

Civil Engineering Workforce Development

Sophie Chen, Cassandra Pin

 COLUMBIA | CBIPS
Center for Buildings, Infrastructure and Public Space

ASCE Workforce Research

Recommendations Report

Strategies

Issues

	Data Collection	Government Engagement	Public Awareness	Partnerships
Workforce Mobility	Substantiate advocacy for immigration policy changes	Develop political relationships and narrative	Educate about global talent's contributions to infrastructure	Expand the reach and impact of efforts to recruit global talent
Broadened Participation	Demonstrate positive impact of skill-adjacent professionals	Advocate for broader requirements from licensing bodies	Raise awareness about the breadth of civil engineering jobs	Ensure relevant skills are highlighted in other organizations
Compensation and Benefits	Track salary, productivity, and retention to argue for stronger compensation	Make recommendations that promote competitive pay	Demonstrate workforce shortages and industry growth	Work with other industries and organizations to examine pay issues

Article of Interest

Why US civil engineering firms face a labor shortage ?

Author: Robert L. Reid (ASCE)

Published: May 2023

Summary Points:

- > Massive demand for civil engineers due to Bipartisan Infrastructure Law
- > Retirement of senior engineers is accelerating the shortage
- > Firms are turning down projects due to lack of staff
- > Urgent need for outreach, education pipeline reform, and reskilling



Case Study

WORKFORCE DEVELOPMENT: RECOMMENDATIONS FOR ASCE

> Context

ASCE identifies workforce development as a national challenge

> Key Programs/Strategies:

- Support for **K-12 STEM engagement** (e.g., Future World Vision initiative)
- Creation of **career pathways through mentorship and internships**
- Advocacy for **curriculum reform** at engineering schools to match modern skills (BIM, sustainability, digital delivery)

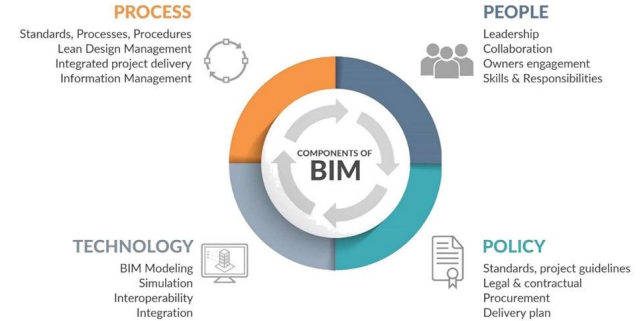
> Impact

- Helping bridge the gap between academic training and on-site readiness
- Highlighting civil engineering's relevance to climate resilience and equity



> Unite for Industry Innovation

Advocate for industry standards and requirements that drive innovation, efficiency, and positive outcomes, improving the productivity and well-being of our current workforce in the face of unmet demand



