

Construction and transportation workers need investment in their digital skills



DIGITAL SKILLS SERIES

American jobs are undergoing massive technological transformation, with even entry-level workers now expected to use all manner of digital devices and equipment. The construction, transportation, and storage sectors are no exception. With more than one in ten American workers employed across these key sectors, millions of people are affected by these growing digital demands. Examples include construction workers using “wearable tech” such as smart helmets to take measurements, photos, and videos; workers using drones to collect surveying data on building sites; and bus drivers completing online training modules to earn safety certifications.

To succeed in this rapidly transforming environment, workers need broad-based digital problem-solving skills that equip them to learn a wide variety of today’s technologies and navigate continued changes in the future. This **digital literacy** includes both the capacity to use technology and the cognitive skills necessary to navigate it successfully.

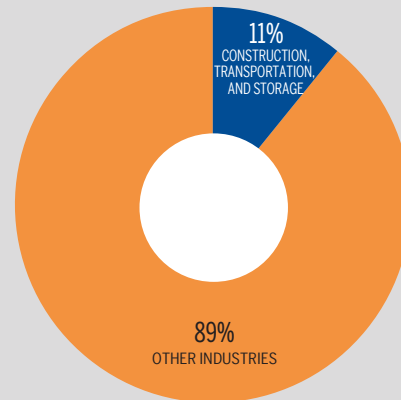
But a startling percentage of American construction and transportation workers lack these vital digital skills. Data from a respected international assessment show that a full 22 percent of currently employed U.S. construction, transportation, and storage workers have no digital skills, and an additional 28 percent have very limited skills. Another one-third (32 percent) have achieved a certain level of proficiency, while just 18 percent have the advanced skills necessary to be most adaptable to changing technology.

THE BIGGEST CHALLENGE: WORKERS WITH NO DIGITAL SKILLS

More than one in five (22 percent) construction, transportation, and storage workers fall in this category. These workers failed to meet one or more of the three baseline criteria to even take the full digital skills assessment: 1) prior computer use, 2) willingness to take the computer-based assessment, or 3) ability to complete four out of six very basic computer tasks, such as using a mouse or highlighting text on screen.

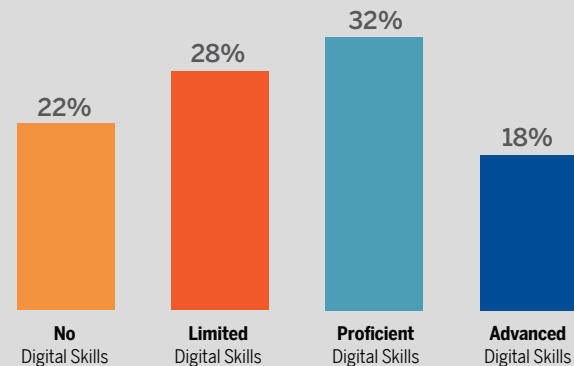
While additional demographic data is not available for construction and transportation workers specifically, among overall US workers, individuals with no digital skills reflect a diverse range of backgrounds. Nearly half (45 percent) are between the ages of 16 and 44 – that is, in the first half of their working years. Men are over-represented among those with no digital skills, at 61 percent. The overwhelming majority of those with no digital skills (80 percent) have a high school credential or less. And as might be expected, their wages are low: 57 percent have earnings in either

MORE THAN ONE IN TEN AMERICAN WORKERS ARE EMPLOYED IN THE CONSTRUCTION, TRANSPORTATION, AND STORAGE SECTORS



Currently employed US workers ages 16-64. Source: OECD Survey of Adult Skills (PIAAC), 2012-14.

HALF OF ALL CONSTRUCTION, TRANSPORTATION, AND STORAGE WORKERS LACK DIGITAL SKILLS



Currently employed US workers ages 16-64. Source: OECD Survey of Adult Skills (PIAAC), 2012-14.

