National Institute of
BUILDING SCIENCES™

2023 BUILT ENVIRONMENT WORKFORCE SURVEY

Executive Summary

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Background

In December 2020, the National Institute of Building Services (NIBS) held a social equity roundtable with more than two dozen organizations representing the built environment. This conversation resulted in a recommendation to advance the work on this issue, including obtaining consistent research from across the many sectors of the built environment. In 2021, NIBS partnered with Avenue M Group (Avenue M), an independent market research and consulting firm, to conduct a comprehensive research study aimed at collecting critical data on the workforce of the built environment for the purpose of informing future initiatives on social equity.

To further support efforts to improve the social equity of the built environment, NIBS partnered with Avenue M to launch the survey again in 2023. This report highlights key findings from the 2023 survey, and a comparison of these 2023 results to the results in 2021 is available in Appendix II: Comparison to 2021 Survey.

Partnering Organizations

The following professional organizations (ordered alphabetically) responded to an invitation to participate as a partnering organization on the 2023 Built Environment Workforce Survey (also called the 2023 Built Environment Social Equity Survey) and to send the survey to at least a sample of their U.S. contacts in the built environment:

1. The American Association of Blacks in Energy (AABE)
2. The American Institute of Architects (AIA)
3. American Institute of Steel Construction, AISC
4. American Society of Civil Engineers (ASCE)
5. American Society of Landscape Architects
6. ASHRAE
7. Association of Equipment Management Professionals (AEMP)
8. ASTM International
9. BOMA International
10. Building Talent Foundation, BTF
11. Construction Management Association of America (CMAA)
12. Construction Specifications Institute (CSI)
13. Design-Build Institute of America
14. Green Building Initiative, Inc. (GBI)
15. International Code Council
16. International Institute of Building Enclosure Consultants (IIBEC)
17. Midwest Energy Efficiency Alliance
18. National Apartment Association (NAA)
19. The National Association of Hispanic Real Estate Professionals (NAHREP®)
20. National Building Museum
21. New Buildings Institute
22. Northwest Energy Efficiency Council (NEEC)
23. Phius (Passive House Institute US)
24. Ready Mixed Concrete Research & Education Foundation
25. Royal Institution of Chartered Surveyors (RICS)
26. U.S. Green Building Council (USGBC)

Two additional organizations offered to distribute the survey:

1. American Council for Technology and Industry Advisory Council (ACT-IAC)
2. Carbon Leadership Forum

Although these partnering organizations do not represent the entirety of the built environment, the survey findings presented in this report provide important insights into the diversity of the built environment and provide a baseline for future initiatives to improve social equity.

Survey Fielding & Responses

Overall survey fielding was between February 23 – March 17, though partnering organizations "launched" the survey on different days based on their email schedules. Excluding disqualified responses, a total of 6,672 survey responses (United States only) were collected, with an overall completion rate of 84%. **This report is based on the analysis of U.S. respondents only.**

Statistically Significant Differences

Every survey has some level of bias, and this survey includes an overrepresentation of some segments of respondents. To identify differences within important groups of respondents when compared to the overall survey findings, Avenue M cross-tabulated the results by the demographic questions (e.g., employment status, age, gender, race and/or ethnicity).

The cross-tabulated data are column percentages. This means that column data are being used to segment the rows. Some of the percentages in tables in this report and in the Excel cross-tabulation file include blue and red arrows (↑↓). These arrows indicate a value that is statistically significantly higher (blue) or lower (red) than what would otherwise be expected when compared with its complement (that is, the net minus the given audience with the arrow). Some of the Key Findings include statements that one segment is "more likely" to have selected a given answer option. This means that the statistical testing showed that, at an overall significance level (p-value) of 0.05, the percentage of that segment that selected that answer option was statistically significantly higher than the complement. See Appendix IV: Statistical Method for more information on the statistical testing.

