

PATHWAYS TO GREAT JOBS IN WASHINGTON STATE

A REPORT FROM



BCG

THE BOSTON CONSULTING GROUP



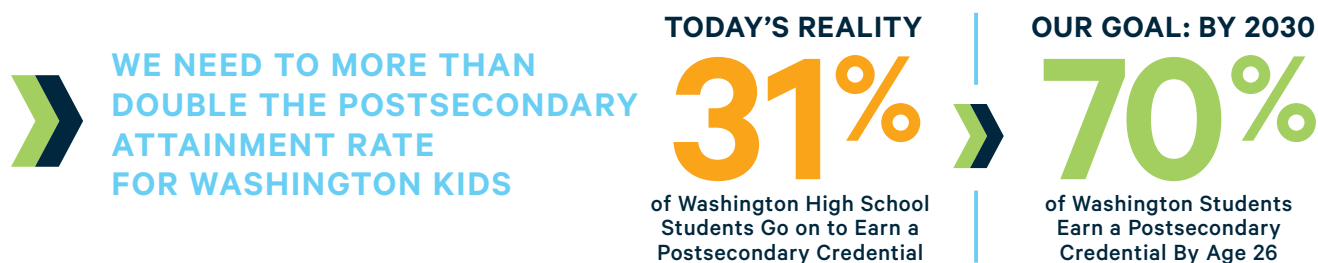
INTRODUCTION:

The job market Washington students will enter in the coming years will be full of exciting opportunities. New technologies and globalization are leading to the creation of new jobs, new companies, and even new industries. They also are dramatically changing the way existing jobs get done and the skill requirements needed to be successful.

Amidst this environment of rapid change, Washington benefits from a strong and growing economy, the seventh-fastest growing in the nation, according to Kiplinger's. Our anchor employers are market leaders in information and communications technology, aerospace, health care, life sciences, online commerce, and precision manufacturing. Traditional stronghold sectors, such as trade, natural resources, agriculture, manufacturing, and services provide a vibrant and diverse employment mix.

The **Washington Roundtable** partnered with **The Boston Consulting Group (BCG)** to examine the state's five-year jobs outlook and shine a spotlight on the jobs that will be available and the pathways Washington students can take to pursue rewarding careers here.

There will be 740,000 job openings in Washington in the next five years. State job growth over this period is expected to be nearly three times the national average. The majority of job opportunities—particularly those that will support upward mobility and good quality of life—will be filled with workers who have postsecondary education or training. Recognizing the need to prepare our kids for these opportunities, the Washington Roundtable has set an ambitious goal: By 2030, 70 percent of Washington students will earn a postsecondary credential by the age of 26.



We are falling well short of that goal today. Only 31 percent of Washington high school students go on to attain a postsecondary credential by the age of 26. This is due to many factors, ranging from low high school graduation rates (particularly among historically underserved student groups) to insufficient preparation for college and a lack of student awareness about job opportunities and associated skill requirements.

Preparing less than a third of our kids for the best jobs of the future is not good enough. Not for our students, not for our state. Washington needs to more than double the postsecondary attainment rate for young people who grow up here to ensure they have access to jobs that will enable them to support families, take advantage of opportunities for upward mobility and provide good quality of life.

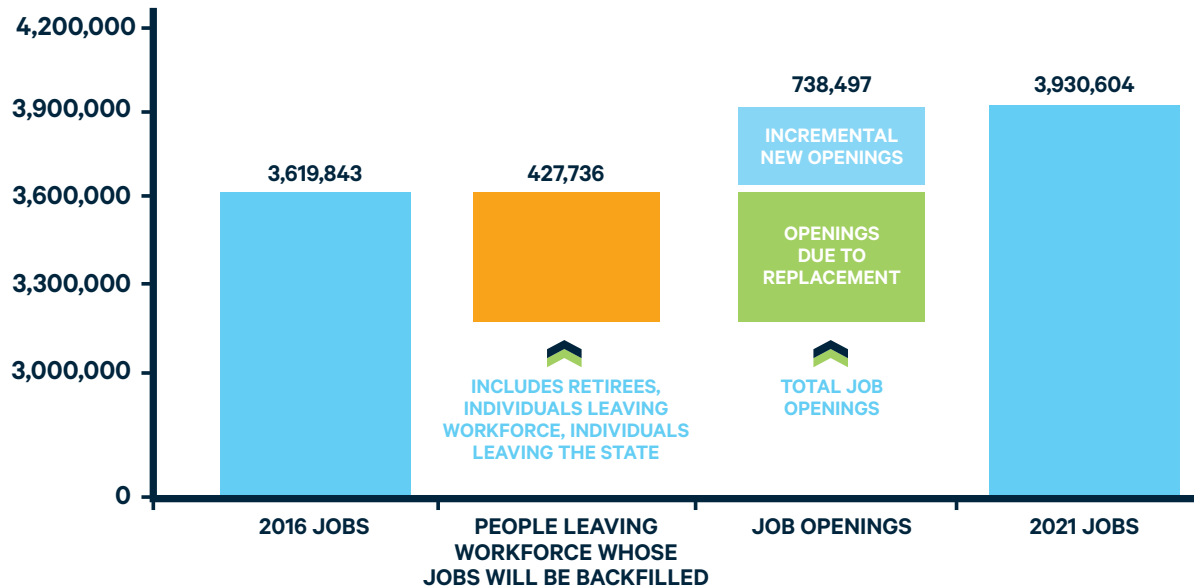
Reaching the 70 percent goal will take a concerted effort on the part of the private, public, and non-profit sectors. It will require a system-wide approach focused on enhancing school readiness, improving college and career readiness, increasing participation in postsecondary certification and degree programs, and building awareness of career pathways.

