

**BUILDING REGIONAL  
INNOVATION ECONOMIES PART II**

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**HEARING**  
BEFORE THE  
SUBCOMMITTEE ON RESEARCH AND TECHNOLOGY  
OF THE  
COMMITTEE ON SCIENCE, SPACE,  
AND TECHNOLOGY  
OF THE  
HOUSE OF REPRESENTATIVES  
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INNOVATION ECONOMIES PART II**

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**WEDNESDAY, DECEMBER 14, 2022**

HOUSE OF REPRESENTATIVES,  
SUBCOMMITTEE ON RESEARCH AND TECHNOLOGY,  
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY,  
*Washington, D.C.*

The Subcommittee met, pursuant to notice, at 10 a.m., in room 2318, Rayburn House Office Building, Hon. Haley Stevens [Chairwoman of the Subcommittee] presiding.

**U.S. HOUSE OF REPRESENTATIVES  
SUBCOMMITTEE ON RESEARCH AND TECHNOLOGY  
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY  
HEARING CHARTER**

*Building Regional Innovation Economies Part II*

**Wednesday, Dec 14, 2022  
10:00 am – 12:00 pm ET  
2318 Rayburn HOB**

**PURPOSE**

The purpose of this hearing is to explore the role of the Department of Commerce's Economic Development Administration to promote regional innovation through support for community-led economic development strategies that increase geographic diversity and expand participation in the innovation economy, bolster domestic supply chains, grow manufacturing capacity, and strengthen community resilience across the United States.

**WITNESSES**

- **The Honorable Alejandra Castillo**, Assistant Secretary of Commerce for Economic Development, U.S. Department of Commerce
- **Ms. Maureen Donohue Krauss**, President and CEO, Detroit Regional Partnership
- **Mr. David Spalding**, Raisbeck Endowed Dean of the Debbie and Jerry Ivy College of Business and Interim Vice President of Economic Development and Industry Relations, Iowa State University
- **Ms. Linda Olson**, President/CEO, Tampa Bay Wave

**KEY QUESTIONS**

- What is the role of the Economic Development Administration (EDA) and, in particular, the Office of Innovation and Entrepreneurship (OIE), in supporting the development of local and regional innovation economies?
- How does EDA integrate equity and shared prosperity as priorities in the solicitation and review of proposals to develop and expand regional innovation economies? What are the benefits and challenges for awardees in seeking to integrate equity and shared prosperity as priorities in regional innovation strategies and initiatives?
- What is the relationship between a region's innovation economy and the region's research capacity, workforce, housing, transportation systems, and other regional factors? How can EDA leverage interagency collaborations to support its investments in regional innovation economies, including to address opportunities to integrate strategies across such factors? Are there policy updates that could enhance interagency efforts?

- What do data show about the outcomes of EDA's programs and whether objectives are met? What additional data could enable a fuller understanding of the benefits of the programs and challenges to meeting its objectives?

### BACKGROUND

The U.S. led the world into a new era of entrepreneurship and innovation through the late 20<sup>th</sup> and early 21<sup>st</sup> century. San Francisco, New York City, and Boston became beacons of entrepreneurial success. These regions are home to several well-funded research universities, extensive business and investor networks, and a robust workforce that have all been conducive to startup success. However, these successes have also led to a clustering of many of the social and economic benefits. Policymakers realize that supporting successful innovative entrepreneurship across the country has many benefits.<sup>1</sup> It creates jobs across the country, contributes to a healthy U.S. economy, provides new or improved goods and services, and adds stability and resilience to domestic supply chains.

