



MAKING AN IMPACT THROUGH RESEARCH



**2022-2023
Achievement
Report**

ACEC
RESEARCH
INSTITUTE

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2022–2023 Achievement Report

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Mission and Vision

Founded in 2020 to deliver knowledge and business strategies that guide and elevate the engineering industry, the ACEC Research Institute is the leading source of thought leadership for creating a more sustainable, safe, secure, and technologically advanced built environment.

Message from the ACEC Research Institute Chair and Executive Director

DEAR FRIENDS AND COLLEAGUES:

During the past year, as the country recovered from the pandemic, engineering firms faced a rapidly changing business environment and had to adapt quickly to remain successful. The ACEC Research Institute was there to provide valuable insights and resources to help firms grow through the new normal. The annual **Economic Assessment and Forecast** analyzed and measured the significant economic impact of our industry. The quarterly **Engineering Business Sentiment** delivered timely insights on how firm leaders were managing the change and their outlook on the future. The **Design Build State of Practice** report for the first time examined the challenges of the design build project delivery method from an engineering perspective and included recommendations for both firms and owners to generate more successful outcomes.

Our research has been featured at leading industry gatherings including ACEC national, regional, and state events, Design Build Institute of America (DBIA) national conferences, and Transportation Research Board (TRB) meetings. The White House included the Design Build study findings in its fact sheet during the Accelerating Infrastructure Summit. Leading industry publications have highlighted our findings throughout the year. The research and exposure have helped raise the profile of the ACEC Research Institute, demonstrating our commitment to staying at the forefront of industry trends and best practices in today's business environment to advance the engineering industry.

This year we also turned our focus to the "Firm of the Future," a new initiative to navigate the complex challenges facing the next generation of firm leaders. Through the work of our nABLE advisory board and our Industry Insights Team, the Institute is developing a research agenda that will help firms stay ahead of emerging trends and plan for the workforce, technology, and business models of the future.

These critical and timely initiatives would not have been possible without the support



This year we also turned our focus to the "Firm of the Future," a new initiative to navigate the complex challenges facing the next generation of firm leaders.

of our generous donors. Their contributions have enabled us to produce groundbreaking research to tackle some of the most pressing challenges facing the industry today. We invite those from around the industry to get involved with the ACEC Research Institute to help drive innovation, growth, and success in the engineering industry. By doing so, you're doing your part to contribute to a more sustainable and resilient built environment.

Finally, we would like to express our sincere gratitude and appreciation to our inaugural chair, John Carrato, for his outstanding leadership and vision for the Institute. Under John's guidance, the ACEC Research Institute has produced groundbreaking research, and become a destination for reliable, respected data. His commitment to excellence and dedication to advancing the engineering industry have been truly inspiring, and the impact of his leadership is evident in the Institute's continued success and reputation for excellence.

We remain committed to continuing our mission and invite you to join us on this journey.

Sincerely,

Mike Carragher

Chair, ACEC Research Institute
Chairman of the Board, CEO & President, VHB

Daphne Bryant

Executive Director
ACEC Research Institute



Mike Carragher

Chair, ACEC Research Institute
Chairman of the Board,
CEO & President
VHB



Daphne Bryant

Executive Director
ACEC Research Institute



Horizon One: Current Business Insights



IN FALL 2022, the Institute's Board of Directors committed to a three-horizon approach to research and thought leadership for the Institute moving forward. Horizon One is focused on short-term research that has a quick turnaround and provides immediate business insights for ACEC member firms. Horizon Two includes projects that are driving business outcomes for the near future. Horizon Three projects are long-term, forward-looking initiatives that will drive the industry into the future.

