

# **Diversity by Design:** Guide to Fostering Diversity in the Civil Engineering Workforce

*Sponsored by*  
Committee on Diversity and Women in Civil Engineering  
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## A Diverse Workforce for a Diverse Profession

The purpose of ASCE's *Diversity Guide* is to provide practical, hands-on suggestions for how to foster, improve, and maintain a diverse and thriving workforce within the civil engineering profession. Diversity is important to the civil engineering profession for several reasons. First, the U.S. population and the local communities we serve (including our clients, regulators, and financiers) are becoming more diverse. Second, there continues to be an increasing demand for qualified civil engineers. At the same time, almost 50 percent of the current science and engineering workforce is approaching retirement and enrollment in civil engineering programs is relatively flat. Companies, agencies, and organizations need to recruit from the largest possible talent pool of qualified employees.

Third, U.S. engineering firms face increasing global competition. To prosper in a worldwide marketplace, civil engineers need to be even more conscientious about reflecting the diverse perspectives of their international colleagues. And finally, increasing diversity in civil engineering in the U.S. is, quite simply, the right thing to do: the logical extension of this country's democratic evolution toward increasing inclusiveness.

The civil engineering profession is currently dominated by white males. The "white male" professional workplace model has enabled decades of designing and constructing civil infrastructure. However, this model and workplace culture has some significant limitations, including, for instance, a lack of multiple and diverse perspectives, exclusion versus inclusion, and maintaining the status-quo versus embracing emerging challenges.

A diverse engineer's experiences of being different from the traditional norm may not be visible and thus not acknowledged or understood. However, the burdens of downplaying or disguising basic components of personality and belief are well-documented and sometimes hinder full productivity in the workplace. For example, there may be differences in communication and leadership styles by gender, race, age, and ethnicity. These stylistic differences can create misunderstandings.

For the purposed of this guide, we have defined a diverse workforce as one containing (in addition to white males):

- Females
- Non-white people who are racially or ethnically diverse (such as African Americans, Hispanics, Native Americans, and others)
- Practitioners of religions not traditional in the U.S. (such as Buddhists, Muslims, and others)
- People from diverse age groups (including older engineers)
- People of the LGBT (lesbian, gay, bisexual, and transgender) community
- People with disabilities (including illnesses such as depression)

Phrases such as “females and minorities,” “people of color and females,” “diverse employees,” and “diversity candidates” are used interchangeably throughout this *Diversity Guide* to convey the essence of the non-white-male component of a diverse workforce.

Based on the fundamental sociological concept of “like attracts like,” diversity candidates often prefer to become employees of organizations with a visible commitment to recruiting and promoting diverse engineers. Many organizations have convened diversity committees and implemented diversity programs and training that may increase employee satisfaction and result in longer retention. On-boarding (a formalized process in which new hires are integrated into the organization), mentoring, and peer/affinity support groups help employees not only to become effective as quickly as possible but to thrive over the long term.

Employers can help develop worker loyalty by ensuring that inclusiveness is a priority and that the workplace is appropriate for all engineers, regardless of race, ethnicity, gender, physical ability, or sexual orientation. Issues can range from stressing the importance of cross-cultural and cross-gender communication to developing flexible solutions for work/life balance during the distinct phases of an engineer’s work-life (including parenting and retirement), to ensuring that the needs of employees with non-normative backgrounds are addressed.

In addition to this *Diversity Guide*, there are a number of readily accessible resources to help promote diversity within the workplace. For example, myriad professional organizations target and support diverse engineers of all kinds. Historically black colleges or Hispanic-serving institutions foster the education of diverse engineers. Specialized magazines, newsletters, and websites also target diverse engineers of all types.

The myriad challenges of managing a diverse engineering workforce can be encompassed by a two-pronged approach: be aware of the issues facing a diverse work-force, and make addressing those issues a priority. Diverse employees often face a one-way journey of assimilation into a white male culture. A more productive model is two-way assimilation, in which the normative culture attempts to understand and embrace the diverse viewpoints and experiences of diverse employees. Techniques for increased awareness entail having managers and leaders encourage and reward emotional intelligence, treat others as *they* would like to be treated, and foster respect for those in the organization both similar to and different from them.

To be effective, a diversity program should be managed as would any typical civil engineering program: establish achievable goals, develop a strategy and specific tactics, implement them and measure results, and adjust the program as needed. Senior-level endorsement, as well as follow-through and accountability for the program, will help ensure all organizational levels see effective results.