Entrepreneurs must navigate difficult business, technical, and financial challenges with varying experience and support. Failure in any of these areas can lead to business closure. Founders located in the leading tech hubs have access to the longstanding business and investor networks to surpass these challenges. Business support infrastructure, including incubators and accelerators, has developed around the country to replicate some of these assets and support new businesses through known challenges. Incubators assist newly founded businesses to refine business ideas and develop structure, and often are operated as a non-profit. Accelerators serve more mature startups, typically with a prototype, preparing to scale up and provide access to resources and networks to attract investors. Often, both provide education and training, cohort networks, mentoring, and tailored business guidance.<sup>2</sup>

While each company takes a unique path, most nascent hard tech businesses will require several stages of investment funding from different investors. A typical first stage investment is a round of seed funding. This is a high-risk investment of a smaller value which allows companies to fund the development of a prototype or pursue further business development. The median deal size for seed funding in Q2 2022 was \$2.7M. This is followed by early-stage rounds of investments for larger values to begin operations (named Series A, Series B, etc.); in Q2 2022 the median deal size was \$10.7M.<sup>3</sup> Companies may also require further investment to scale up operations to a profitable level, which entails one or more rounds of late-stage funding; in Q2 of 2022 the median deal size was \$14M. Funding can come from a variety of sources. Seed funding can come from Federal funds (such as the SBIR program), corporate financing, angel investors, venture capital (VC), or family and friend financing. Early- and late-stage funding may also come from these sources but is typically raised through VC.<sup>4</sup> Each round of funding is a pivotal step for the company and often hard to obtain. Some businesses may choose to navigate these stages with loans, referred to as debt financing. However, this may stymie follow-on funding from potential investors for otherwise scalable innovative businesses.

<sup>1</sup> As demonstrated by legislation such as *The American COMPETES Act of 2007*, *The America COMPETES Reauthorization Act of 2010* and *The CHIPS and Science Act of 2022*.

<sup>2</sup> [amarborusa.org/news/what-is-the-difference-between-startup-incubators-and-business-accelerators/](https://amarborusa.org/news/what-is-the-difference-between-startup-incubators-and-business-accelerators/)

<sup>3</sup> Q2 2022, PitchBook-NVCA Venture Monitor, [pitchbook.com/news/reports/q2-2022-pitchbook-nvca-venture-monitor](https://pitchbook.com/news/reports/q2-2022-pitchbook-nvca-venture-monitor)

<sup>4</sup> [pitchbook.com/news/articles/understanding-the-stages-of-vc](https://pitchbook.com/news/articles/understanding-the-stages-of-vc) , [pitchbook.com/blog/what-is-venture-capital](https://pitchbook.com/blog/what-is-venture-capital)

In many regions across the United States, start-up companies struggle to get access to capital. Four markets receive over two thirds of all VC within the U.S.<sup>5</sup> and less than 1% of all VC goes to rural startups.<sup>6</sup> Thus there is a significant funding disadvantage to business ecosystems outside the top hubs.

Startup financing also varies significantly across demographics. Only 17% of venture capital went to companies with at least one female founder and 2% went to all female-founded companies.<sup>7</sup> In mid-2021, Black female startup founders had received just 0.34% of the total venture capital spent in the U.S.<sup>8</sup> Between 2015 and 2020, Black and Hispanic founders in the U.S. raised 2.4% of total U.S. VC funding despite comprising over 30% of the U.S. population.<sup>9</sup> The origin of VC disparity is intertwined with disparities in the STEM research workforce and patent data;<sup>10</sup> however, the disparity in access to financing is more severe.<sup>11</sup>

Of U.S.-based venture capital partners, fewer than 5% are women; moreover just 0.2% are Latina, and 0.2% are Black women. Women investors are significantly more likely to fund women-owned and women-run businesses.<sup>12</sup> Increasing diversity within the investor sector will have ripple effects in the demographic diversity of startups. Recently, VC firms have been created specifically to address this disparity and focus on financing underrepresented founders; a recent high-profile example is Serena Williams' Serena Ventures.