2022 ECONOMIC ASSESSMENT

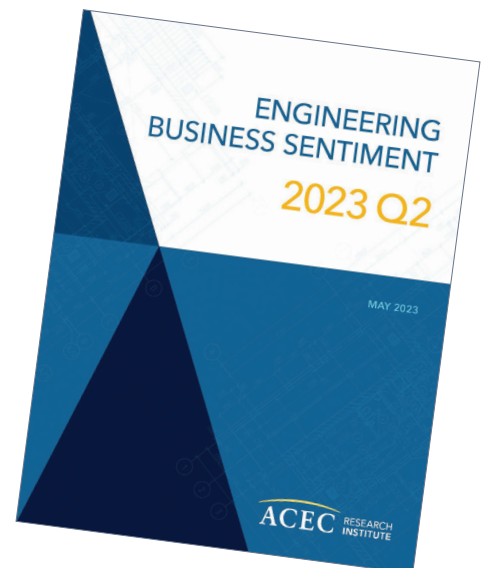
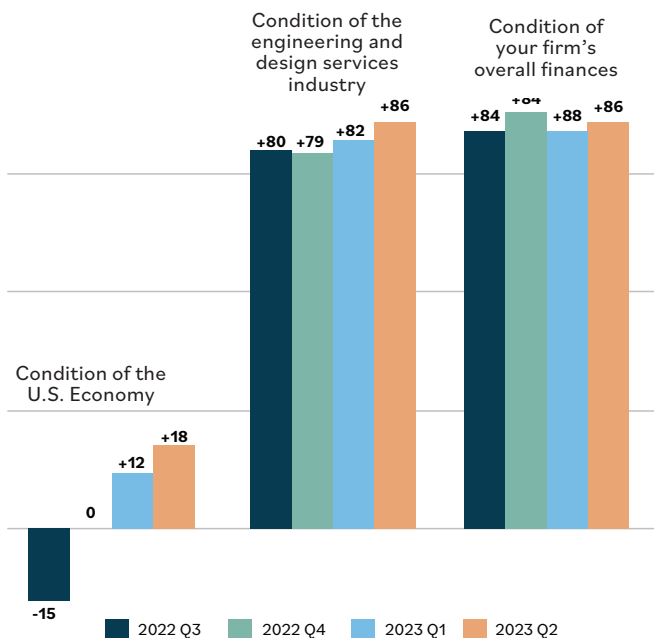
This study provides an in-depth report on the current state and future outlook of the engineering and design services industry. Drawing upon extensive data analysis, a robust proprietary economic model, and expert insights, the study provides a comprehensive assessment of the size, growth, and composition of the industry. Additionally, the study offers insights on the direct and indirect effects of engineering on job creation, GDP growth, tax revenues, and other economic indicators.

This research has become a valuable resource for engineering firms, policymakers, and stakeholders seeking to better understand the industry's current state and future direction. The study provides critical insights into the economic landscape and emerging trends that are likely to shape the industry in the coming years. By identifying key growth areas and potential risks, it is a must-read for firms seeking to navigate an increasingly complex and competitive marketplace.

ENGINEERING BUSINESS SENTIMENT

The quarterly report details the sentiment of more than 600 engineering firm owners and executives. These leaders were surveyed for their outlook on their firms' finances, state of the engineering and design services industry, and the condition of the U.S. economy. Each survey also includes questions on several hot-button issues, such as inflation, workforce shortages, and wage inflation, providing timely considerations as firms seek to remain competitive and meet evolving client needs.

