carolina does, so ECONorthwest produced separate rankings comparing North Carolina to other states that require the ACT and to all states regardless of requirements.

For this indicator, ECONorthwest recommended the following target: By 2030, 70 percent of ACT test-takers in each North Carolina district will earn a composite score of 17 or above on the ACT. Achieving this goal would put

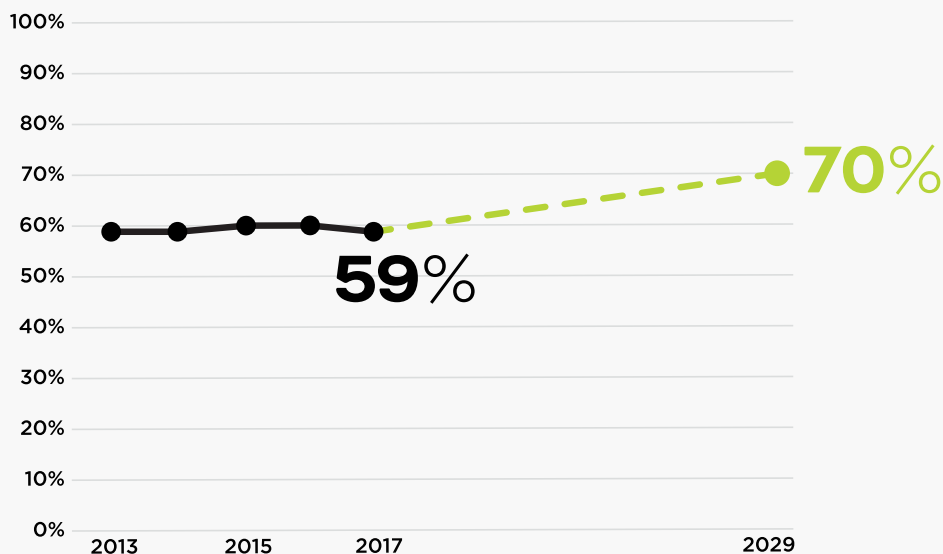
42. ACT can provide customized reports (i.e., share of students with at least a composite score of 17) for a fee; we did not have access to these data for this project.

43. National data source: ACT. “The Condition of College and Career Readiness: National 2017.” (2017). 14-15. <http://www.act.org/content/act/en/research/condition-of-college-and-career-readiness-2017.html>



statewide performance at the 90th percentile (relative to individual county scores nationwide) under current conditions.

FIGURE B5. TARGET ACT SCORES AT OR ABOVE 17



Data source: North Carolina Department of Public Instruction (2018a)

5. P-12 STUDENT CHRONIC ABSENTEEISM RATE (PERCENT OF STUDENTS IDENTIFIED AS CHRONICALLY ABSENT PER YEAR)

This indicator was not provided by ECONorthwest but was instead proposed and approved by myFutureNC Commission members. Historical, baseline, and projected data will be constructed during the next phase of myFutureNC’s work.⁴⁴

6. FIVE-YEAR HIGH SCHOOL GRADUATION RATE

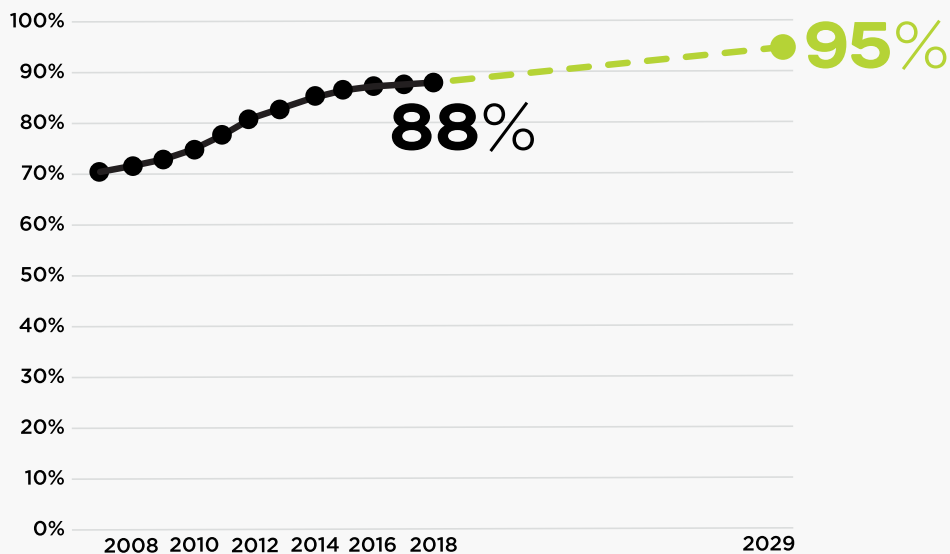
Graduating high school is a prerequisite for enrolling in postsecondary education. Using NCDPI data, ECONorthwest constructed a time series of North Carolina’s five-year graduation rate by race/ethnicity and overall from 2007 through 2018.

