By 2030, Washington students will be career- and future-ready.

70%

triple.
What gets measured, gets done

WA State Measurement Vision: **transparent**, **accessible**, and **relevant** communication of **disaggregated** student outcomes and progress toward **cross-sector** goals that aim to close equity gaps and to prepare all WA students for their futures

- Examples of cross-sector goals:
  - 70% credential attainment among adults (WSAC) or among K-12 originators by the HS Class of 2030 (WRT/P4L, WA STEM)
  - 60% “career launch” experience completion by HS Class of 2030 (Career Connect WA)
What We Need to Measure

• **Problem:** job openings, talent & credential shortages, equity imperative

• **Outputs:** Work-based programming (career connected learning; career awareness, career exploration, career launch)

• Student/adult **outcomes** from:
  • K-12 (including programs and experiences),
  • Into higher ed/credentials,
  • into the workforce (at least 5 years out),
  • along lines of equity
WA State Data Agency Partners

• Workforce Training & Education Coordinating Board
  • Career Bridge
• Washington Student Achievement Council
  • Adult Reengagement Portal
• Employment Security Department
  • High School and Beyond Planning (HSBP) Tool
• Education Research Data Center
  • P20 Database (P20 Identifier)
• Office of Superintendent of Public Instruction
  • HSBP + Career & Technical Education planning data
• State Board of Community & Technical Colleges
  • Career Launch Program Endorsement
Current Data Inputs (P-20 Identifier for All)

DEL: Dept of Early Learning
DOC: Dept of Corrections
NSC: National Student Clearinghouse
WSAC – Washington Student Achievement Council
L&I: Labor and Industries
OSPI: Office of Superintendent of Public Instruction
PCHEES: Public Centralized Higher Education Enrollment System
SBCTC: State Board for Community and Technical Colleges
WTECB: Workforce Training and Education Coordinating Board

P-20W Information For Parents, Teachers, Administrators, Planners, Policy-Makers, Researchers
Routine Reports, Research Briefs, Ad Hoc Analyses, Research Datasets, Web Reports

WSAC
Financial Aid, College Bound

OSPI
K-12 Students, Courses, Graduation, Teachers

DCYF
ECEAP, ESIT, Providers

NSC
Out of state & WA priv postsecondary

SBCTC
Students, Courses, Completions, Majors

DOC
Inmate Education

PCHEES
Students, Courses, Degrees, Majors

L&I
Registered Apprenticeships

Employment Security
Workforce-Industry, Hours, Earnings

WTECB
Lic Private Career Schools
HISTORY OF STEM BY THE NUMBERS

Big goal (70%) that is necessary to for our economy, necessary to close equity gaps, and necessary allow all students to have individual choice and opportunity.

This goal is daunting, so we are doing four major things to support measurement of career connected learning/work-based learning outputs and outcomes:
WA STEM’S ROLE IN SUPPORTING PARTNERS

1. Getting & advocating for better data that tells us about outcomes across transitions

2. Breaking it down (focusing on the students historically furthest from opportunity) by region & demographic

3. “Backwards mathing and mapping” by region and by demographic to make highly-localized analyses

4. Supporting our partners in using this data to set goals, make plans, start new pathways, and chip away at the opportunity gaps in their own backyard
PROJECTED CRED. ATTAINMENT V. WA STEM GOAL

Baseline (Class of 2015):
- Washington State Credentials Attained: 30,425 (40%)
- Washington State Credentials Attained without Intervention: 30,000

Class of 2018:
- Washington State Credentials Attained: 34,543 (43%)
- Washington State Credentials Attained without Intervention: 33,000

Class of 2021:
- Washington State Credentials Attained: 37,970 (46%)
- Washington State Credentials Attained without Intervention: 35,500

Class of 2025:
- Washington State Credentials Attained: 44,872 (50%)
- Washington State Credentials Attained without Intervention: 42,000

Class of 2030:
- Washington State Credentials Attained: 54,234 (58%)
- Washington State Credentials Attained without Intervention: 50,000

Sources: WA State ERDC 2015, Credential by Age 26; ERDC High School Feedback Report; WA State OSPI High School Graduation for Adjusted 5-year Cohort
Low Income Baseline Class of 2015

Class of 2018

Class of 2021

Class of 2025

Class of 2030

Low Income Credentials Attained with Intervention

Low Income Credentials Attained without Intervention

Washington State Credentials Attained with Intervention

Washington State Credentials Attained without Intervention

Sources: WA State ERDC 2015, Credential by Age 26; ERDC High School Feedback Report; WA State OSPI High School Graduation for Adjusted 5-year Cohort
LATINX CREDENTIAL ATTAINMENT

Baseline
Class of 2015
Class of 2018
Class of 2021
Class of 2025
Class of 2030

80%
70% (66,293)
60% (52,249)
55% (4,240)
47% (4,793)
38% (6,466)
31% (5,244)
30% (4,327)
28% (3,825)
25% (3,410)

Sources: WA State ERDC 2015, Credential by Age 26; ERDC High School Feedback Report; WA State OSPI High School Graduation for Adjusted 5-year Cohort
Job Projections - Groups