It is the sincere hope of Washington Roundtable members that, by demonstrating the great career opportunities Washington has to offer, this study will serve as a call to action for parents, educators, policymakers, and employers to work together to more effectively prepare our kids for the great opportunities available in our state.

THE FUTURE: DRAMATIC JOB GROWTH IN WASHINGTON STATE

Washington will have an unprecedented 740,000 job openings in the next five years. This growth rate (1.7 percent from 2016 to 2021) is nearly three times the projected national growth rate (2014–24), and well in excess of Washington’s historical average.

740,000 Job Openings in Washington State Between 2016–2021 Growth to Outpace National Forward-Looking Average and Washington Historical Trends



Source: BCG estimates based on Washington Employment Security Department data.

A closer look at the types of jobs that will be available is required to fully understand the range of opportunities and their associated skill requirements. For comparison purposes, BCG has classified projected job openings into three categories based on current median salary and potential for upward mobility.

CAREER JOBS:



These jobs offer the best starting salaries and opportunities for increased compensation and responsibility. Career jobs require a higher level of skills, typically evidenced by some form of postsecondary degree, certification, or credential. More than 90 percent of workers filling these jobs will have a credential (73 percent) or some college (18 percent).

PATHWAY JOBS:



Compared to entry-level positions, these jobs offer better pay and a clearer path to upward mobility and career jobs. Many require specific training or a postsecondary credential for applicants to be considered for employment. Nearly two-thirds of workers who fill pathway jobs will have a credential (34 percent) or some college (30 percent).

ENTRY-LEVEL JOBS:



These jobs offer important opportunities to gain work experience and learn basic skills. They often do not require specific training or a postsecondary credential, though nearly half of workers who fill them will have a credential (20 percent) or some college (24 percent). Entry-level jobs offer lower compensation and limited opportunities for advancement as compared to jobs in the other two categories.

ENTRY-LEVEL JOBS:

Twenty percent of job openings in Washington in the next five years will be entry level (far less growth than is expected in the other two categories with occupations that require higher skill levels).



Common entry-level positions include unskilled laborers and workers in food service, janitorial services, landscaping, and childcare. These positions typically pay \$20,000 to \$30,000 annually, a level that falls below the state median salary.

Entry-level jobs play an important role in the overall economy by providing earning opportunities and teaching basic employment skills (such as time management, customer service, attention to detail, and teamwork) for those entering the workforce.

Of the 150,000 entry-level jobs that will be available, nearly half will be filled by workers with a postsecondary credential (20 percent) or some college (24 percent).

Education or training after high school is even more important for those who want to move from an entry-level position to a pathway or career job. Without postsecondary education or training, workers are unlikely to progress to jobs that offer salaries above the state median and opportunity for advancement.

Innovative programs are available to help employees in entry-level jobs access postsecondary education or training and make the transition to positions that offer better pay and mobility. For example, the Starbucks College Achievement Plan provides all benefits-eligible U.S. employees the opportunity to pursue a bachelor's degree with 100 percent tuition coverage at Arizona State University (ASU). Participants can use their degrees to continue their careers at Starbucks or pursue any multitude of opportunities outside the company.