For example, below is a table looking at the relationship between gender (columns, Q17) and service in the U.S. Armed Forces, Military Reserves, or National Guard (rows, Q7). For both men and women respondents, the majority answered "No" on this military service question. However, men respondents were more likely to say "Yes"—that is, a significantly higher percentage of men respondents selected "Yes" in Q7 compared to the complement. Women respondents, on the other hand, were less likely to have said "Yes" to this question on whether they have served in the U.S. Armed Forces, Military Reserves, or National Guard. The statistical comparisons are between columns for a particular row, not between rows for a particular column. (Please note, the columns in the table below are abbreviated, meaning only select columns are shown. The NET column is comprised of more audience segments than are shown in the table below.)

Q7: Have you ever served in the U.S. Armed Forces, Military Reserves, or National Guard? *[Simplified]*	Gender (Q17) *[Simplified & Abbreviated]*		
	Man	Woman	NET
No	85% ↓	95% ↑	88%
Yes	15% ↑	5% ↓	12%
Column n	3600	1634	5291

↑↓*Indicates responses that are significantly higher/lower for segment than for its complement.*

Details on the Table Above: The gender question (Q17) was multi-select, so some respondents selected multiple gender options listed (e.g., "Woman" and "Gender nonconforming"). In the table above, the Gender columns do not overlap. The column labeled "Man" includes respondents who selected "Man" only, and the column labeled "Woman" includes respondents who selected "Woman" only. The table is abbreviated and does not show columns for the following because of small sample sizes: respondents who selected "Nonbinary" (whether alone or in addition to other gender answer options), respondents who selected "Gender nonconforming" (whether alone or in addition to other gender answer options), respondents who selected both "Man" and "Woman," and respondents who selected the write-in answer option ("Gender not listed/Prefer to self-describe") alone or in addition to selecting only "Man." These respondents are represented in the NET column, however. See below for more details on Abbreviated and Simplified tables.

These colors are only descriptive when comparing values in the same row or column, but not across rows or columns diagonally. In some cases, this may not appear accurate, as lower numbers are not colored red and higher numbers are not colored blue in a particular row or column. This may be due to an inadequate sample size. When a response has a low sample size, we cannot be reasonably certain that it is statistically representative of the population. Additionally, it may be an inability of the statistical testing to find any significant relationship between these values that is not due to chance, meaning the value may be explained by sampling error.

Please note, when reviewing statistically significant differences between segments, we did not control for other demographic factors. For example, if there is a statistically significant difference between two segments on income, this has not been controlled or filtered for other potential influencing factors, such as age or tenure in the built environment. Because of the purposes of this survey, we did not weight the data.

Definitions

Below are terms used throughout the Survey Findings sections.

- **Top-Two and Bottom-Two Box:** "Top-Two Box" refers to the sum of the top two ratings (4 and 5) on a scale of 1 to 5, while "Bottom-Two Box" refers to the sum of the bottom two ratings (1 and 2) on that scale.

- **Condensed:** Some tables show "condensed" rows or columns. This means answer options have been combined. For example, all tables showing age data are condensed – age was determined by asking year of birth, and Avenue M grouped this data into ranges (e.g., 39 or younger, 40 to 49). Some columns have also been condensed because of small sample sizes. For example, in the gender cross-tabulation tables, respondents who selected "Nonbinary," "Gender nonconforming," and/or multiple gender answer options are combined into a single column because of small sample sizes.

- **Abbreviated:** Tables that are "abbreviated" only show select columns and/or rows. Abbreviated columns indicate the NET column includes respondent segments not shown in that table, usually because of small sample sizes. See the cross-tabulation Excel file for the full tables.

- **Simplified:** "Simplified" indicates the percentages have been recalculated to exclude respondents who selected "Prefer not to answer," "Don't know/Unsure," or a similar response option. Most tables in the Survey Key Findings are simplified, excluding the respondents who selected "Prefer not to answer." See Appendix II: Comparison to 2021 Survey and the cross-tabulation Excel file for tables with "Prefer not to answer" percentages included.

Avenue M Group, LLC, an independent market research and consulting firm, conducted the survey, analyzed the data, and prepared this white paper report. All respondent information is displayed in the aggregate and remains confidential. This report does not reveal information from any individual source.