For national context, ECONorthwest also compared North Carolina’s 2016 four-year graduation rate against the rates of other states; national data were unavailable for more recent years or as a five-year rate by state.

44. North Carolina State Board of Education Policy ATND-004, Definition of Student Chronic Absenteeism Rate: <https://stateboard.ncpublicschools.gov/policy-manual/student-attendance/definition-of-chronic-absence-and-chronic-absenteeism-rate>

ECONorthwest recommended that North Carolina target a five-year high school graduation rate of 95 percent by 2030. Achieving this goal would put statewide performance at the level of the 90th percentile North Carolina high school based on current conditions.

FIGURE B6. TARGET FIVE-YEAR HIGH SCHOOL GRADUATION RATE



Data source: North Carolina Department of Public Instruction (2018b)

7. FAFSA COMPLETION

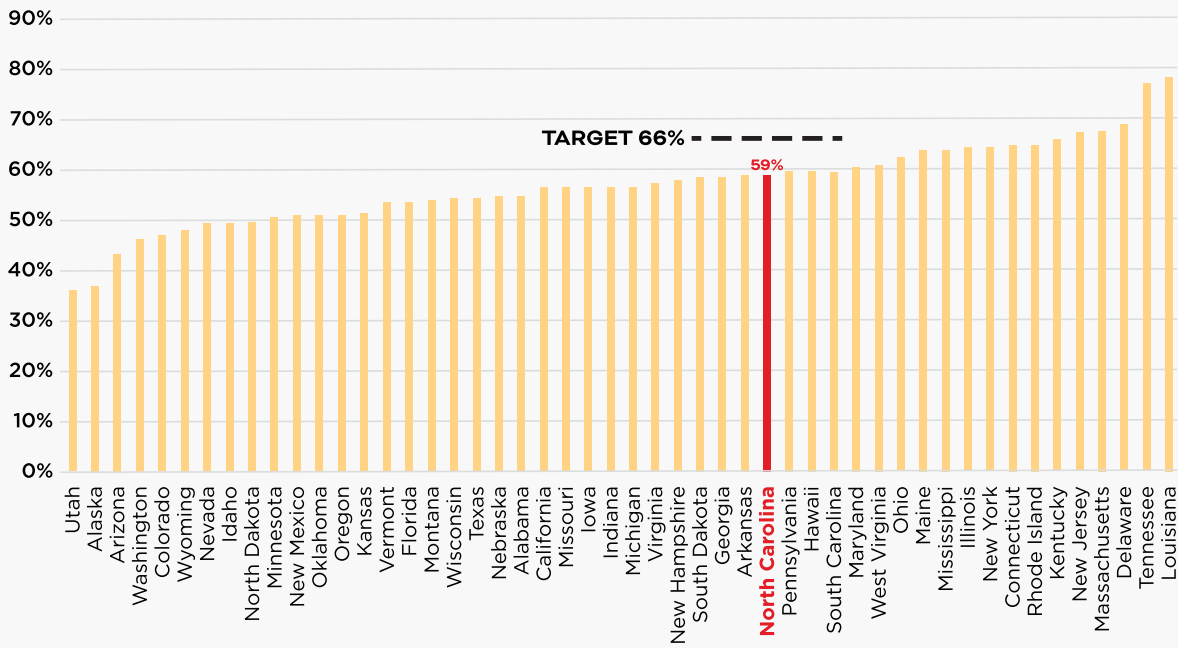
Completing the Free Application for Federal Student Aid (FAFSA) gives potential college applicants access to billions of dollars in federal financial aid. Submitting the FAFSA application also can help unlock a wide variety of local and private scholarships. Receiving federal aid can put a postsecondary education within reach for low-income college applicants.