ENTRY LEVEL 150K JOBS OPEN IN THE NEXT 5 YEARS

TOP 10 OCCUPATIONS	TOTAL OPENINGS 2016–2021
FOOD PREP & SERVING	16,630
WAITER AND WAITRESS	15,471
FARMWORKER & LABORER CROP/NURSERY/GREENHOUSE	11,898
JANITORS & CLEANERS	9,866
MAIDS & HOUSEKEEPING	8,344
LANDSCAPING	8,069
CHILDCARE WORKER	7,987
PERSONAL CARE AIDE	5,654
COUNTER ATTENDANTS, CAFE/CONCESSION/COFFEE SHOP	4,940
FOOD PREPARATION WORKERS	4,795

PATHWAY JOBS:

Forty-five percent of openings in Washington over the next five years will be for pathway jobs. These positions typically offer an annual salary range of \$30,000 to \$45,000. The largest number of pathway job openings in the coming years will be in retail and customer service, freight processing and logistics, office administration, and carpentry.

These jobs offer potential for upward mobility, with a route to a career job. Accordingly, a higher skill level is typically required. Sixty-four percent of workers who fill pathway jobs will have a postsecondary credential (34 percent) or some college experience (30 percent).

A number of Washington companies work directly with partners in the education sector to support access to pathway, and eventually career, jobs. For example, Boeing and the Manufacturing Industrial Council are partnering with the Office of the Superintendent of Public Instruction to support CorePlus, a program that provides a two-year defined high school curriculum to teach the basic manufacturing skills needed to gain entry-level employment in multiple fields.

The healthcare and utilities industries also offer great examples of pathway opportunities, with jobs that start near the state median salary and, with additional postsecondary education or training, offer a route to career positions.



PATHWAY 330K JOBS OPEN IN THE NEXT 5 YEARS

TOP 10 OCCUPATIONS	TOTAL OPENINGS 2016-2021
RETAIL SALESPERSON	24,832
CASHIER	16,777
CUSTOMER SERVICE REP	11,604
LABORER, FREIGHT, STOCK, AND MATERIAL MOVER	11,557
GENERAL OFFICE CLERK	9,413
CARPENTER	9,043
CONSTRUCTION LABORER	8,453
TEACHER ASSISTANT	7,890
STOCK CLERKS	7,777
SECRETARIES & ADMIN ASST.	7,494

PATHWAY JOB PROFILE: MEDICAL ASSISTANT

INDUSTRY: HEALTHCARE

STARTING SALARY: \$37,000/YEAR

Primary care and specialty clinics anticipate hiring 3,000 medical assistants over the next five years. Success in this position begins with a career- and college-ready high school diploma, followed by postsecondary training and certification from an accredited medical assistant program. Experience with electronic medical records systems, front- and back-office skills, communications, and customer service are preferred. This is a gateway to career jobs such as medical administrative assistant, laboratory assistant, ophthalmic technician, and other positions that offer higher salaries and opportunity for upward mobility.

[CLICK TO LEARN MORE](#)

PATHWAY JOB PROFILE: STUDENT ENGINEER

INDUSTRY: UTILITIES

STARTING SALARY: \$16-\$20/HOUR

Employers in the utilities industry anticipate hiring thousands of utility professionals in the next five years. Success in this career pathway begins with a college- and career-ready high school diploma followed by postsecondary education. Undergraduate students enrolled full-time and working toward a bachelor of science degree in electrical or civil engineering can participate in development programs, such as the Student Engineering Development Program at Avista Corp., which serve as a gateway to engineering careers.

[CLICK TO LEARN MORE](#)

CAREER JOBS: Career jobs present a winning combination: higher starting salaries and the maximum potential for upward mobility. With a median salary range of \$60,000 to \$100,000 and beyond, these jobs offer compensation well above the state median salary (\$41,000), and most exceed Washington's median household income (\$63,000).

Approximately 35 percent of the projected job growth in Washington over the next five years will be in the career category, with some of the fastest-growing occupations including software developers, registered nurses, accountants and auditors, and sales representatives.

CAREER 260K JOBS OPEN IN THE NEXT 5 YEARS	
TOP 10 OCCUPATIONS	TOTAL OPENINGS 2016-2021
SOFTWARE APP DEVELOPER	14,791
REGISTERED NURSE	11,445
ACCOUNTANT & AUDITOR	8,546
SALES REP, WHOLESALE & MANUFACTURING	8,522
GENERAL & OPS MANAGER	7,259
ELEMENTARY SCHOOL TEACHER	6,010
COMPUTER PROGRAMMER	4,919
MANAGEMENT ANALYST	4,789
COMPUTER SYSTEMS ANALYST	4,457
ELECTRICIAN	3,899

The high degree of upward mobility found in these positions is primarily a function of the higher level of skills and credentials of the workers in them. More than nine in 10 workers who fill these jobs will have a postsecondary credential (73 percent) or some college experience (18 percent).