EASTERN REGION/SPOKANE

Average_annual_total_openings_2016-2021

- Construction Trades
- Sales / Retail / Wholesale
- Management (all fields)
- Business & Finance Jobs
- Healthcare
- Education
- Maint/Auto Trades
- Computer/Math
- Transportation
- Production Trades
- Office/Admin
- Social Services
- Engineering

- Doc/Prof. Degree
- Masters Degree
- Bachelors Degree
- Apprenticeship
- Associates Degree
- Cert./Voc Cred.
- HS Diploma
EASTERN REGION/SPOKANE

**HEALTHCARE PROFESSIONAL**
REGISTERED NURSE & MEDICAL ASSISTANT
Annual # of Openings: 1,347
Credential: Certificate → Bachelor’s
Average Regional Wage: $37,000 → $79,875

**TRADES PROFESSIONAL**
Annual # of Openings: 990
Credential: Apprenticeship
Average Regional Wage: $55,190

**K-12 TEACHER**
Annual # of Openings: 604
Credential: Bachelor’s
Average Regional Wage: $60,700

**INFORMATION TECHNOLOGY**
Annual # of Openings: 374
Credential: Bachelor’s
Average Regional Wage: $78,304

**BUSINESS & FINANCE PROFESSIONAL**
Annual # of Openings: 362
Credential: Bachelor’s
Average Regional Wage: $64,000 → $72,000

**ENGINEERING**
Annual # of Openings: 200
Credential: Bachelor’s
Average Regional Wage: $80,000 - $106,000
EASTERN REGION/SPOKANE

CREDENTIAL ENROLLMENT/ATTAINMENT

54% of 6,357 of the originating ninth graders in the Eastern Region enroll in a postsecondary program and 36% of those originating ninth graders earn a credential by age 26.

<table>
<thead>
<tr>
<th></th>
<th>Enrollment</th>
<th>Attainment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Washington State</td>
<td>59% of 75,286</td>
<td>40%</td>
</tr>
<tr>
<td>Eastern Region</td>
<td>54% of 6,357</td>
<td>36%</td>
</tr>
<tr>
<td>Female</td>
<td>60% of 3,091</td>
<td>42%</td>
</tr>
<tr>
<td>Male</td>
<td>48% of 3,266</td>
<td>31%</td>
</tr>
<tr>
<td>Low-Income</td>
<td>45% of 3,817</td>
<td>24%</td>
</tr>
<tr>
<td>American Indian / Alaskan Native</td>
<td>21% of 112</td>
<td>11%</td>
</tr>
<tr>
<td>Asian</td>
<td>56% of 115</td>
<td>39%</td>
</tr>
<tr>
<td>Black / African American</td>
<td>38% of 91</td>
<td>16%</td>
</tr>
<tr>
<td>Latinx</td>
<td>40% of 424</td>
<td>19%</td>
</tr>
<tr>
<td>Native Hawaiian / Other Pacific Islander</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Two or more races</td>
<td>53% of 472</td>
<td>41%</td>
</tr>
<tr>
<td>White</td>
<td>56% of 5,118</td>
<td>41%</td>
</tr>
</tbody>
</table>
EASTERN REGION/SPOKANE

185 MORE CREDENTIALS PER YEAR = REGION ON TRACK

Washington State
- Credentials Attained with Intervention
- Credentials Attained without Intervention

Eastern Region
- Credentials Attained with Intervention
- Credentials Attained without Intervention

Baseline (Class of 2010)
- 36% 2,313

Class of 2018
- 39% 2,675
- 41% 2,867

Class of 2021
- 42% 3,036
- 45% 3,421

Class of 2025
- 46% 3,518
- 53% 4,100

Class of 2030
- 51% 4,121
- 63% 5,083

Measured six to eight years after high school graduation
# Credential Opportunities by Region & Industry Matrix (CORI)