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the bottom or the second-lowest quintile. A plurality (44 percent) are white, 15 percent are Black, 35 percent are Hispanic, and 4 percent are Asian/Pacific Islander.¹

ONE FOOT ON THE LADDER: WORKERS WITH LIMITED DIGITAL SKILLS

More than one in four construction, transportation, and storage workers (28 percent) are in this category. People with limited digital skills would have a hard time completing simple digital tasks that have a generic interface and just a few steps. An example would be a person who is presented with five e-mails in an inbox. The e-mails are responses to an event invitation. The task is to sort the e-mails into pre-existing folders to track who is and is not attending the event.

Again, while detailed demographic data is not available for construction and transportation workers specifically, data on US workers overall paints a vivid picture of people at this skill level. Across industries, a full 50 percent of individuals with limited digital skills are between the ages of 16-44. These workers are evenly divided between men and women. Half (50 percent) are white, 21 percent are Black, 20 percent are Hispanic, and 7 percent Asian/Pacific Islander.² Two-thirds (66 percent) have a high school credential or less.

HOLDING STEADY: WORKERS WITH PROFICIENT DIGITAL SKILLS

Approximately one-third (32 percent) of construction, transportation, and storage workers have achieved a certain level of proficiency in their digital skills. People at this level would typically struggle with tasks that require the use of both generic and specific technology applications. For example, a person might be presented with a new type of online form and need to navigate across multiple pages and applications to answer the test question. The task may have multiple steps and may require the use of tools (such as the “sort” function) to solve the problem. The person may have to identify the goal themselves and engage in higher-level reasoning to solve the problem.

Among US workers at the proficient digital level, 61 percent are between the ages of 16 and 44. There are slightly more women (52 percent) in this category than men. Just under half

Congress can take action by investing in upskilling for individual workers and jobseekers, and supporting industry-led training partnerships.

(48 percent) have a high school credential or less. More than two-thirds (70 percent) are white, 12 percent are Black, 11 percent are Hispanic, and 5 percent are Asian/Pacific Islander.³

WHAT CONGRESS CAN DO

For the construction, transportation, and storage sectors to continue to thrive in the United States, workers will need to equip themselves with in-demand digital skills – and businesses will need to invest in helping their employees build such skills. Congress can take action by investing in upskilling for individual workers and jobseekers, and supporting industry-led training partnerships.

Current federal investments in workforce development provide almost no dedicated support for digital skill-building; most notably, Title II of the Workforce Innovation and Opportunity Act lists digital literacy as one of numerous allowable activities for adult education programs.⁴ The recently-introduced Digital Equity Act (HR 4486/S 1167) would make a more substantial, targeted investment in digital literacy through twin grant programs to the states: one structured as formula funding, and the other as competitive funding. Digital literacy investments could also be bolstered through other key federal workforce and education policies, such as the Higher Education Act, Perkins Career and Technical Education Act, or Supplemental Nutrition Assistance Program Employment and Training (SNAP E&T).

¹ The remainder are grouped under the “Other” race/ethnicity category.

² The remainder are grouped under the “Other” race/ethnicity category.

³ The remainder are grouped under the “Other” race/ethnicity category.

⁴ See: <https://www2.ed.gov/about/offices/list/ovae/pi/AdultEd/integrating-technology.pdf>

Where this data comes from

Data in this publication comes from the Survey of Adult Skills, conducted under the auspices of the Organization for Economic Cooperation and Development. The survey, also known as the Program for the International Assessment of Adult Competencies or PIAAC, is administered by National Center for Education Statistics at the U.S. Department of Education. The survey gathered data from a representative sample of U.S. adults in 2012 and 2014. (Data used in this analysis combine information from both years for greater statistical precision.) The survey includes a background demographic questionnaire that is administered in English or Spanish, followed by a cognitive assessment in English measuring the three domains of literacy, numeracy, and the somewhat awkwardly named “problem-solving in technology-rich environments,” or PS-TRE. The data included here comes from the PS-TRE section of the study.

Note: An additional round of U.S. PIAAC data collection was completed in 2017. While 2017 data is not reflected here due to the timing of its

release to the public, it is largely consistent with earlier years. Learn more about the 2017 data here: https://nces.ed.gov/surveys/piaac/current_results.asp

Acknowledgments

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