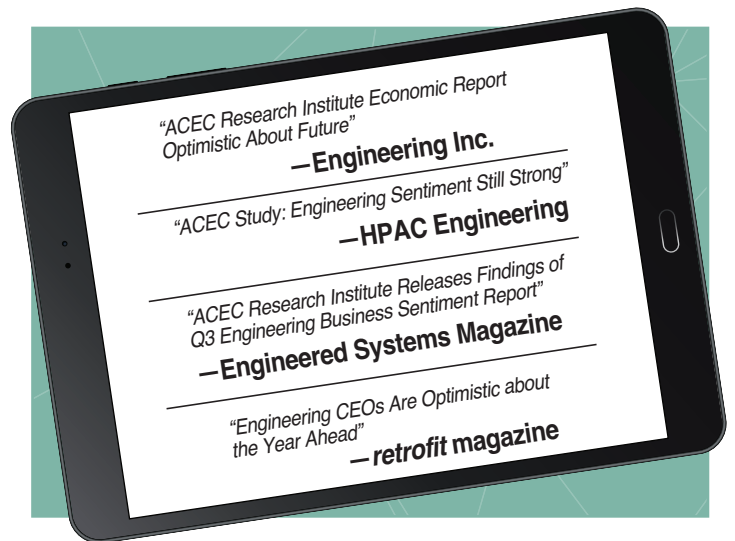
Current Economic Sentiment





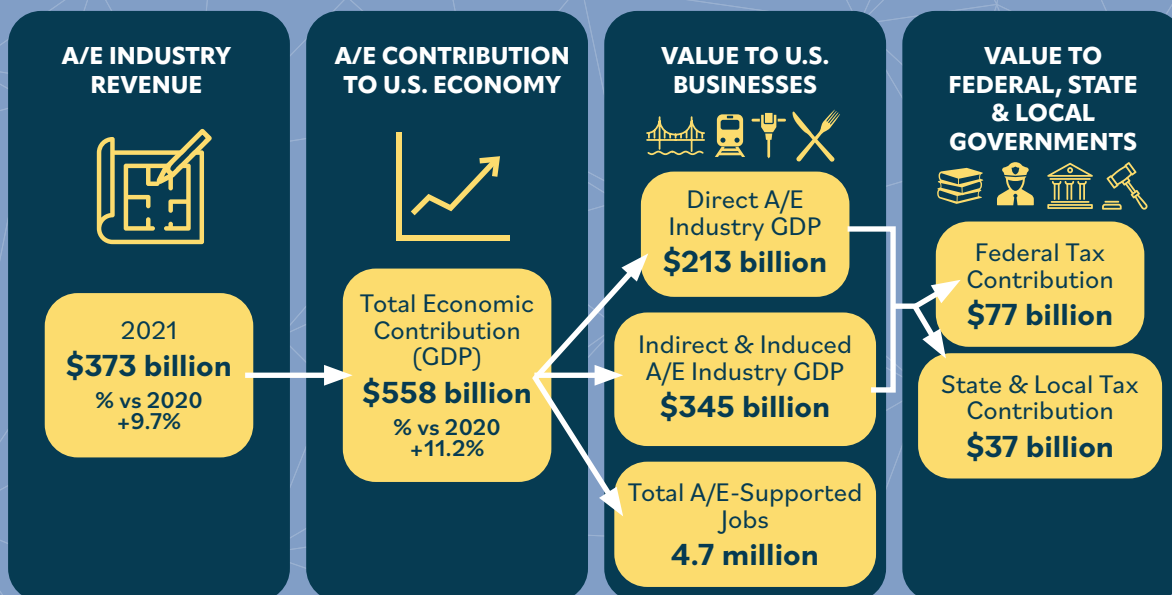
“What we see in this most recent study is that, despite the outsized impact of the pandemic on engineering and design services, our sector proved to be incredibly resilient in its recovery and a major contributor to the overall U.S. economy.”

Linda Bauer Darr
ACEC President and CEO



Key Findings

- In 2021, the sector contributed \$558 billion to U.S. GDP, an 11.2% year-over-year increase that accounted for 2.7% of total U.S. GDP.
- The \$1.2 trillion Infrastructure Investment and Jobs Act (IIJA) signed into law in 2021 will add \$132 billion in economic output and 82,000 jobs in the Engineering and Design Services sector over the next five years.





Future of Engineering Roundtable Series

“

Overall, these roundtables provide great value for us. Wooten is proud to be a sponsor of the Institute and this important research for our industry that underpins these findings, trends, and projections.”

THE ACEC RESEARCH INSTITUTE

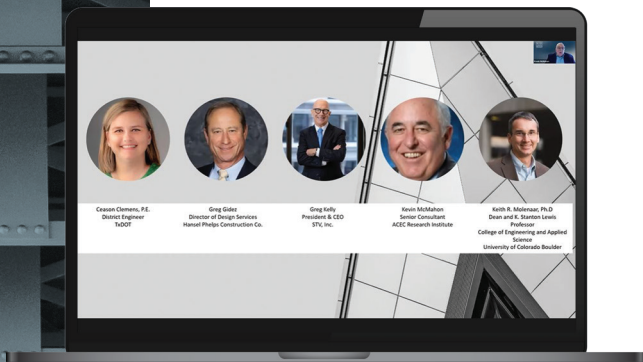
developed a series of virtual roundtable discussions with leading experts to explore intelligent solutions to major financial obstacles, seek more proactive approaches to predicting uncertainty, and pursue strategies to remove barriers to creating a sustainable and resilient future. Presenters included economists, futurists, legal counsel,

and human resource specialists, as well as industry leaders and subject matter experts.

These monthly sessions have addressed topics like the economy, data management, technology, QBS, Design Build, and more. The sessions provided live audiences with an opportunity to ask questions of the experts and were also available later in a recorded on-demand format.