## North Central

### Supply and Demand Estimates for Family Wage Occupations in Demand

<table>
<thead>
<tr>
<th>SOC Code</th>
<th>Top Occupations</th>
<th>Estimated Annual Openings</th>
<th>Other Job Openings seeking same credential(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>43-6013</td>
<td>Medical Secretaries</td>
<td>High school diploma or equivalent</td>
<td>42</td>
</tr>
<tr>
<td>31-9111</td>
<td>Medical and Health Services Managers</td>
<td>Bachelor's degree</td>
<td>32</td>
</tr>
<tr>
<td>31-0991</td>
<td>Dental Assistants</td>
<td>Postsecondary nondegree award</td>
<td>42</td>
</tr>
<tr>
<td>29-2052</td>
<td>Pharmacy Technicians</td>
<td>High school diploma or equivalent</td>
<td>27</td>
</tr>
<tr>
<td>29-1071</td>
<td>Physician Assistants</td>
<td>Master's degree</td>
<td>12</td>
</tr>
<tr>
<td>29-1121</td>
<td>Physical Therapists</td>
<td>Doctoral or professional degree</td>
<td>14</td>
</tr>
<tr>
<td>29-1051</td>
<td>Pharmacists</td>
<td>Doctoral or professional degree</td>
<td>12</td>
</tr>
<tr>
<td>29-2041</td>
<td>Emergency Medical Technicians and Paramedics</td>
<td>Postsecondary nondegree award</td>
<td>12</td>
</tr>
<tr>
<td>29-2031</td>
<td>Dental Hygienists</td>
<td>Associate's degree</td>
<td>10</td>
</tr>
<tr>
<td>29-2099</td>
<td>Health Technologists and Technicians, All Other</td>
<td>Postsecondary nondegree award</td>
<td>7</td>
</tr>
<tr>
<td>29-1127</td>
<td>Speech-Language Pathologists</td>
<td>Master's degree</td>
<td>6</td>
</tr>
<tr>
<td>29-2081</td>
<td>Opticians, Dispensing</td>
<td>Apprenticeship</td>
<td>6</td>
</tr>
<tr>
<td>29-1021</td>
<td>Dentists, General</td>
<td>Doctoral or professional degree</td>
<td>5</td>
</tr>
<tr>
<td>29-1141</td>
<td>Registered Nurses</td>
<td>Bachelor's degree</td>
<td>154</td>
</tr>
</tbody>
</table>

### Supply Shortages

- Medical Secretaries: 62
- Medical and Health Services Managers: 47
- Dental Assistants: 42
- Pharmacy Technicians: 27
- Physician Assistants: 23
- Physical Therapists: 14
- Pharmacists: 12
- Emergency Medical Technicians and Paramedics: 12
- Dental Hygienists: 10
- Health Technologists and Technicians, All Other: 7
- Speech-Language Pathologists: 6
- Opticians, Dispensing: 6
- Dentists, General: 5
- Registered Nurses: 66

## All Remaining Sectors in North Central Region

<table>
<thead>
<tr>
<th>SOC Code</th>
<th>Top Occupations</th>
<th>Supply Shortage</th>
</tr>
</thead>
<tbody>
<tr>
<td>43-9051</td>
<td>Office Clerks, General</td>
<td>(264)</td>
</tr>
<tr>
<td>25-2022</td>
<td>Middle School Teachers, Except Special Education</td>
<td>(217)</td>
</tr>
<tr>
<td>25-2021</td>
<td>Elementary School Teachers, Except Special Education</td>
<td>(155)</td>
</tr>
<tr>
<td>41-4012</td>
<td>Manufacturing, Except Technical and Scientific Products</td>
<td>(126)</td>
</tr>
<tr>
<td>13-2011</td>
<td>Accountants and Auditors</td>
<td>(79)</td>
</tr>
<tr>
<td>39-9031</td>
<td>Fitness Trainers and Aerobics Instructors</td>
<td>(70)</td>
</tr>
<tr>
<td>41-3021</td>
<td>Insurance Sales Agents</td>
<td>(70)</td>
</tr>
<tr>
<td>11-9141</td>
<td>Property, Real Estate, and Community Association Managers</td>
<td>(66)</td>
</tr>
<tr>
<td>41-9022</td>
<td>Real Estate Sales Agents</td>
<td>(66)</td>
</tr>
<tr>
<td>41-1012</td>
<td>First-Line Supervisors of Non-Retail Sales Workers</td>
<td>(59)</td>
</tr>
<tr>
<td>15-1151</td>
<td>Computer User Support Specialists</td>
<td>(37)</td>
</tr>
<tr>
<td>11-2031</td>
<td>Financial Managers</td>
<td>(37)</td>
</tr>
<tr>
<td>21-1093</td>
<td>Social and Human Service Assistants</td>
<td>(83)</td>
</tr>
<tr>
<td>25-2032</td>
<td>Career/Technical Education Teachers, Secondary School</td>
<td>(31)</td>
</tr>
</tbody>
</table>
LINKS FOR EACH TOOL:

1. Labor Market Dashboard: 
   washingtonstem.org/STEMbytheNumbers
2. Credential Production Visual: 
   https://education.uw.edu/faculty-and-research/washingtonpathways/state-credential-production
3. CORI Source Files: 
   washingtonstem.box.com/s/66kehdh31t7hx5t7hti5s5lupwwmlhf0
4. CORI Tool: 
   washingtonstem.box.com/s/5c7jigeaps1t96q0o511otgkzo9xgs12
FORTHCOMING WORK:

Landscape of opportunities/programming (systems support & equity of access use case) & pathway mapping tool (student/school use case)

- Regional job openings, salary, and credentials required
- Location and capacity of credentialing programs
- Middle school and high school pathway availability
- Internships, career fairs, and other school/community-based exposure
FORTHCOMING WORK:

Tracking work-based learning/career connected learning program offerings & participation (along lines of equity)

- Apprenticeships & pre-apprenticeships ✓
- Higher education credentials with work-based learning ✓ ✓
- Career & Technical Education participation & concentration ✓ ✓
- Work-based learning courses ✓
- Internships
- Career fairs
- High school & beyond plans (✓)

WASHINGTON STEM
REMAKING SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS EDUCATION