ECONorthwest extracted national data from the National College Access Network’s (NCAN) FAFSA tracker, which estimates FAFSA completion rates by state. As of 2018, there was no comprehensive database for FAFSA completion rates at a state or national level.

NCAN released its FAFSA Tracker tool in 2018, making it impossible for ECONorthwest to assemble a time series of FAFSA completion rates.

ECONorthwest compared North Carolina’s FAFSA completion rate to other states and recommended that North Carolina target a FAFSA completion rate of 66 percent (90th percentile among states) by 2030.

FIGURE B7. TARGET FAFSA COMPLETION RATE, RELATIVE TO OTHER STATES



Data source: National College Access Network (2018)

Please note that the myFutureNC Commission has amended this indicator. The Commission recommends measuring the share of qualified high school seniors completing FAFSA. Values and projections for this revised indicator will be completed during the next phase of myFutureNC’s work.

8. POSTSECONDARY ENROLLMENT (AGES 18-24)

ECONorthwest calculated the postsecondary enrollment rate for all 50 states, including North Carolina, using the U.S. Census Bureau’s 2016 ACS PUMS data.

ACS PUMS data contain anonymized person-level observations that can be used to create custom tabulations of U.S. Census data.⁴⁵ To calculate the postsecondary enrollment rate, ECONorthwest relied on the PUMS variables that indicate an individual’s school enrollment status and grade level attending (“SCH” and “SCHG”). Those who were coded as “College undergraduate years (freshman to senior)” or “Graduate or professional school beyond a bachelor’s degree” were counted as being enrolled in college.

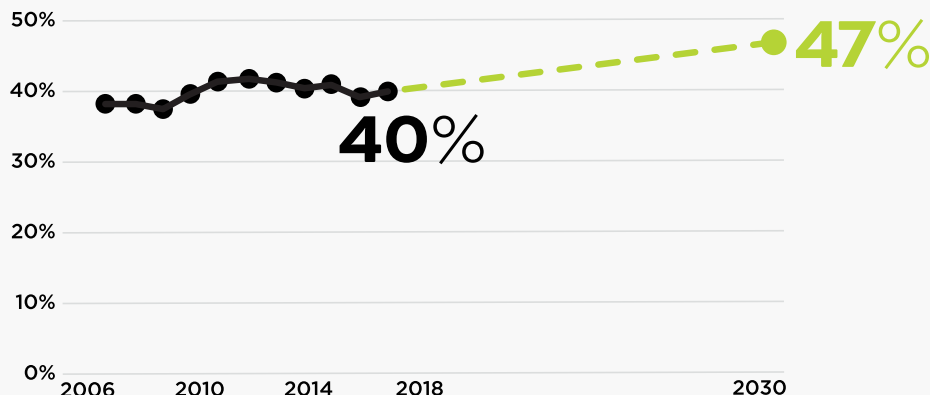
As would be expected, postsecondary enrollment and attainment are tightly linked. Based on the relationship between the two indicators, North Carolina’s 2016 level of enrollment, and North Carolina’s overall attainment goal,

45. Although the ACS PUMS dataset is a sample, it contains a series of replicates weights, making it possible to produce reliable estimates for the entirety of the population of the chosen geography.



ECONorthwest recommended a 2030 enrollment target of 47 percent (90th percentile among states).

FIGURE B8. TARGET POSTSECONDARY ENROLLMENT, 18- TO 24-YEAR-OLDS



Data source: US Census Bureau (2018)

