OPENING STATEMENT

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of the Subcommittee on Research and Technology

House Committee on Science, Space, and Technology
"Composite Materials-Strengthening Infrastructure Development"
April 18, 2018

Thank you Chairwoman Comstock for holding today's hearing to discuss this important topic, and thank you to the witnesses for being here to share your thoughts on the use of advanced composite materials for major infrastructure.

Much of the nation's major infrastructure is nearing or has passed the end of its design lifespan. The American Society of Civil Engineers' 2017 *Infrastructure Report Card* gave our nation's infrastructure a grade of D+ based on assessments of capacity, condition, resilience, innovation, and other criteria. And our current infrastructure is under increased strain year after year as our population grows. We must find a way to ensure the safety of the nation's expanding population as demands on our roads, bridges, utilities, and other essential infrastructure increase. I sit on the House Transportation and Infrastructure Committee and I understand that the status quo is clearly not acceptable. In addition, we need to examine our approach to rebuilding infrastructure as climate change and other factors drive increases in the intensity of wildfires, hurricanes, and other extreme events, wreaking havoc on dams, bridges, above- and below-ground utilities, and other essential structures.

These are long-term challenges that require long-term solutions, but right now we don't have the funding necessary to close investment gaps and build the infrastructure we know we need. As we make plans to shore up our infrastructure and build for the future, we must take advantage of all the tools at our disposal. This includes using innovative technologies and emerging materials where they offer the best value for a project. Materials such as fiber reinforced polymer composites, or advanced composites, which we are examining in today's hearing, may play a key role in how the nation addresses its challenges under constrained resources. Decades of federal and private sector research and development investment in advanced composites has resulted in significant use of these materials in some sectors, such as the defense, aerospace, automobile, and energy industries. While composites have also been used in some construction and infrastructure applications, such as strengthening concrete, making bridge repairs, and building bridge decks, they haven't been used as widely for infrastructure as they have been in other sectors. I commend NIST for producing the report we are reviewing in today's hearing. They brought together federal, private, and university partners to identify and examine how to overcome barriers to adoption of composites in sustainable infrastructure, including challenges to developing a skilled workforce.

I look forward to hearing from Dr. Lange and others about ways we can incorporate advanced composites into our engineering education and training programs to make sure that all those involved in designing and building our infrastructure have the knowledge and skills to use whichever material is best for the job. This will require updates for undergraduate and graduate engineering curriculum, training programs for the construction trades, and professional

development plans in a wide range of industries. Doing this successfully necessitates the cooperation of governments, educational institutions, and industry, and I'm glad we have representatives from all of those sectors here today.

As we examine ways to increase the use of advanced composites, it is important that we don't lose sight of the strengths of traditional materials like concrete and steel. Both for repair and upgrades of existing infrastructure and for new projects, we need to have safety and design standards in place that allow engineers to choose the best material for the job, and allow novel and traditional materials to work together.

Finding smart ways to improve our roads, bridges, pipelines, and other infrastructure is a major priority of mine. I look forward to the testimony of our witnesses. I yield back.