The STEM (science, technology, engineering, and math) and professional services industries provide excellent examples of career job opportunities in Washington.



CAREER JOB PROFILE: CYBERSECURITY PROFESSIONAL

INDUSTRY: TECHNOLOGY, COMPUTER SCIENCE, SECURITY, DEFENSE, ENERGY
SALARY RANGE: \$60,000 TO \$250,000

In the next five years, Washington companies anticipate hiring approximately 5,000 cybersecurity professionals. These employees will work to protect company networks, investigate cyber events, and triage potentially malicious activity. Success in these positions begins with a career- and college-ready diploma. Students will further benefit from high school coursework emphasizing computational problem-solving, abstract thinking, pattern recognition and coding. These positions require a bachelor's degree in computer science, engineering, or a related field. A master's degree is preferred but not required. Interested students should also pursue internships, apprenticeships, and hands-on experience.

[CLICK TO LEARN MORE](#)

CAREER JOB PROFILE: APPLICATION DEVELOPER

INDUSTRY: PROFESSIONAL SERVICES, TECHNOLOGY
STARTING SALARY: \$96,000/YEAR

In the next five years, Washington companies anticipate hiring approximately 15,000 application developers. These employees will develop software and mobile applications that interface with internal applications and provide new functionality. Success in this position begins with a career- and college-ready diploma. Students will further benefit from high school coursework emphasizing math, computer science, logic, and teamwork. Candidates must have a bachelor's degree in computer science or a related field, or equivalent work experience. Interested students are encouraged to join computer science clubs, participate in team-oriented competitions, and learn a variety of programming languages.

[CLICK TO LEARN MORE](#)

**CAREER JOB PROFILE:
ELECTRICAL LINE WORKER**

INDUSTRY: UTILITIES

SALARY RANGE: \$62,900/YEAR

The utilities industry anticipates hiring approximately 1,000 electrical line workers over the next five years. Success in this position begins with a career- and college-ready high school diploma followed by postsecondary training at a utility line construction and maintenance school such as Avista's Pre-Apprentice Line Construction School at Spokane Community College. Successful candidates will have six months or more of utility ground worker experience, a demonstrated mechanical and electrical aptitude, and communications skills.

CLICK TO LEARN MORE

**CAREER JOB PROFILE:
VIRTUAL DESIGN COORDINATOR**

INDUSTRY: CONSTRUCTION

SALARY RANGE: \$68,000 TO \$70,000/YEAR

In the next five years, engineering firms and contractors anticipate hiring several hundred virtual design coordinators. Among many responsibilities, these workers will create models to demonstrate virtual engineering approaches for new projects and models for estimating and construction. Success in this occupation begins with a career- and college-ready diploma. Students will benefit from high school coursework emphasizing English and STEM studies. A bachelor's degree in construction management or software training plus a certificate or work experience is required. Interested students are encouraged to participate in internships and class projects that combine course study and software.

CLICK TO LEARN MORE

**MORE GREAT CAREER
OPPORTUNITIES**

**PAYROLL TAX SUPERVISOR:
STARTING SALARY: \$53,000/YEAR**

**CHEMICAL ENGINEER:
STARTING SALARY: \$73,000/YEAR**

**DATA ANALYST:
STARTING SALARY: \$60,000/YEAR**

**ENERGY OPERATOR TECHNICIAN:
STARTING SALARY: \$65,000/YEAR**

Career job opportunities can be found in a wide range of industries and communities across our state. Students and families interested in learning more about job opportunities being created by Washington employers—and how they can prepare themselves to follow their interests into rewarding employment—should see the range of job vignettes created with the help of Washington Roundtable member companies. Whether students imagine themselves helping others as a medical assistant, protecting digital privacy in the rapidly evolving world of cybersecurity, or working in some other fast-moving field, we hope these job profiles will open students' eyes to opportunities they may not have realized were out there.

THE MANY PATHS TO CAREER JOBS:

There is no single “right” path for Washington students to prepare for satisfying and rewarding work lives. Young people have many routes for entering the workforce. Some will use an entry-level job as a springboard to acquire additional education and training. Others will launch their working lives in a pathway or a career job. No matter where the work-life journey begins, Washington students need to be better prepared to take advantage of the benefits that these positions offer.