9. POSTSECONDARY PERSISTENCE

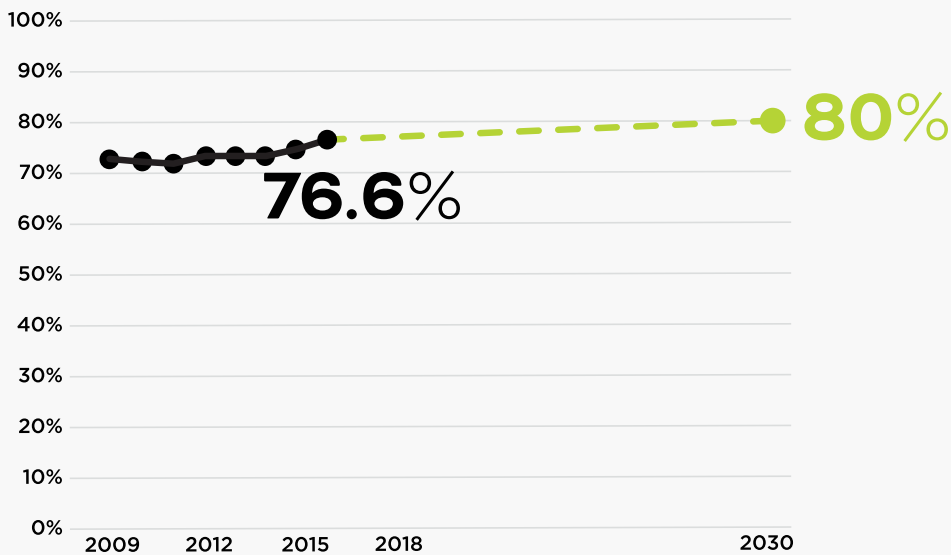
The postsecondary persistence rate measures whether or not a postsecondary enrollee continues with her or his education in the following year (regardless of whether at the same institution or not).

ECONorthwest retrieved 2017 postsecondary persistence data from the National Student Clearinghouse (NSC) Research Center’s 2018 state-level data tables showing overall first-year persistence⁴⁶ and retention rates from fall 2009 through fall 2016. ECONorthwest used these data to construct a time series for North Carolina and to rank North Carolina against other states.

Based on North Carolina’s postsecondary persistence performance, its ranking against other states, and its overall attainment goal, ECONorthwest recommended the following target: By 2030, 80 percent of North Carolina postsecondary enrollees will persist in their education (90th percentile among states).

46. NSC data measures first-year persistence, meaning a postsecondary enrollee (full-time or part-time) is counted as persisting in their education if they continue on from their first year of enrollment to their second at any institution of higher education.

FIGURE B9. TARGET POSTSECONDARY PERSISTENCE RATE



Data source: National Student Clearinghouse Research Center (2018a)

10. POSTSECONDARY COMPLETION

The postsecondary completion rate measures the extent to which postsecondary enrollees complete a credential within a set period of time.