Above: ACEC Georgia President & CEO Michael Sullivan shares insights during “Analysis of QBS in the Procurement of Consulting Engineering Services”



Left: Diverse panel of industry experts discuss the new Design-Build State of Practice study.

Right: CU Boulder’s dean of engineering Keith Molenaar discusses Design-Build during “Risk and Relationships: Driving Successful Design-Build Outcomes”



“

Excellent programming and a great deal of very useful information. I am going to make sure the information is shared with the executive team.”

“Comments and information presented were insightful.”

“Extremely informative. Thank you!”

“Great subject and the panel were very insightful.”

Horizon Two: Driving Business Outcomes



DESIGN-BUILD STATE OF PRACTICE

delivers a comprehensive look at the current state of design-build project delivery practices from an engineering perspective. The study includes a set of best practices and recommendations for agencies and firms focused on improving project harmony and overall outcomes.

This study addresses critical issues related to project delivery and efficiency, which have become increasingly important

in an industry that faces mounting pressure to reduce costs and improve project outcomes. By providing actionable recommendations based on proven practices, the study offers a roadmap for improving the design-build process, reducing risks, and enhancing client satisfaction. This study has become a valuable resource for engineering firms, agencies, and stakeholders seeking to improve their project delivery practices and achieve better results.



“Design-build can be an effective way to deliver infrastructure to the public, and this study provides actionable recommendations to agency clients to do it the right way.”

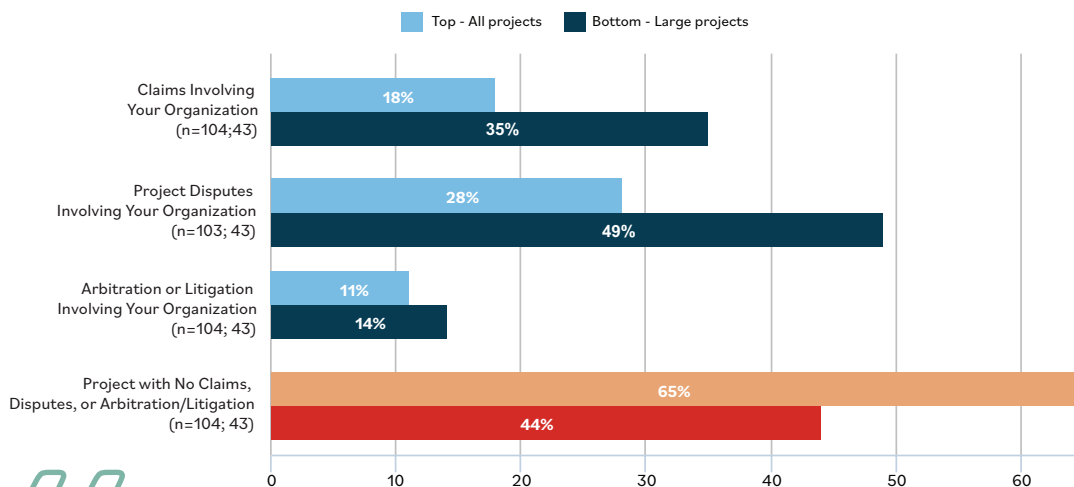
John L. Carrato

Past Chair, ACEC Research Institute



Left: The Institute’s Design-Build State of Practice report is referenced by the White House in their fact sheet during the Accelerating Infrastructure Summit.

Project Harmony State of the Practice



“The key to success in design-build delivery is clear communication early in the partnership process,” said Keith Molenaar, University of Colorado Boulder, in a news release. “While our research shows that size, risk transfer, and long-term relationship building are vital elements of successful contracts, clarity about risk allocation above all else has to be reached so the project work can progress with confidence across all project participants.”