Many Pathways to Career Jobs in Washington State



	ENTRY LEVEL	PATHWAY	CAREER
Starbucks	BARISTA \$21,000/YEAR Earn a Bachelor's Degree from ASU while working as a part-time barista at Starbucks.	STORE MANAGER \$50,000/YEAR Major in retail management and advance to store manager.	TRAINING SPECIALIST \$65,000/YEAR Transition to headquarters as training specialist.
		STUDENT ENGINEER \$16-\$20/HOUR Major in engineering and work as a student engineer at Avista.	ELECTRICAL ENGINEER \$100,000/YEAR After graduation, return to Avista.
Avista		MEDICAL ASSISTANT \$35,000/YEAR Enroll in a 2-year medical assistant program. Join Group Health after graduation.	REGISTERED NURSE \$78,000/YEAR With the support of Group Health pursue LPN or RN degree.
			CYBER SECURITY ANALYST \$65,000/YEAR Major in computer science and intern with PNNL. After graduation, return to PNNL.
Group Health			
Pacific Northwest National Laboratory			

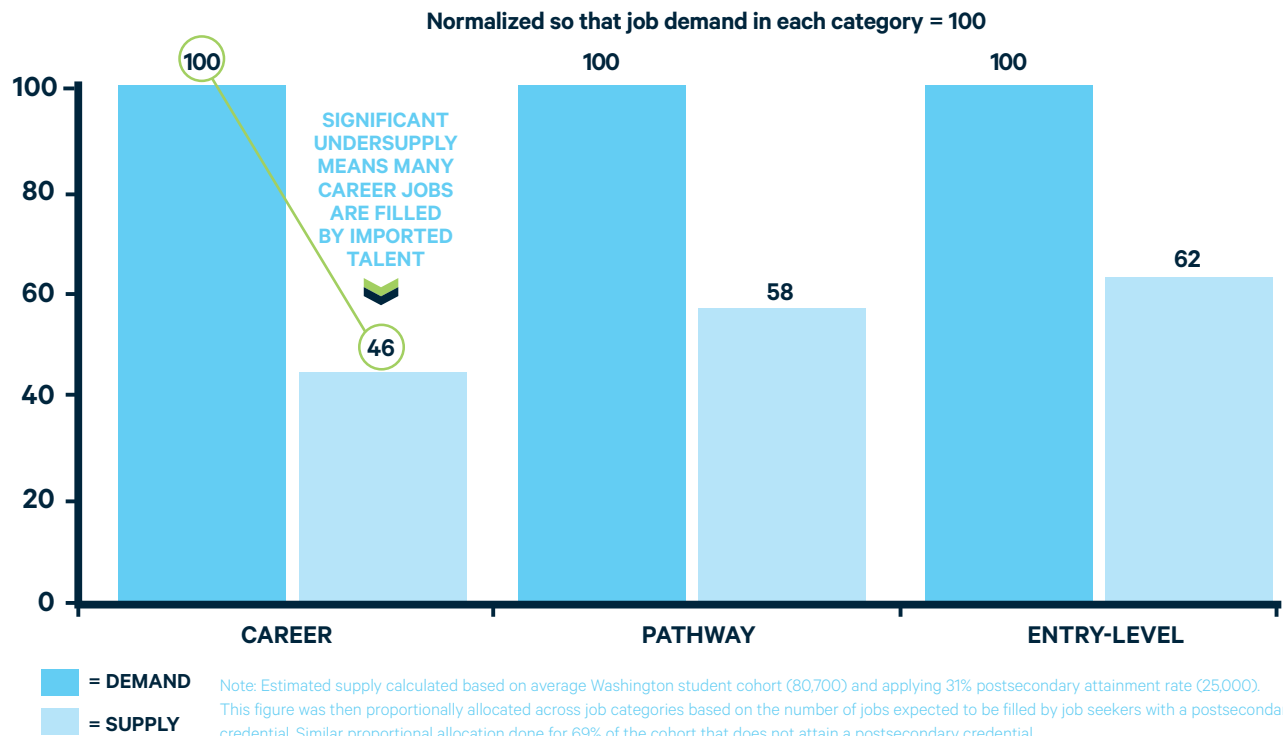
Note: Salaries displayed are WA state averages

Source: Bureau of Labor of Statistics; Washington State Employment Security Department; BCG Analysis

SKILLS GAPS IN WASHINGTON STATE:

Previous BCG research, done in partnership with the Washington Roundtable, documented gaps between employer needs in our state and the skill levels of Washington job candidates. Our education system isn't producing enough qualified candidates for the jobs being created. Gaps are especially prevalent in the career jobs category, where the best wages and opportunities for upward mobility are found.