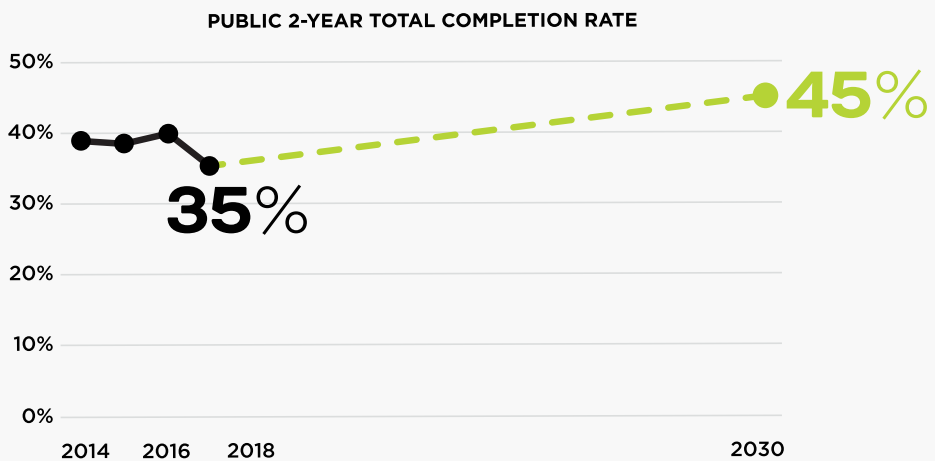
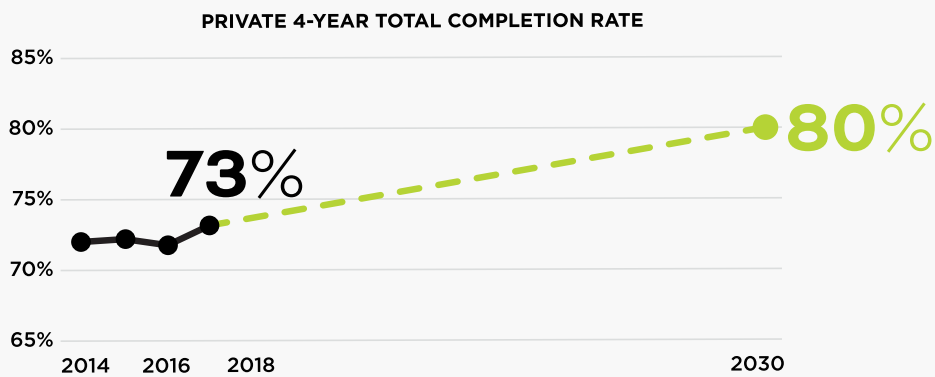
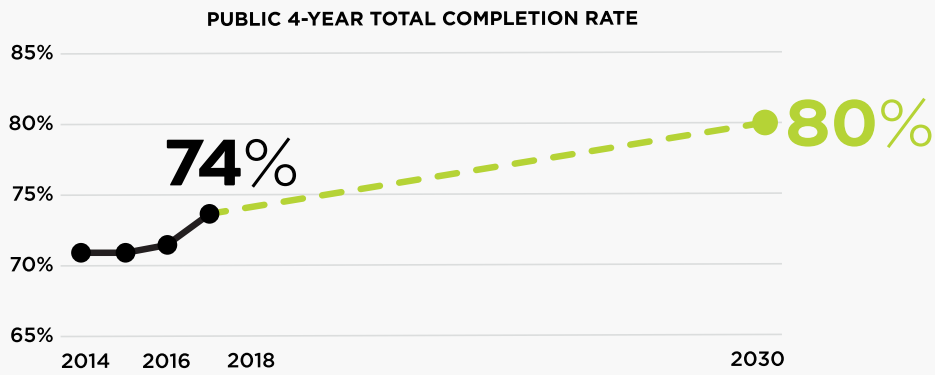
ECONorthwest compiled completion data from National Student Clearinghouse Research Center reports from 2015 to 2018 to understand trends in North Carolina's postsecondary completion rates. ECONorthwest analyzed completion data from all 50 states for two-year and four-year institutions (including both public and private four-year institutions).

Based on the available data, ECONorthwest recommended a North Carolina completion rate target of 80 percent for four-year institutions (both public and private) by 2030. The public-sector goal is equal to the 96th percentile among states (North Carolina already performs well on this metric). The private sector goal is less ambitious in comparison to other states; however, the state's private institutions currently perform less well, in a relative sense, compared to North Carolina's public institutions. Given the variation in private institutions across states, assigning public and private institutions the same goal should help to promote a sense of common purpose, and aligns reasonably well with pre-existing performance differences across sectors in the state.

ECONorthwest recommended a target of 45 percent for two-year institutions (82nd percentile among states). The implied improvement is slightly more ambitious than that required of the private four-year institutions to achieve the target, and would close significantly the performance gap, in terms of rank among states, between North Carolina's public two-year and four-year institutions.



FIGURE B10. TARGET POSTSECONDARY COMPLETION RATES



Data source: National Student Clearinghouse Research Center (2018b)

Please note that the myFutureNC Commission has amended this indicator. The Commission recommends measuring both on-time (i.e., two-year and four-year) and added-time (i.e., three-year and six-year) graduation rates. Values and projections for this revised indicator will be completed during the next phase of myFutureNC's work.



