WASHINGTON

2023 State of Computer Science Education

The rapid pace of technological advancement, as seen with the widespread integration of generative artificial intelligence (AI), underscores the need for foundational knowledge in computer science for all students. This report calls upon advocates to embrace the urgency of this matter and revamp school curricula to align with the demands of the 21st century, including requiring that all students learn computer science.
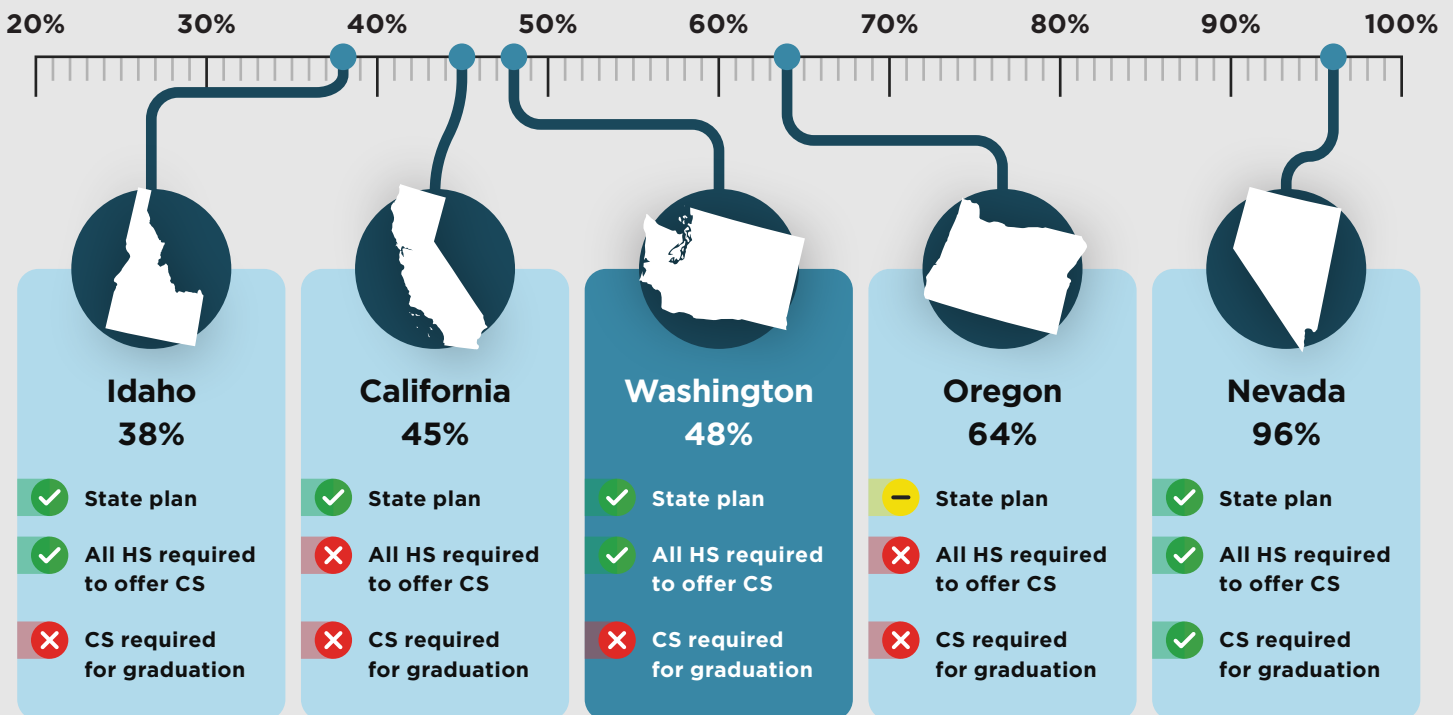
Currently, 57.5% of public high schools in the United States (U.S.) offer a foundational computer science class—an achievement marking the largest percentage growth in the last five years. Across the 35 states* where data is available, 5.8% of high school students are enrolled in foundational computer science. Even with growing access this growth, large disparities still exist, and we must continue to focus on eliminating participation gaps.