Annual Supply (Washington Students) vs. Demand (Washington Jobs)

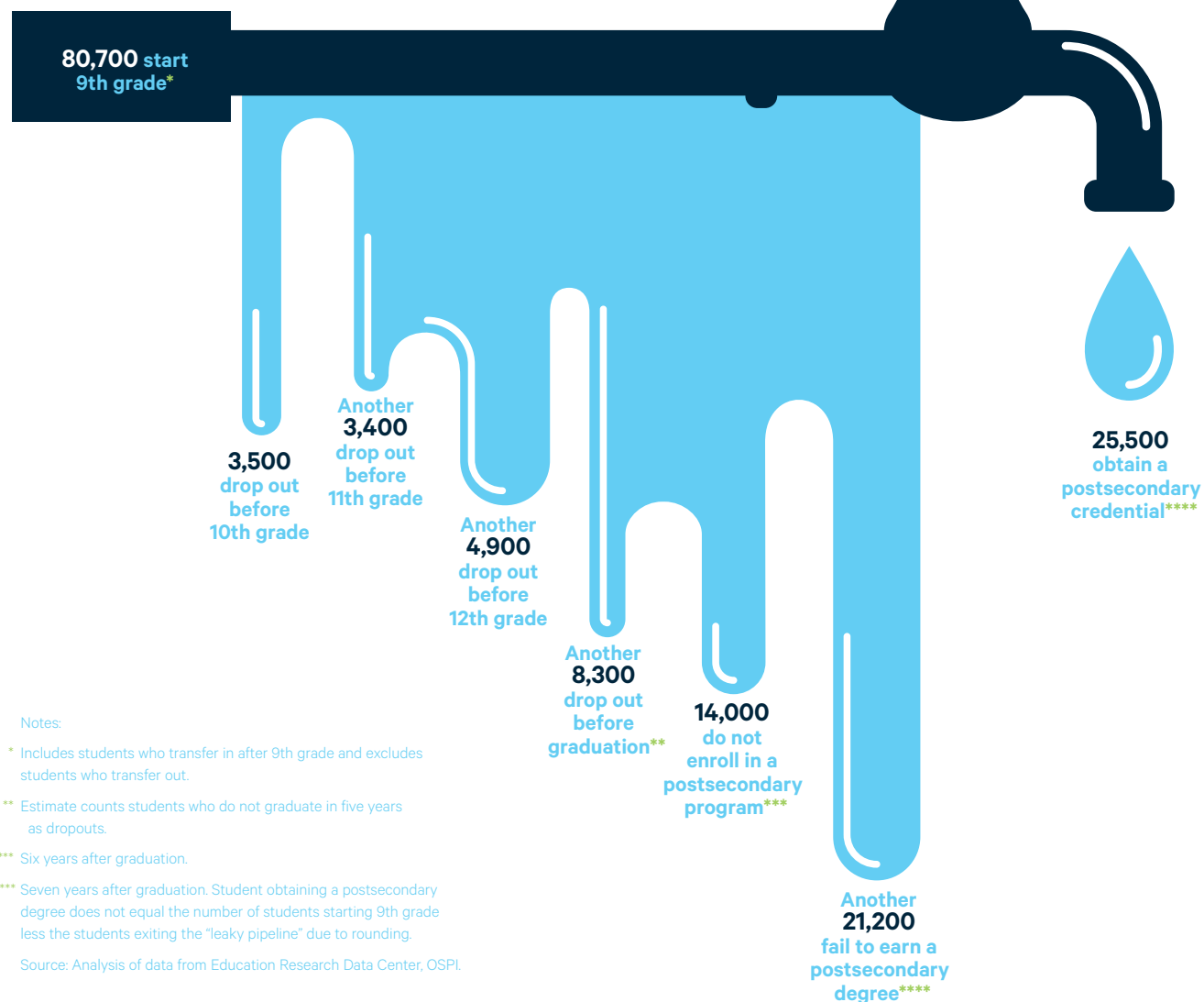


**~38K CAREER JOB OPENINGS PER YEAR WILL BE FILLED BY A CREDENTIALLED CANDIDATE
...BUT ONLY ~25K CREDENTIALLED WASHINGTON STUDENTS PER COHORT**

SKILLS GAPS IN WASHINGTON STATE (CONTINUED):

A look at what happens to Washington students as they move through high school and into postsecondary education illustrates the challenge.

Washington students fall behind early and fall out over time.



While this "leaky pipeline" results in a challenging skills gap—particularly for employers seeking to hire Washington students into technical or STEM-related career jobs—similar gaps exist for those who want to fill pathway and even entry-level jobs. In those cases, employers report struggling to find graduates with vocational experience and demonstrated readiness for the workforce, including basic work skills like time management, active listening, teamwork, critical thinking, math, and writing competency. If Washington students are adequately prepared, they will have a wide range of career opportunities to pursue.