WORKFORCE INDICATORS

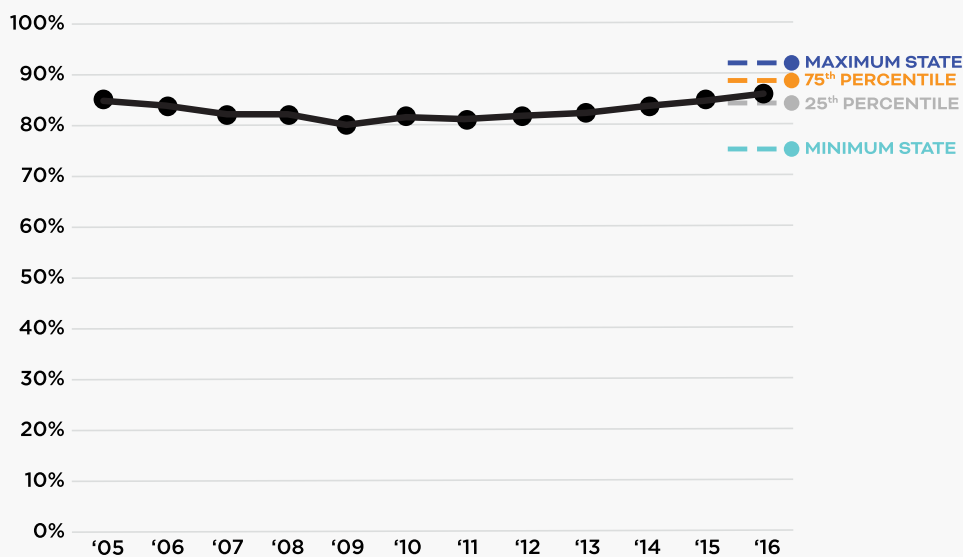
The labor market supply and demand workforce indicators were selected to provide a range of possible workforce outcomes all along the age continuum, from young adults (16- to 24-year-olds) to older workers (through age 64). Targets were not determined for these indicators.

A. SHARE ENROLLED IN SCHOOL OR WORKING (AGES 16-24)

ECONorthwest calculated the share of 16- to 24-year-olds in school or working for all 50 states, including North Carolina, using the U.S. Census Bureau's 2016 ACS PUMS data.

ACS PUMS data contain anonymized person-level observations that can be used to create custom tabulations of U.S. Census data. To calculate this share, ECONorthwest relied on the PUMS variables that indicated an individual's school enrollment status ("SCH") and employment status ("ESR"). Those who were coded as being enrolled in school or in the labor force were counted as either enrolled in school or working.

FIGURE B11. SHARE OF 16- TO 24-YEAR-OLDS ENROLLED IN SCHOOL OR WORKING, RELATIVE TO OTHER STATES



Data source: US Census Bureau (2018).

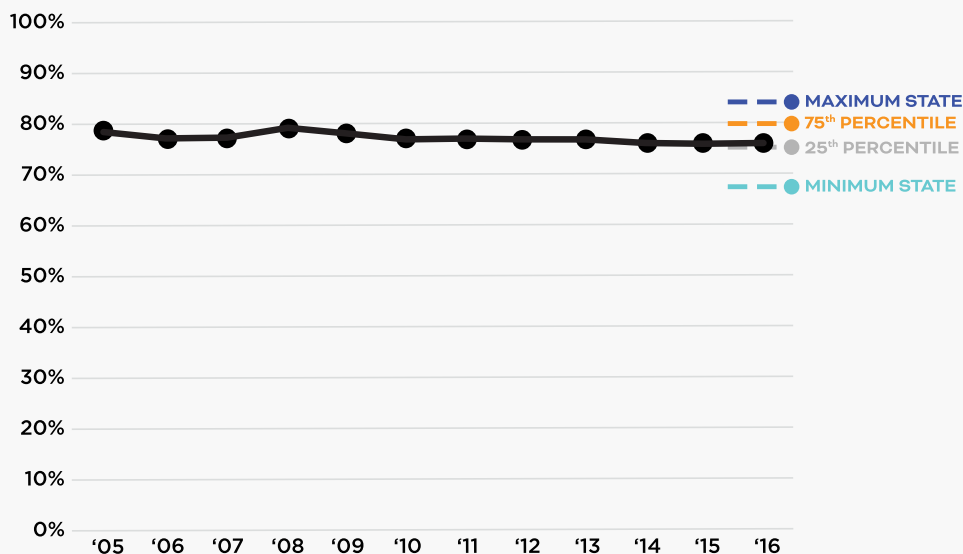
B. LABOR FORCE PARTICIPATION RATE (AGES 25-64)

ECONorthwest calculated the labor force participation rate for all 50 states, including North Carolina, using the U.S. Census Bureau's 2016 ACS PUMS data.