Horizon Three: Future Forward Thought Leadership

FIRM OF THE FUTURE



WORKFORCE

TECHNOLOGY



BUSINESS MODELS

IN EARLY 2022, the Institute Board of Directors commissioned the National Advisory Board for Leadership in Engineering (nABLE) to identify long-term, future-focused initiatives through external stakeholder perspectives. The nABLE advisory group brings together experts in areas that shape or influence government, business, academia, and society to discuss the most significant issues impacting or being impacted by people in the built environment. Their work resulted in identifying the following key focus areas:

- Sustainability and resiliency design
- Case for investment in the built environment
- Industry transformation from data, technology, and emerging trends

- Cultural competence in engineering
- Future education culture

To help bring these expansive topics back to the industry, the Institute established an Industry Insights Team, which includes senior executives from each Founder and Chair Circle donor organization. The team met in Spring 2023 to begin shaping an ambitious initiative termed “Firm of the Future.” This initiative will provide ACEC member firms and the industry with the intelligence and foresight to meet the challenges facing the industry and the world over the coming generations. The Institute’s Board of Directors will continue to work closely with nABLE and the Industry Insights Team as it develops thought-provoking, yet practical research on the Firm of the Future.

nABLE Members

Chair: Doug McKeown

Chair, Board of Directors
Woodard & Curran

Vice Chair: Karl Reid

Senior Vice Provost and Chief Inclusion Officer
Northeastern University

Dr. Rafael Bras

Professor and Former Provost
Georgia Tech

Kevin Edwards

Chief Diversity Officer
Bechtel Corporation

Rebekah Eggers

Global Client Engagement & Innovation
Director, Energy Sector
IBM

Manish D. Kothari

President & CEO
Sheladia Associates

Roger Millar

Secretary of Transportation
Washington State

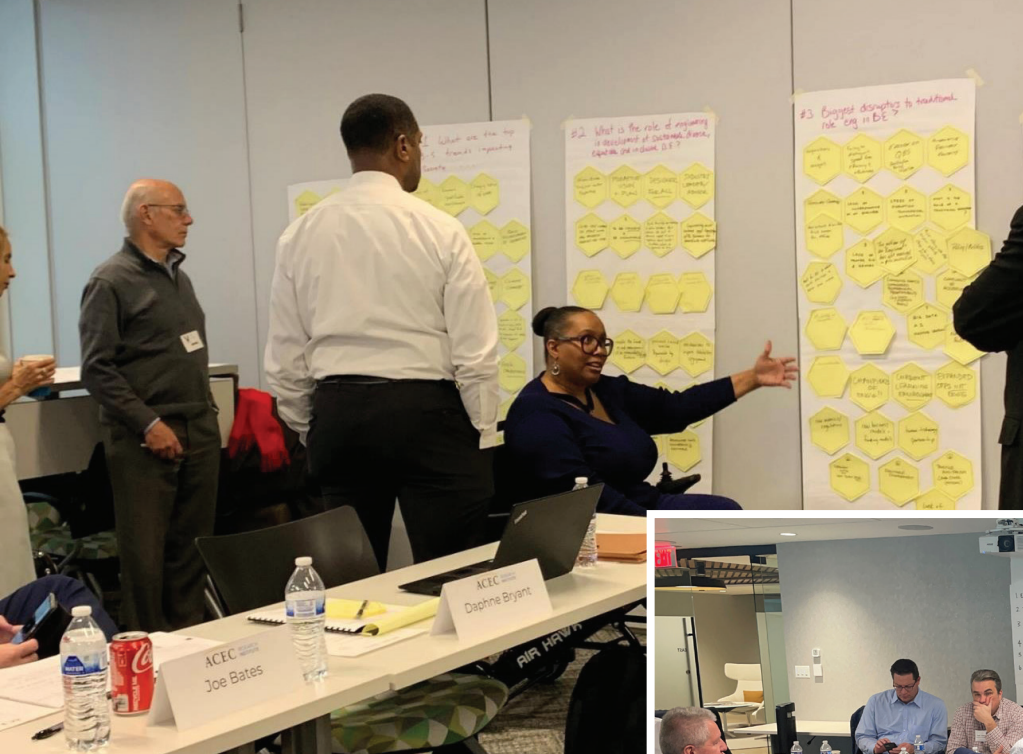
Dr. Yvette Pearson

Vice President for Diversity, Equity and Inclusion
The University of Texas at Dallas

Barry Schoch

Senior Vice President Transportation
KCI





Left: nABLE members identifying future research initiatives at their inaugural meeting.



Right: Industry Insights Team members framing the research agenda for Firm of the Future.

Industry Insights Team Members

David Ott
ACEC Minnesota

Joe Fiordaliso
ACEC New Jersey

Craig Johnson
ACEC New Jersey

Rick Allen
ACEC Ohio

Lynn Miggins
ACEC Ohio

Daniel Larson
American Engineering
Testing, Inc.