EXECUTIVE SUMMARY

Professional & Personal Demographics

1. The majority of survey respondents are employed full-time (73%), and about half (51%) have been in the built environment for more than 20 years (excluding respondents who are fully retired or unemployed and not looking for work).

2. Nearly one-third (32%) of respondents are aged 39 or younger. More than one in five (22%) are in their 40s, one in five (20%) are in their 50s, and more than one-quarter (26%) are aged 60 or older.

3. More than two-thirds (68%) of respondents are men, and about three in ten (31%) are women. (The survey question on gender was multi-select; see page 30 for more information.)

4. More than four in five (82%) respondents identify as White and/or a person of European descent. Seven percent of respondents identify as Hispanic and/or Latina/Latino/Latinx; 4% identify as Black, African American, and/or a person of African descent; 4% identify as East Asian; and 3% identify as Native American, Alaska Native, First Nations, Métis, and/or Inuit. Two percent of respondents identify as Multiracial, Biracial, and/or Multiethnic; 2% identify as South Asian; and 2% identify as Middle Eastern and/or North African. One percent identify as Southeast Asian, and 1% identify as Native Hawaiian and/or Pacific Islander[1]. (The survey question on race and/or ethnicity was multi-select; see page 33 for more information.)

Professional Demographic Snapshot

• 20% of respondents are Architects, and 14% are Consultants (Q3)
• 67% work in Private industry or business, and 32% work in Government (Q4)
• 33% are a Manager, Director, or Supervisor, and 20% are a Senior-level Worker (Q5)

63%   **Almost two-thirds (63%) of respondents believe it is important or extremely important to increase the diversity of the built environment.**

Perceptions of Diversity in the Built Environment

5. About three in ten (29%) respondents indicated the built environment is not diverse at all or is a little diverse, and about one-third (34%) indicated the built environment is diverse or extremely diverse. Overall, women respondents (39%) and respondents who are Black, African American, and/or of African descent (50%) were more likely to indicate the built environment is not diverse or is a little diverse.

6. Overall, younger respondents—aged 39 or younger (68%) and aged 40 to 49 (66%)—and women respondents (79%) were more likely to indicate it is important or extremely important to increase the diversity of the built environment. More than three-quarters (76%) of respondents who are Hispanic and/or Latina/

[1] Please note, in this report, Avenue M capitalizes all race and ethnicity group names, following the standards of the National Association of Black Journalists (as of June 2020), the Chicago Manual of Style (as of June 2020), the AMA Manual of Style (as of July 2020), and the APA Style Guide (as of July 2022).

Latino/Latinx and nearly four in five (79%) respondents who are Black, African American, and/or of African descent indicated it is important or extremely important to increase the diversity of the built environment.

Experiences of Discrimination/Prejudice in the Built Environment

7. Almost one-third (32%) of respondents indicated they have experienced discrimination or prejudice based on age.

8. Around two-thirds (67%) of women respondents indicated they have experienced discrimination or prejudice in the built environment based on gender.

9. More than half (55%) of respondents who are Black, African American, and/or of African descent indicated they have experienced discrimination or prejudice based on race during their career in the built environment.

10. Nearly two in five (39%) respondents agreed or strongly agreed with the following statement: **"I have to work harder than others to be valued equally in the built environment."**

    a. Younger respondents—aged 39 or younger (48%) and aged 40 to 49 (42%)—and women respondents (61%) were more likely to agree or strongly agree with this statement.

    b. Three-quarters (76%) of respondents who are Black, African American, and/or of African descent agreed or strongly agreed that they have to work harder than others to be valued equally in the built environment. More than half of respondents who are Hispanic and/or Latina/Latino/Latinx (54%) and nearly three in five (59%) respondents who are East Asian also agreed or strongly agreed with this statement.

11. About two-thirds (67%) of respondents agreed or strongly agreed with the following statement: **"I have opportunities for success in the built environment that are similar to those of my peers."**

7/10   **More than seven in ten respondents included race (75%), ethnicity (74%), gender (73%), and age (71%) in their definition of diversity within the context of the built environment.**