APPENDIX: METHODOLOGY

Labor market analysis

DEFINING THE 'BUILT ENVIRONMENT WORKFORCE'

We define the "built environment" as encompassing buildings (residential, commercial, industrial, institutional), transportation systems (roads, bridges, rail, airports), utility networks (water, wastewater, electricity, natural gas, telecommunications), and public spaces.

To identify built environment workers, we first systematically reviewed federal industry and occupational definitions. We define "built environment workers" based on two criteria:

- Employment in **industries** that provide services closely linked to planning, designing, constructing, and maintaining the physical infrastructure and structures where people live and work.
- Employment in **occupations** that perform duties central to these activities.

Built environment workers construct, erect, install, or repair structures and fixtures, or plan and design structures. More succinctly, built environment workers perform work that **directly creates or modifies built structures and systems.**

We exclude occupations with a low overall presence in built environment industries that provide generic support functions with transferable skills across industries, such as office clerks, human resources specialists, and accountants.

Industry

We used the federal North American Industry Classification System (NAICS) to identify industries related to the built environment. NAICS groups businesses into different categories based on similarities in their production processes. It is a hierarchical system that is updated periodically. We used the 2022 version.

At the most general level, NAICS lays out 20 "sectors" identified via two-digit codes, such as utilities, construction, manufacturing, wholesale trade, retail trade, finance and insurance, and so on. Each of these sectors is then subdivided into more detailed subcomponents. We focused on the "industry group" level of the hierarchy (identified via four-digit codes), which includes 300 categories.

We defined "built environment industries" as those within two broad sectors: 1) Construction; and 2) Professional, Scientific, and Technical Services. We included all 10 of the detailed industry groups in the broad Construction sector, and two detailed industry groups within the Professional, Scientific, and Technical Services sector. In the table below, industries in the Construction sector start with "23" and industries in the Professional, Scientific, and Technical Services sector start with "54."

TABLE 1

Built environment industries

NAICS Code	NAICS Title	NAICS Code	NAICS Title
2361	Residential Building Construction	2381	Foundation, Structure, and Building Exterior Contractors
2362	Nonresidential Building Construction	2382	Building Equipment Contractors
2371	Utility System Construction	2383	Building Finishing Contractors
2372	Land Subdivision	2389	Other Specialty Trade Contractors
2373	Highway, Street, and Bridge Construction	5413	Architectural, Engineering, and Related Services
2379	Other Heavy and Civil Engineering Construction	5414	Specialized Design Services

Occupation

We used the federal Standard Occupational Classification (SOC) system to identify built environment occupations. The SOC system categorizes occupations based on job duties and required skills, education, and training. It is also a hierarchical system that is periodically updated. We used the 2018 version.

At its most general level, the SOC system lays out 23 "major groups" of occupations, identified via two-digit codes. These include management; business and financial operations; architecture and engineering; life, physical, and social science; construction and extraction; transportation and material moving; and so on. Each of these major groups is then subdivided into more detailed components. We used the most detailed level of information, which includes more than 850 occupations designated by six-digit codes.

We identified 95 occupations belonging to nine major occupational groups as built environment occupations. Just over half of the occupations (48) are in the "Construction and Extraction" major group. Other major groups with relatively high numbers of built environment occupations include "Architecture and Engineering Occupations" (18) and "Installation, Maintenance, and Repair" (15).

TABLE 2

Built environment occupations by SOC major group

SOC Code	SOC Major Group	Number of Detailed Occupations
47-0000	Construction and Extraction Occupations	48
49-0000	Installation, Maintenance, and Repair Occupations	15
17-0000	Architecture and Engineering Occupations	18
13-0000	Business and Financial Operations Occupations	1
11-2000	Management Occupations	2
19-0000	Life, Physical, and Social Science Occupations	6
27-0000	Arts, Design, Entertainment, Sports, and Media Occupations	1
53-0000	Transportation and Material Moving Occupations	3
45-0000	Farming, Fishing, and Forestry Occupations	1
		95

EXAMINING THE CHARACTERISTICS OF BUILT ENVIRONMENT WORKERS AND JOBS

We examined the characteristics of the built environment workforce with occupation-level data from Lightcast, one of the nation's leading labor market analytics platforms, on employees of businesses and unincorporated self-employed workers nationwide in 2024. We looked at data on jobs, wages, and demographics (age, gender, and race and ethnicity), as well as the shares of self-employed workers within and across occupations.

IDENTIFYING HIGH-DEMAND BUILT ENVIRONMENT OCCUPATIONS

We also used Lightcast's occupational-level projections of job openings over 2024 to 2034 to estimate which occupations will have the most employer demand looking ahead. We calculated average annual job openings among the 95 built environment occupations and ranked them accordingly. We designated occupations in the top 25% of average annual job openings as in high demand. Projections are imperfect, because they are based on assumptions that current economic conditions and trends will continue, but they are nonetheless commonly used to estimate future labor market demand.

Stakeholder engagement

To inform our work, we engaged more than 60 workforce, education, and built environment experts and practitioners through a combination of individual conversations and roundtable discussions over the course of this project. These interactions helped bring to light new considerations, interrogate and in many cases affirm existing hypotheses, and suggest areas for continued investigation.

CONVENING OF NATIONAL EXPERTS

Brookings hosted a cross-section of more than two dozen national experts in October 2025 to identify critical challenges and opportunities around built environment careers. The session brought together both infrastructure and workforce development leaders including researchers, associations, federal agency staff, and industry groups representing major employers across multiple built environment sectors (e.g., transportation, energy, water). Through a combination of small- and large-group discussions, participants raised questions and thoughts related to data sources, analytical gaps, hiring and training challenges, investment considerations, and the range of actors needed to drive solutions over time.

The discussion surfaced opportunities for silo-busting across different built environment fields and actors; the need for more consistent definitions and measures to better identify, quantify, and analyze workforce needs across the built environment; and an imperative to prioritize a clear set of the most pressing challenges to address.

STATE AND LOCAL ROUNDTABLE

In winter 2026, Brookings held a virtual roundtable discussion with 16 national, state, and local leaders to explore how they are linking project development and workforce development considerations, in order to surface solutions that are making a meaningful difference today and identify other opportunities for future intervention. Group discussion surfaced funding challenges both for projects and for workforce-development-related activities; disconnects between education/training and industry expectations; timing mismatches between project hiring and workforce development efforts; retention pain points for municipalities and other public sector entities; and opportunities to enhance built environment career awareness, exposure, and pathways.

PATHWAYS TO CONSTRUCTION MANAGEMENT CAREERS ROUNDTABLE

Demand for construction management roles is projected to grow significantly at the national level over the next several years, outpacing the number of graduates completing relevant degree programs, and

pathways into these positions seem to vary. In May 2026, the Brookings team brought together leaders of two- and four-year construction management programs from colleges and universities across the country for a virtual conversation through which we sought to learn more about their programs, students, employer relationships, and job placement. We found: the proportion of traditional and non-traditional college-age students in these programs varied by institution, as did supports for learning workers (i.e., evening and/or accelerated courses); a number of programs offer varying levels of credit for prior learning (e.g., for certifications, apprenticeship); challenges recruiting and retaining faculty are prevalent; and graduate placement rates are high but still insufficient to meet employer demand.

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