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Autodesk

John Carrato
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Educating Future Leaders

THROUGH ITS COMMITMENT TO students pursuing engineering degrees, the ACEC Research Institute continues to invest in educating our industry's future engineers and leaders. This past year, the Institute expanded its scholarship program with six new diversity and need-based scholarships

for college students, providing greater access to and diversity within the engineering profession. Supporting a diverse and talented pipeline of future engineers, these scholarships help to ensure a strong and innovative industry that will continue to meet the future needs of society.

2023 Scholarship Winners:

- **Michael Drummond, University of Cincinnati**
\$13,000 Scholar of the Year
- **Grace Whisler, Kansas State University**
\$12,500 Morrissey Goodale Diversity in STEM Scholarship
- **Isabella Bernard, The Catholic University of America**
\$12,500 Morrissey Goodale Helping Hands Scholarship
- **Kyle Van Horn, Ohio Northern University**
\$7,500 Lee Rice LRE Water Scholarship
- **Jayci Tshako, University of California, San Diego**
\$5,000 ACEC Life/Health Trust Scholarship
- **Jaclyn Bashore, University of Cincinnati**
\$5,000 ACEC Small Firm Coalition Scholarship
- **Jillian Douhy, University of Nebraska-Lincoln at Omaha**
\$5,000 a/e ProNet Scholarship
- **Madison Allen, University of Tennessee - Knoxville**
\$5,000 J.A. Watts Diversity in Engineering Scholarship
- **Angel Randall, Prairie View A&M University**
\$5,000 Kimley-Horn Diversity in STEM Scholarship
- **Alex Chau, San Diego State University**
\$5,000 Kimley-Horn Diversity in STEM (need-based) Scholarship
- **Morgan Trechter, The Catholic University of America**
\$5,000 Stanley Consultants, Inc. Diversity in Engineering (Need-Based) Scholarship
- **Katlynn Vicuna, The University of Hawaii at Manoa**
\$5,000 Stanley Consultants, Inc. Helping Hand (need-based) Scholarship

Thank you to the ACEC College of Fellows Scholarship Committee for their continued support of our scholarship program.



“

Grateful to receive the Stanley Consultants Diversity in Engineering scholarship, enabling me to pursue civil engineering and make a lasting impact on future generations.”

Morgan Trechter, The Catholic University of America



Above: 2022 Scholarship recipients being recognized at ACEC Fall Conference.

Thank you to the following firms and individuals who have invested in the future of our industry through contributions to our various scholarship funds.

a/e ProNet
ACEC Life/Health Trust
Kyle Andersen
Ryan Anderson
William Anderson
Philios Angelides
Desmond Baker
Bob Barnett
Donald Booth
Jeffrey M Bross
Thomas J Brothers
John L Carrato
Kevin Chamberlain
Lowell K Christy
Constellation Design Group
Michael Cooper
Andrew Cummings
Edwin K Dedeaux
Lamar Dunn
Lauren Evans

Rick Fanteux
Dennis E Ford
Darcie Gabrisko
Jeff Geurian
Ralph W Guida
Gilbert Hantzsch
Joe H Harman
Gary Hartong
James Hoffman
William Hoffman
Felsburg Holt
J.A. Watts, Inc.
Greg Jewell
David Jones
David Kennedy
Kimley-Horn
Michael D Klingner
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Jeffrey L Kronser
Narender Kumar

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Sheryl Nojima
Rob Overfield
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Kevin Peterson