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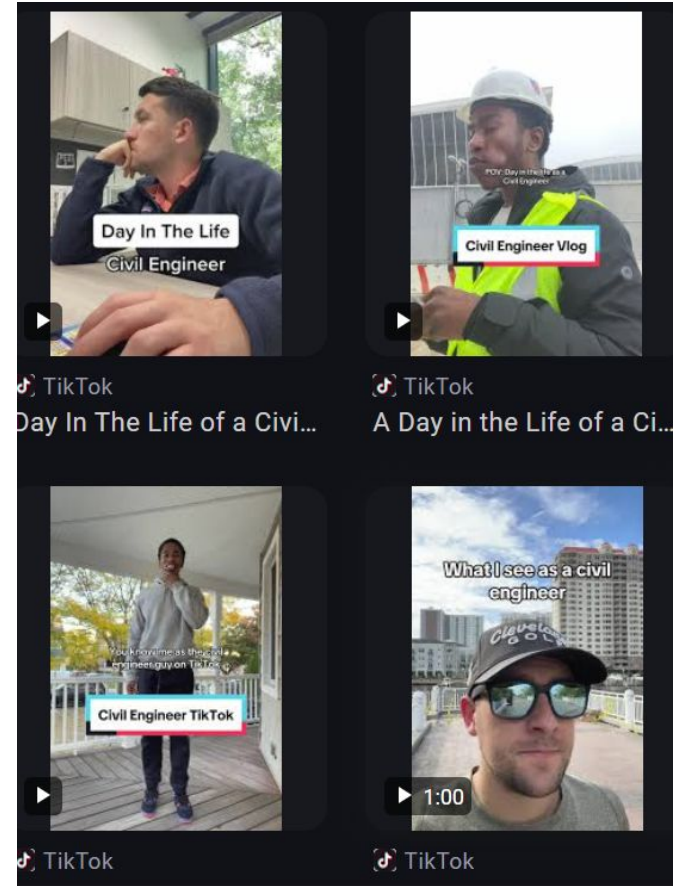
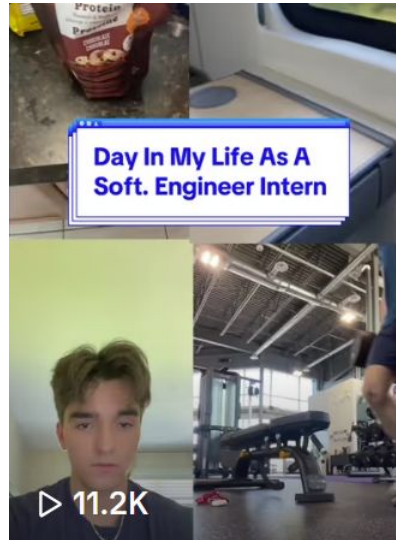
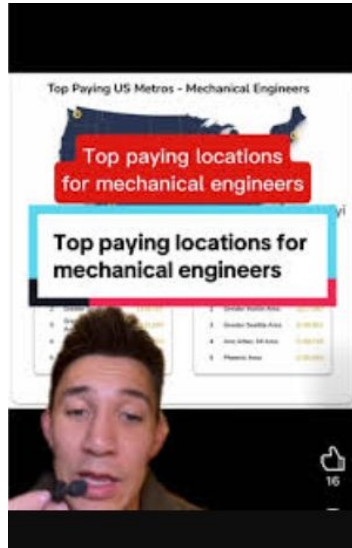
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> Tap into Internet Culture

Leverage new age branding and marketing techniques to engage a diverse set of students and drive competition for talent between civil engineering organizations



> Enhance Industry-Academia Collaboration

Encourage partnerships between engineering schools and civil firms to co-develop programs focused on real-world technologies (e.g., BIM, AI for infrastructure, sustainable materials)



Design and Installation of Buried Pipes (7001CEN2025)

PDH: 14
In-Person Course (Seminar) | Washington, D.C. | 2025/05/22 - 2025/05/23

Individual (one engineer) 9:00 AM - 5:00 PM ET
Early Bird: Member \$395.00 / Non-Member \$495.00 - AFTER 05/08/2025 Member \$495.00 / Non-Member \$595.00

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Fundamentals of Earthquake Engineering (7025CEN2025)

PDH: 14
In-Person Course (Seminar) | TX - Austin | 2025/06/09 - 2025/06/10

Individual (one engineer) 9:00 AM - 5:00 PM CT
Early Bird: Member \$395.00 / Non-Member \$495.00 - AFTER 5/29/2025 Member \$495.00 / Non-Member \$595.00

[View Details](#)[Add to Cart](#)

Soil and Rock Slope Stability (7026CEN2025)

PDH: 14
In-Person Course (Seminar) | TX - Austin | 2025/06/09 - 2025/06/10

Individual (one engineer) 9:00 AM - 5:00 PM CT
Early Bird: Member \$395.00 / Non-Member \$495.00 - AFTER 5/29/2025 Member \$495.00 / Non-Member \$595.00

[View Details](#)[Add to Cart](#)

> Invest in Continued Upskilling

Offer accessible certifications and continuing education for engineers needing to adapt to emerging technologies and leadership roles

References

- Reid, Robert L. *Why US Civil Engineering Firms Face a Labor Shortage*. ASCE, May 2023.
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<https://www.futureworldvision.org/>
- World Economic Forum. *Future of Jobs Report 2023*.
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- McKinley Advisors. ASCE Workforce Research Recommendations Report. August 2023.



Thank you !