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Statement for the Record of

The American Society of Civil Engineers

on

"Investing in our Nation's Transportation Infrastructure and Workers: Why it Matters"

Committee on Transportation and Infrastructure
U.S. House of Representatives

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Introduction

The American Society of Civil Engineers (ASCE) appreciates the opportunity to submit a statement to the House Committee on Transportation and Infrastructure ahead of the hearing on *Investing in our Nation's Transportation Infrastructure and Workers: Why it Matters*.

ASCE has long advocated for investing in our transportation system and the workers who help it function. While infrastructure is often taken for granted, it forms the foundation of our national economy, global competitiveness, and quality of life. Infrastructure investment and economic strength are closely linked, as projects that aid the nation's highways, ports, waterways, railroads, and airports put people to work and help goods reach their destinations. The Infrastructure Investment and Jobs Act (IIJA), enacted in November 2021, will be instrumental in generating economic growth and narrowing the infrastructure investment gap.

The IIJA represents a historic bipartisan achievement and the largest investment in our nation's critical infrastructure systems in a generation. With this $1.2 trillion investment, the federal government can restore its critical partnership with cities and states to modernize our nation's roads, bridges, transit systems, drinking water systems, sewer collection pipes, school facilities, broadband, ports, airports, and more. To optimize the investment of over 100 new programs and many more existing programs across these sectors, the American Society of Civil Engineers (ASCE) understands the vital role transportation workers play in ensuring infrastructure serves communities safely and efficiently. Congress should build on recent legislative actions by continuing to encourage government agencies to include skilled workers in their long-term plans.

ASCE thanks the committee for holding this important and timely hearing and looks forward to helping lawmakers as the IIJA is implemented.

ASCE's *2021 Report Card for America's Infrastructure*

Every four years, ASCE publishes its *Report Card for America's Infrastructure*, which grades the nation's major infrastructure categories using an A to F school report card format. The most recent report card[1], released in March 2021, evaluated 17 categories of infrastructure and reflected an overall C- grade. This grade marks an increase from the D+ recorded in 2017, indicating the country has made some progress in recent years, however 11 categories remained in the "D" and those categories reflect some of the infrastructure that families and businesses interact with most closely on a daily basis like the roads and transit systems, or critical systems like our dams and levees. Often, it is these categories where we have failed to make investments needed to maintain the assets that were build 50 years ago or more. Fortunately, the IIJA makes progress to reverse decades of underinvestment in many of these lowest categories and make a

[1] https://infrastructurereportcard.org/

significant down payment on the $2.5 trillion infrastructure investment gap that was identified in the 2021 Report Card.

Therefore, efficient implementation of the IIJA will play a major role to not only raise the grades for these infrastructure categories, but to make our nation's infrastructure fit for the future.

Dedicating Resources to Growing the Pipeline of Skilled Workers

To realize the potential of the five-year IIJA, it is critical that we have the civil engineering workforce in place to design, build, and maintain the nation's infrastructure. The American Council of Engineering Companies found that the industry will need to add 82,000 full- and part-time engineers to implement the IIJA. Infrastructure owners, including state and local departments of transportation, as well as consulting engineers, cannot effectively utilize the influx of funding if they do not have the workforce in place.

While Congress continues to recognize workforce needs with recent provisions dedicated to advancing science, technology, engineering, and mathematics (STEM) education in the CHIPS and Science Act of 2022, Congress should continue to encourage state and local governments to include skilled workers in their long-term workforce development plans. Furthermore, the Department of Labor and the National Science Foundation should partner with the engineering community to develop programs that can assist state STEM education and workforce plans to solve this ongoing challenge in the industry.

While some limited funds in the bill support workforce development activities and address gaps, as a nation we must continue to grow a diverse pipeline of skilled workers. Specifically, we must bring students into the industry and keep engineers in the U.S. Even more importantly, funds can and should be directed to include targeted outreach to disadvantaged and minority communities to address the ongoing gender, racial, and ethnic diversity gap that persists in the engineering field.

ASCE has identified some steps that communities can take in order to grow the pipeline of future engineers. This includes:

- Provide all students, regardless of background or career intentions, with basic STEM literacy.
- Provide equitable access to STEM education for all student populations, particularly those populations that have been traditionally underrepresented in STEM fields.
- Encourage students to pursue careers in engineering – and especially in civil engineering.
- Establish and maintain rigorous K-12 STEM education standards that are validated by the relevant professional communities.

- Introduce K-12 students to civil engineering through counseling, instruction, and engineering experiences, and in class practice to stimulate interest.
- Prepare K-12 students to study engineering at the college level through rigorous coursework in mathematics and the sciences.
- Support the development and implementation of Career and Technical Education in the STEM disciplines for students who are not college bound.

Many of these steps will also address the fact that the engineering profession continues to lag behind in diverse representation, which is critical to serve communities across the country effectively. The lack of diversity, equity, and inclusion in the civil engineering profession limits capacity to effectively meet societal needs. Over the last several decades progress has been made to varying degrees through awareness, education, and action. However, more efforts are needed to fully realize inclusive and equitable practices in our profession, to assure representation of the rich diversity of our global communities, and to produce just societal outcomes from our work.

Finally, the lack of professional grade status and associated compensation for qualified engineers employed in many government agencies has been a disincentive for attracting and retaining engineering professionals in the public sector. Many of these positions are now being filled by professional administrators and paraprofessionals having little or no formal engineering training. Ultimately, the quality of the public infrastructure and the successful prosecution of infrastructure projects which these agencies oversee could be adversely affected. This could undermine the public trust and respect for the affected government agencies. A government career path for engineers to reach professional grade will encourage engineers to enter government service and enhance retention of the valuable technical expertise and experience that is required to effectively implement the IIJA.

Conclusion

ASCE remains a staunch supporter of investing in infrastructure and the workforce that maintains and operates transportation systems. A robust workforce is necessary for a safe and dependable network of roads, bridges, transit systems, rail lines, ports, waterways, and aviation facilities. The nation is on the precipice of a long-awaited infrastructure decade. However, if we fail to make smart investments or fail to fill the nation's workforce gaps, we will not realize the full impact of the historic investments made by the bipartisan infrastructure law.

ASCE thanks the House Committee on Transportation and Infrastructure for holding this hearing and stands ready to assist lawmakers with their work on this important subject.