10,857
In 2023, WA averaged 10,857 open computing jobs each month

$134,654
These jobs have an average salary of $134,654

*AL, AR, AZ, CT, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MA, MD, MS, NC, ND, NE, NJ, NM, NV, NY, OK, OR, PA, RI, TN, TX, UT, VA, VT, WV, WI

Comparative Access to Computer Science Courses
(percentage of high schools offering)

	20%	30%	40%	50%	60%	70%	80%	90%	100%

Idaho 38%
- ✅ State plan
- ✅ All HS required to offer CS
- ❌ CS required for graduation

California 45%
- ✅ State plan
- ❌ All HS required to offer CS
- ❌ CS required for graduation

Washington 48%
- ✅ State plan
- ✅ All HS required to offer CS
- ❌ CS required for graduation

Oregon 64%
- ➖ State plan
- ❌ All HS required to offer CS
- ❌ CS required for graduation

Nevada 96%
- ✅ State plan
- ✅ All HS required to offer CS
- ✅ CS required for graduation

WASHINGTON

Ten Policies to Make Computer Science Foundational

1.

Create a **statewide plan** for K–12 computer science

2.

Define computer science and establish standards for K–12 computer science

3.

Allocate funding for rigorous computer science teacher professional learning

4.

Implement **clear certification pathways** for computer science teachers at elementary and secondary levels

5.

Create university programs to **encourage all preservice teachers** to gain exposure to computer science

6.

Establish **dedicated computer science** positions in a state education agency

7.

Require that all schools offer computer science with appropriate implementation timelines

8.

Allow computer science to count toward a core graduation requirement

9.

Allow **computer science to satisfy an admission requirement** at higher education institutions

10.

Require that all students take computer science to earn a high school diploma

What Has Washington Done to Advance Computer Science Education?

Washington has funded computer science education since 2017, totaling over $26M after the 2023 legislative session.

The Washington State Office of Superintendent of Public Instruction adopted a state plan for expanding computer science in 2022.

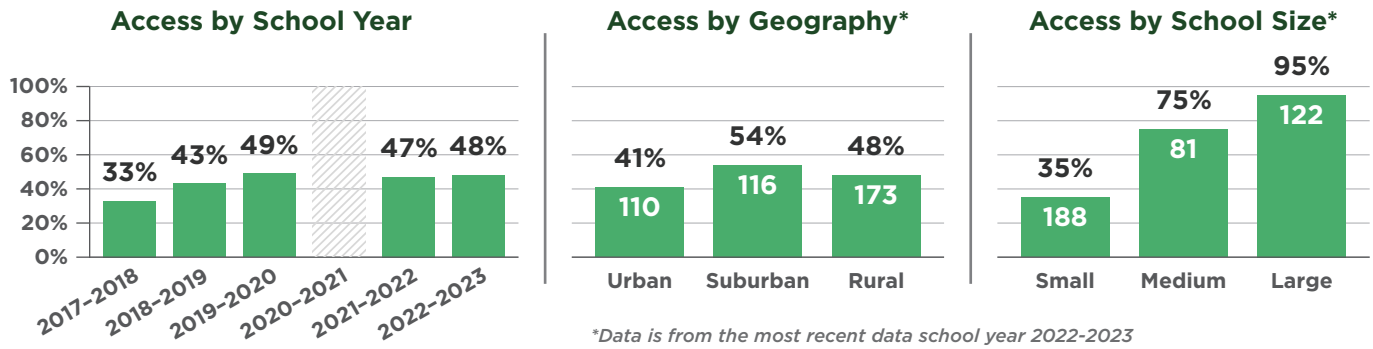## How Can Washington Increase Opportunities for Students?

Washington should adopt a graduation requirement for all high school students in computer science.

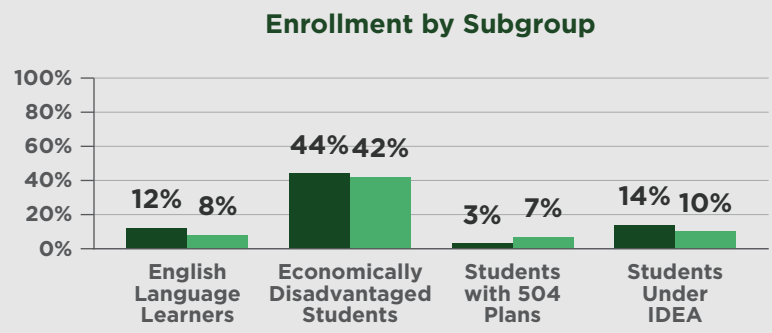Washington should expand its data collection to include K–5 schools.