CONCLUSION:

The members of the Washington Roundtable hope this study will catalyze a statewide effort to ensure more of our kids are prepared for jobs in our state. To do that, **we must significantly raise the postsecondary attainment rate for students going through Washington's K-12 system. Our goal: By 2030, 70 percent of Washington students will go on to attain a postsecondary credential by the age of 26.**

Today, only 31 percent of Washington high school students go on to attain a postsecondary credential (whether an associate's, bachelor's, or master's degree or some form of industry-recognized certification or apprenticeship program) within seven years of high school graduation. We need to more than double that number. If we do, the rewards will extend statewide.

IMPROVING WASHINGTON KIDS' CREDENTIAL ATTAINMENT TO 70% WILL YIELD SIGNIFICANT SOCIAL BENEFITS

Waiting until our kids are in high school, or even middle school, is too late to start this process. The state must take a "cradle to career" approach to raising the postsecondary attainment rate and preparing our students for job opportunities in our state.

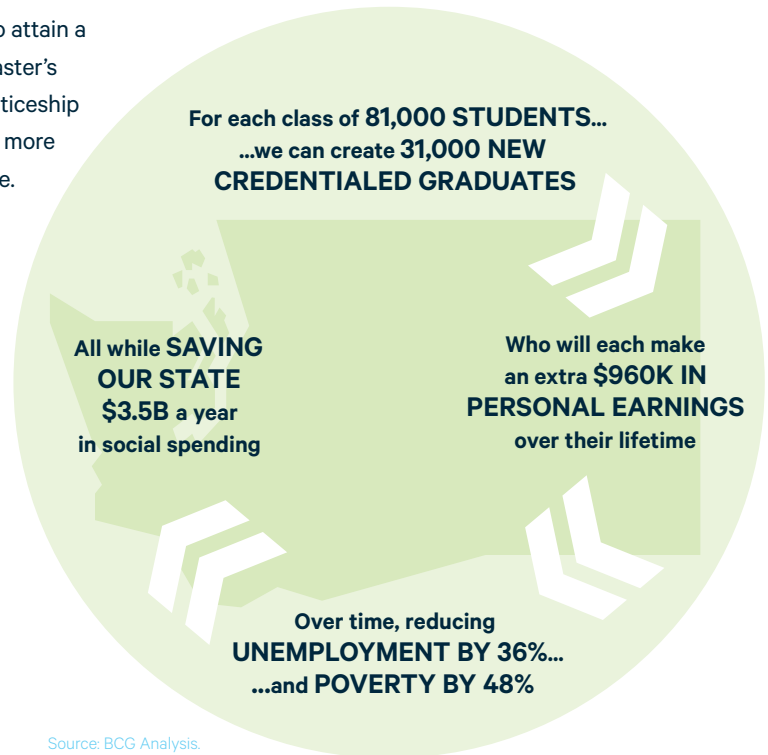
Action is required in four areas:

- **Improve school readiness**, with an emphasis on low-income children and traditionally underserved student populations.
- **Improve the performance of our K-12 system to ensure more high school students graduate career- and college-ready**, with an emphasis on raising achievement among at-risk students and low-performing schools and students.
- **Increase participation of Washington students in postsecondary education**, with a focus on delivering degrees, certificates, and other credentials in fields that will be in high demand.
- **Help students, beginning in elementary school, develop better awareness of the careers that will be available**, inspiring them to think about their futures, the skills necessary for the jobs that interest them and the pathways to attaining those skills.

The time for action is now.

Washington employers are creating exciting job opportunities that offer excellent wages and strong potential for upward mobility. These jobs should go to students from Washington whenever possible. That will only happen if we all work together to ensure more of our students attain the credentials required for success in our state. Delaying this effort will mean that more of these great jobs end up being filled by talent imported from elsewhere, while students raised and educated here face a future of more limited opportunities.

Setting a postsecondary achievement goal of 70 percent for kids growing up in Washington is ambitious. The rewards are so clearly worth the effort.



METHODOLOGY & REFERENCES:

FORECAST OF JOB OPENINGS

Quantifying and classifying the job openings that will be available in Washington over the next five years was a major analytical focus of this study. To develop these estimates, BCG drew from publicly available data, primarily from the Washington State Employment Security Department and the Bureau of Labor Statistics, as well as hiring forecasts provided by some Washington Roundtable member companies.

For comparison purposes, BCG calculated a “job score” for each occupation on a scale of zero to 100.

