

STEM by the Numbers: Data and Research Sources

Bureau of Labor Statistics (BLS)

Occupational Projections and Worker Characteristics -

<https://www.bls.gov/emp/tables/occupational-projections-and-characteristics.htm>

Provides the following data:

- Typical entry-level education
- Work experience in a related occupation
- Typical on-the-job training needed to attain competency in the occupation

Educational Service District (ESD)

- A map outlining each district can be found here
http://www.k12.wa.us/maps/DownloadFiles/ESDs_2017_8x11.pdf
- A map of individual school districts was used to align Workforce Development Area with ESD and regions. <https://data.wa.gov/Education/School-Districts-Washington-State/vk9k-n3r7>

Education Research & Data Center (ERDC) – Enrollment and completion data aggregated by region

- Data provided to Washington STEM from ERDC upon request:
 - Enrollment in two-year community and technical colleges, or four-year post-secondary institutions, within three academic years following graduation from a Washington State public high school.
 - Eight-year outcomes for 2005-2009 Washington State public high school graduates earning a certificate, associate's, bachelor's or higher.

ERDC High School Feedback Report – <http://www.erdcdatalink.wa.gov/hsfb.aspx>

- "School Districts: Statewide Comparison" – provides school district level details on where graduates enroll in postsecondary education and the enrollment patterns of graduates by demographic characteristics.



ERDC High School Graduate Outcomes - <https://erdc.wa.gov/data-dashboards/high-school-graduate-outcomes>

- Direct enrollment in two-year community and technical colleges, or four-year post-secondary institutions, within three academic years following graduation from a Washington State public high school.
- Eight-year outcomes for 2005-2009 Washington public high school graduates earning a certificate, associate's, bachelor's or higher.

Family Sustaining Wage - <http://livingwage.mit.edu>

- The Living Wage Calculator was used in combination with county population estimates to determine regional cost of living.
- For the purposes of this report, a family sustaining job has been defined as paying a wage above the amount required to support a household with two adults (one working full time) and one child.

Integrated Postsecondary Education Data System (IPEDS)

- Completions, awards and degrees by six-digit CIP code - <https://nces.ed.gov/ipeds/datacenter/CDS.aspx>
 - Credential attainment data, provided by IPEDS, is a count of degrees and certificates conferred, not individual completers, in the 2016 academic year, as reported by 129 Washington State institutions.

Office of Financial Management (OFM)

- County Population Projections - <https://www.ofm.wa.gov/washington-data-research/population-demographics/population-forecasts-and-projections/growth-management-act-county-projections>
- Caseload Forecast Council "Common Schools Education Long Range Projection" - https://www.cfc.wa.gov/Education_Common_Schools_LONG.htm

Office of the Superintendent of Public Instruction (OSPI)

- Data files can be found here: <http://reportcard.ospi.k12.wa.us/DataDownload.aspx>
 - "Graduation rates by district five-year cohort"
 - "Originating ninth graders" refers to 2016 adjusted five-year cohort - The total number of students identified as belonging to the class of 2016, who are reported as graduating no later than the 2016-2017 school year.
 - Data includes high school graduation rates, cohort size, and demographic characteristics
 - Washington Kindergarten Inventory of Developing Skills (WaKIDS) data
 - Kindergarten Math Readiness by student demographics



- Washington Access to Instruction and Measurement (AIM) and Smarter Balance Assessments (SBA) Data
 - 3rd Grade Math Proficiency by student demographics
- Dual credit data by district
 - Dual Credit participation by student demographics

Typical Credential Needed for Entry

Using Washington State Department of Labor & Industry (L&I) data on registered apprentices and approved apprenticeship programs, combined with Bureau of Labor Statistics data on typical entry-level education, we were able to generate typical credential needed for entry. Typical credential needed for entry allows us to include careers in which high school graduates can earn living and family-sustaining wages through an apprenticeship program offered in the state of Washington.

Washington Employment Security Department Occupation Projections –

<https://fortress.wa.gov/esd/employmentdata/reports-publications/industry-reports/employment-projections>

- “Average Annual Openings” is determined by the separations projection method.
 - Separations projections measure job openings created by workers leaving the workforce or transferring to an occupation with a different Standard Occupational Classification (SOC). This measure excludes turnover within an occupation.
- 2016-2026 long term projections - [All occupational projections \(separations\)](#)

Washington Employment Security Department Occupational Employment and Wage Estimates

- Average Regional Wage - Wage estimates by occupation and Bureau of Labor Statistics Survey Area were used to calculate average regional wage <https://esd.wa.gov/labormarketinfo/occupations>

Washington State Labor & Industries (L&I)

(ARTS) Apprenticeship Registration & Tracking System

- Washington State approved apprenticeship programs <https://secure.lni.wa.gov/arts-public/#/program-search>
- ARTS Public Data - Washington State registered apprentices <https://data.wa.gov/Labor/ARTS-Public-Data/mcr6-ujqw>



Workforce Development Areas (WDA)

- A map outlining WDAs and corresponding counties can be here
<http://www.wtb.wa.gov/LocalWorkforcePlans.asp>
- The below table defines the Bureau of Labor Statistics survey area associated with each WDA

WDA*	Survey Area**
Benton-Franklin	Kennewick-Richland, Washington (WA) Metropolitan Statistical Area (MSA) - Includes Benton and Franklin counties
Eastern Washington	Clarkston (WA) and Lewiston, (Idaho) MSA - Includes Asotin, (Washington), and Nez Pierce (Idaho) counties Eastern WA (NMA) - Includes Adams, Ferry, Garfield, Grant, Lincoln, and Whitman counties Walla Walla, WA MSA - Includes Columbia and Walla Walla counties
Seattle-King County	Seattle-Bellevue-Everett, WA Metropolitan Division MD - Includes King and Snohomish counties
North Central	Central WA NMA - Includes Kittitas, Klickitat, and Okanogan counties Wenatchee, WA MSA - Includes Chelan and Douglas counties Eastern WA NMA - Includes Adams, Ferry, Garfield, Grant, Lincoln, and Whitman counties
Northwest	Bellingham, WA MSA - Includes Whatcom County Mount Vernon-Anacortes, WA MSA - Includes Skagit County Northwestern WA NMA - Includes Clallam, Island, Jefferson, and San Juan counties
Pacific Mountain	Southwestern WA NMA - Includes Grays Harbor, Lewis, Mason, Pacific, and Wahkiakum counties Olympia-Tumwater, WA MSA - Includes Thurston County
Pierce County	Tacoma-Lakewood, WA MD - Includes Pierce County
Olympic Consortium	Northwestern WA NMA - Includes Clallam, Island, Jefferson and San Juan counties Bremerton-Silverdale, WA MSA - Includes Kitsap County
Snohomish	Seattle-Bellevue-Everett, WA MD - Includes King and Snohomish counties
South Central	Yakima, WA MSA - Includes Yakima County Central WA NMA - Includes Kittitas, Klickitat and Okanogan counties
Southwest Washington	Vancouver (WA) and Portland-Hillsboro (Oregon) MSA - Includes Clark and Skamania, (WA) counties; Clackamas, Columbia, Multnomah, Washington and Yamhill (OR) counties Longview, WA MSA - Includes Cowlitz County
Spokane	Spokane-Spokane Valley, WA MSA - Includes Pend Oreille, Spokane and Stevens counties

*Survey areas are combined for Workforce Development Areas with multiple survey areas

**Survey areas are defined by the U.S. Bureau of Labor Statistics Metropolitan and Nonmetropolitan Area Definitions (https://www.bls.gov/oes/current/msa_def.htm)