WASHINGTON

Percentage of Public High Schools Offering Foundational Computer Science

Access by School Year

School Year	Percentage
2017-2018	33%
2018-2019	43%
2019-2020	49%
2020-2021	(no data)
2021-2022	47%
2022-2023	48%

Access by Geography*

Geography	Percentage	Count
Urban	41%	110
Suburban	54%	116
Rural	48%	173

Access by School Size*

School Size	Percentage	Count
Small	35%	188
Medium	75%	81
Large	95%	122

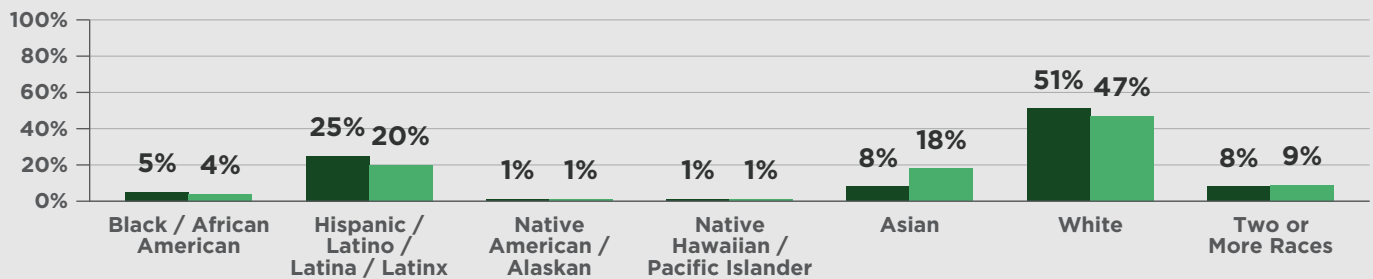*Data is from the most recent data school year 2022-2023*

Participation in Foundational High School Computer Science by Student Demographics

5.0% of middle and high school students took foundational computer science in 2022-2023

30% of students who took foundational computer science were female

Enrollment by Subgroup

Subgroup	Student Demographics 6–12	Participation in Foundational Courses
English Language Learners	12%	8%
Economically Disadvantaged Students	44%	42%
Students with 504 Plans	3%	7%
Students Under IDEA	14%	10%

Enrollment by Race / Ethnicity

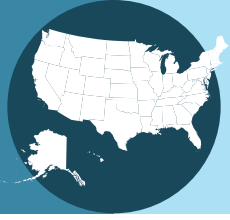| Race / Ethnicity	Student Demographics 6–12	Participation in Foundational Courses
Black / African American	5%	4%
Hispanic / Latino / Latina / Latinx	25%	20%
Native American / Alaskan	1%	1%
Native Hawaiian / Pacific Islander	1%	1%
Asian	8%	18%
White	51%	47%
Two or More Races	8%	9%

Hispanic students are 1.4 times less likely to take foundational computer science than their white and Asian peers

- ● Student Demographics 6–12
- ● Participation in Foundational Courses

K-12 Access and Participation in Computer Science

49% of middle schools** are teaching foundational computer science education. There were 32,388 students in middle school and high school that enrolled in CS.

***77% of middle schools reported course offerings and among those schools 49% reported teaching foundational computer science*

UNITED STATES

Percentage of Public High Schools Offering Foundational Computer Science Nationally

57.5% — National Percentage Offering

State	Percentage
AR	99%
MD	99%
NV	96%
AL	95%
SC	94%
IN	91%
CT	84%
IA	84%
MA	83%
NJ	82%
NH	81%
RI	80%
KY	79%
MS	78%
WV	78%
UT	77%
VT	76%
VA	74%
HI	72%
GA	71%
NC	71%
PA	71%
ME	66%
OK	64%
OR	64%
TN	64%
WY	63%
OH	62%
WI	56%
MI	55%
CO	54%
IL	54%
TX	54%
AK	51%
MO	50%
NE	50%
NM	50%
NY	48%
WA	48%
ND	47%
CA	45%
DC	45%
SD	44%
FL	41%
DE	40%
ID	38%
AZ	36%
KS	36%
LA	35%
MT	34%
MN	28%