- Fifty-percent of the job score is based on a comparison of the occupation’s median salary to the Washington state median salary (which is approximately \$41,000 per year). This comparison is used to capture the relative standard of living that the job provides.
- The other half of the job score is determined by the ratio of an occupation’s 75th percentile salary compared to its 25th percentile salary. This captures the opportunity for upward mobility within a given occupation. Jobs that have a wider salary range imply more opportunity for upward mobility over time, and thus have a higher score.
- Overall, a job that provides a starting salary near or above the Washington state median and has a wide salary range will have a job score greater than 50.

Jobs were classified into one of three categories based on their job score and other qualitative considerations:

- Career jobs have a job score greater than 50, based on the methodology described above. Jobs that fall into the “Career” category have a salary range of \$60,000 at the 25th percentile up to \$100,000+ at the 75th percentile.
- Pathway jobs have a job score less than 50, reflecting lower salaries and mobility within a given occupation, but they offer a clear promotion path to a Career job. Jobs that fall into the “Pathway” category have a salary range of \$30,000 at the 25th percentile up to \$45,000 at the 75th percentile.
- Entry-level jobs have a job score less than 50, and they lack a clear promotion path to a Career job. These jobs have a salary range of \$20,000 at the 25th percentile up to \$30,000 at the 75th percentile.

Job salary ranges are based on BCG analysis of data provided by the Bureau of Labor Statistics, American Census Survey, and Washington State Employment Security Department.

JOB PROFILE VIGNETTES

BCG conducted in-depth interviews with executives and human resources staff at Washington Roundtable member companies to develop profile vignettes for select job opportunities, including associated skills requirements.

POSTSECONDARY ATTAINMENT

The Washington Roundtable used data published by the Education Research & Data Center (ERDC) and the Office of Superintendent of Public Instruction (OSPI) to determine the postsecondary attainment rate of students who were enrolled in a Washington high school and expected to graduate with the class of 2006. The determination that 31 percent of Washington students attained a postsecondary credential is based on reported credential attainment of those students within seven years of the expected year of high school graduation.

OSPI reported that there were 80,732 students in the class of 2006. This cohort is composed of students who started 9th grade in a Washington high school plus any student who transferred into a Washington high school between 2002 and 2006, minus any student who transferred out of the state over those same years. Of those 80,732 students in the class of 2006, the ERDC reported that 25,465 of them earned a postsecondary credential within seven years of their expected year of graduation.

SELECT SOURCES AND REFERENCES

Bureau of Labor Statistics. [“Education attainment for workers 25 years and older by detailed occupation”](#)

Bureau of Labor Statistics. [“Occupational Employment Statistics”](#)

Education Research & Data Center. [“Washington’s Postsecondary Education Pipeline”](#)

Education Research & Data Center. [“A Credential by Age 26?”](#)

OSPI. [Graduation and Dropout Statistics, 2005-06](#)

Washington State Employment Security Database. [“Employment Projections”](#)

ABOUT THE BOSTON CONSULTING GROUP

The Boston Consulting Group (BCG) is a global management consulting firm and the world's leading advisor on business strategy. BCG partners with clients from the private, public, and not-for-profit sectors in all regions to identify their highest-value opportunities, address their most critical challenges, and transform their enterprises. A customized approach combines deep insight into the dynamics of companies and markets with close collaboration at all levels of the client organization. This ensures that our clients achieve sustainable competitive advantage, build more capable organizations, and secure lasting results. Founded in 1963, BCG is a private company with 85 offices in 48 countries. For more information, visit bcg.com.

ABOUT THE WASHINGTON ROUNDTABLE

The Washington Roundtable is a nonprofit organization composed of senior executives of major private sector employers in Washington state. Our members work together to effect positive change on public policy issues that they believe are most important to supporting state economic vitality and fostering opportunity for all Washingtonians. For more information, visit waroundtable.com.

ABOUT PARTNERSHIP FOR LEARNING

Partnership for Learning, the education foundation of the Washington Roundtable, is a statewide nonprofit organization that communicates the need for all Washington's students to graduate from high school ready for career and college. As a trusted source of information, Partnership for Learning makes complex education issues accessible. For more information, visit partnership4learning.org.

CONTRIBUTORS

Joel Janda, Partner & Managing Director, The Boston Consulting Group

Charlie Davis, Principal, The Boston Consulting Group

Marc Casale, Project Leader, The Boston Consulting Group

Steve Mullin, President, Washington Roundtable

Neil Strege, Vice President, Washington Roundtable

Sara Garrettson, Communications Director, Washington Roundtable

Brian Jeffries, Policy Director, Partnership for Learning