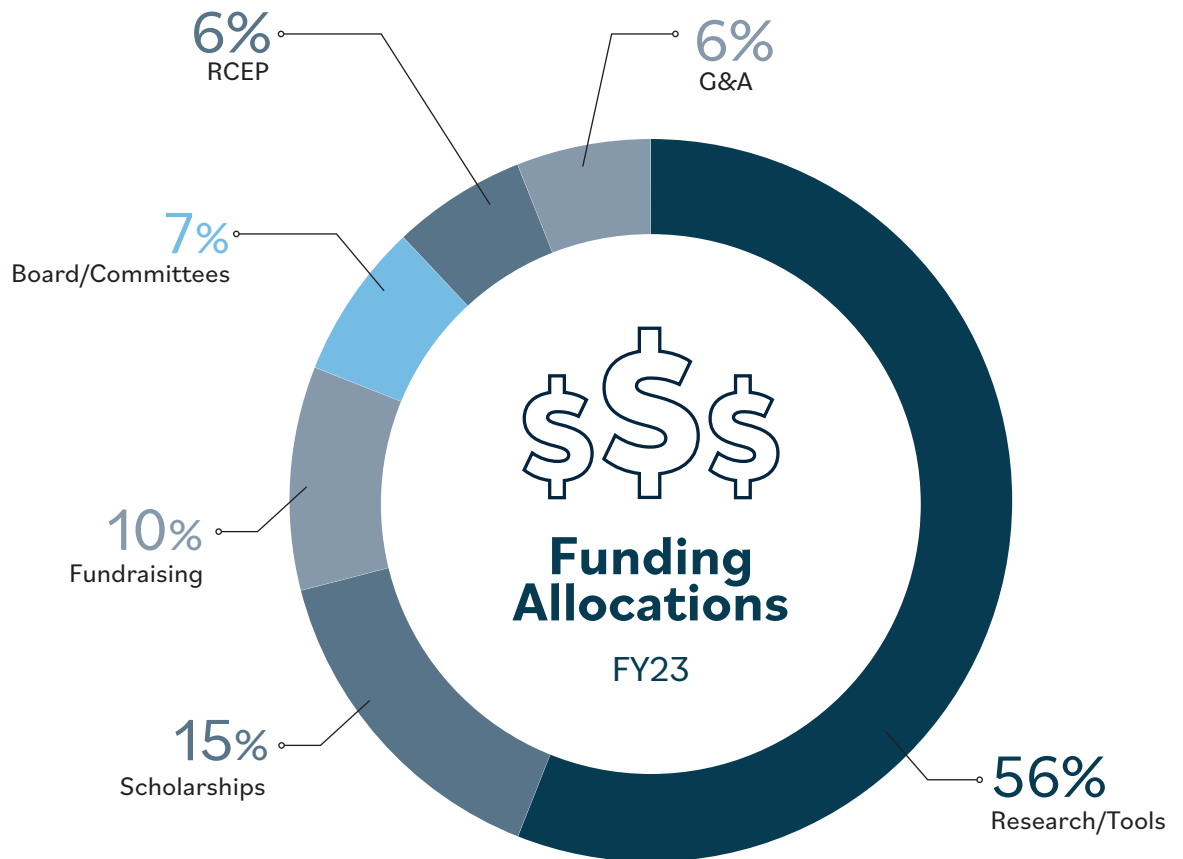
John A Rathke
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Jane Rozga
Bruce K Sadler
Kenneth W Smith
Michael Smith
Larry E Speaks
Stanley Consultants, Inc.
Randall Stepp
Richard Sullivan
Matthew Tondl
Mindy Toole
William Toole
Stephanie A Wagner
Richard C Wells
Brent White
Ted C Williams
William Wilson
Jay Wolverton
Jan Zander





Investing in the Future

THE ACEC RESEARCH INSTITUTE Board of Directors remains committed to investing in the engineering and design services industry. This past year, the Institute funded economic analysis, landmark industry research, educational programs, and scholarship grants, while maintaining a low cost of operation.



The ACEC Research Institute is a 501(c)3 nonprofit organization. Donations to the Institute are tax-deductible to the extent allowable by law. Internal Revenue Code EIN: 52-1140340.

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**Board Term ended June 2023

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As of June 2023

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Anonymous Contributor Ed & Brenda Alizadeh

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Daphne & Jeff Bryant

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The accomplishments covered in this report would not have been possible without the contributions of our donors. The ACEC Research Institute appreciates everyone who has contributed to our success through multi-year commitments, fundraising events, and one-time donations. Every effort has been made for this listing to be inclusive of all donors and we apologize for any unintended omissions.



Janice Marsters

Jay & Ann Wolverton



Kenneth & Sheri Smith



Elizabeth Stolfus & Steve Mystkowski

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Tyler Hevlin
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Terracon
Ryan Thady
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ACEC RESEARCH INSTITUTE

1400 L Street, N.W., Suite 400, Washington, DC 20005
202-347-7474 | institute@acec.org | www.acecresearchinstitute.org



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