ACS PUMS data contain anonymized person-level observations that can be used to create custom tabulations of U.S. Census data. To calculate the labor force participation rate, ECONorthwest relied on the PUMS variable that indicated an individual’s employment status (“ESR”). Those who were coded as anything but “Not in labor force” were considered to be in the labor force.

FIGURE B12. **SHARE OF 25- TO 64-YEAR-OLDS IN WORKFORCE**



Data source: US Census Bureau (2018).

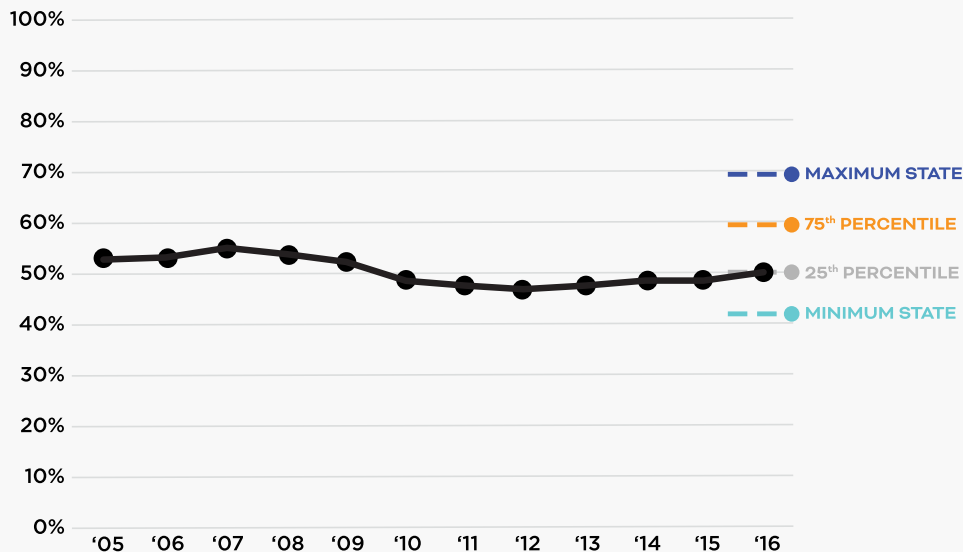
C. SHARE WITH FAMILY INCOME ABOVE 300 PERCENT FEDERAL POVERTY LINE (AGES 35-44)⁴⁷

ECONorthwest calculated the share of individuals living in families above 300 percent of the federal poverty line for all 50 states, including North Carolina, using the U.S. Census Bureau’s 2016 ACS PUMS data.

ACS PUMS data contain anonymized person-level observations that can be used to create custom tabulations of U.S. Census data. To calculate this share, ECONorthwest relied on the ACS PUMS variables that indicated an individual’s poverty status (“POVPIP”) and family income (“FINCP”).

47. Note: Per Commission discussion, this proposed Indicator will be replaced with a related measure—Share of 35- to 44-year-olds with family income at or above a living wage—with the definition of “living wage” to be determined in 2019. See, for instance, this location-based measure: <http://livingwage.mit.edu>

FIGURE B13. **SHARE OF 35- TO 44-YEAR-OLDS IN FAMILIES WITH INCOMES ABOVE 300 PERCENT FPL**



Data source: US Census Bureau (2018).

Per myFutureNC Commission discussion, this indicator will be replaced with a related measure—Share of 35- to 44-year-olds with family income at or above a living wage—with the definition of “living wage” to be determined during the next phase of myFutureNC’s work.⁴⁸ Current baseline values for the four measures that follow also will be determined as part of the next phase of work.

D. CURRENT WORKFORCE DEMAND COMPARED TO SUPPLY OF GRADUATES BY MARKET SECTOR CATEGORY

- Workforce demand should emphasize “high-quality jobs,” which will be defined as part of the next phase of work.
- Workforce demand should track job openings both for existing companies and for companies the state is seeking to attract.

E. FORECASTED WORKFORCE DEMAND COMPARED TO SUPPLY OF GRADUATES BY MARKET SECTOR CATEGORY

- Forecasts for workforce demand should emphasize “high-quality jobs,” which will be defined as part of the next phase of work.
- Forecasts for workforce demand should include job openings related to state economic development goals.

48. See, for instance, this location-based measure: <http://livingwage.mit.edu>.