Venture capital is also not equally accessible to all business sectors. Most venture capitalists seek investments with significant rapid growth potential for a relatively quick and large return on their investment. This favors technologies with a fast entrance to the market. Technologies with long development timelines, market uncertainties, or substantial manufacturing costs or challenges can be less desirable. This accounts, in part, for the significant share of investments made in software over hardware technologies despite the many benefits to fostering domestic hardware companies. Moreover, social entrepreneurship addressing societal challenges such as climate innovation, economic mobility, and access to essential services represent only a small portion of the VC investments.<sup>13</sup> Women and people from historically excluded groups are more likely to found startups with a social impact goal, which may contribute to the disparity in VC financing.<sup>14</sup>

To unleash the benefits of geographically distributed innovation ecosystems, entrepreneurs around the country need access to business networks and financing. The Federal government has an important role to play in developing policy and infrastructure to address this. The programs below highlight some of the current Federal approaches to foster innovation and entrepreneurship. These programs are beneficial as

<sup>5</sup> San Francisco Bay Area, New York, Los Angeles, Boston. Q2 2022, PitchBook-NVCA Venture Monitor, [pitchbook.com/news/reports/q2-2022-pitchbook-nvca-venture-monitor](https://pitchbook.com/news/reports/q2-2022-pitchbook-nvca-venture-monitor)

<sup>6</sup> The power of capital in rural entrepreneurship, [ruralinnovation.us/blog/access-to-capital/](https://ruralinnovation.us/blog/access-to-capital/)

<sup>7</sup> Q2 2022, PitchBook-NVCA Venture Monitor, [pitchbook.com/news/reports/q2-2022-pitchbook-nvca-venture-monitor](https://pitchbook.com/news/reports/q2-2022-pitchbook-nvca-venture-monitor)

<sup>8</sup> [news.crunchbase.com/diversity/something-ventured-black-women-founders/](https://news.crunchbase.com/diversity/something-ventured-black-women-founders/)

<sup>9</sup> Crunchbase Diversity Spotlight 2020: Funding to Black & Latinx Founders, [about.crunchbase.com/wp-content/uploads/2020/10/2020\\_crunchbase\\_diversity\\_report.pdf](https://about.crunchbase.com/wp-content/uploads/2020/10/2020_crunchbase_diversity_report.pdf)

<sup>10</sup> CRS Report, Equity in Innovation: Trends in U.S. Patenting and Inventor Diversity, [crsreports.congress.gov/product/pdf/IF/IF12259](https://crsreports.congress.gov/product/pdf/IF/IF12259)

<sup>11</sup> Alliance for Entrepreneurial Equity Report, [www.aeequity.org/product/five-reasons-minority-borrowers-cant-access-capital](https://www.aeequity.org/product/five-reasons-minority-borrowers-cant-access-capital)

<sup>12</sup> The Untapped Potential of Women-led Funds by Women in VC, October 2020, The Financial Alliance for Women

<sup>13</sup> Social impact companies received ~2% of all VC funds worldwide in 2020, according to [International Finance Corporation](https://www.ifs.com/)

<sup>14</sup> Bosma, N. S., Schott, T., Terjesen, S., & Kew, P. 2016. [Global Entrepreneurship Monitor: Social Entrepreneurship Report](https://www.gem.gov.uk/global-entrepreneurship-monitor-social-entrepreneurship-report)

financial and symbolic investments in business and regional economies and can help attract additional private and state support.

**Economic Development Administration (EDA)**

EDA is the only federal government agency focused exclusively on economic development and was created with the passage of the *Public Works and Economic Development Act (PWEDA) of 1965*. Housed within the Department of Commerce, the mission of the agency is “to lead the federal economic development agenda by promoting innovation and competitiveness, preparing American regions for growth and success in the worldwide economy.”<sup>15</sup> EDA supports communities around the country through a suite of programs, from coordinating economic recovery after disasters to assistance with local economic planning. EDA’s Office of Innovation and Entrepreneurship (OIE) was conceived during the Great Recession as a home for programs aimed to revive local economies across the Nation through innovation.<sup>16</sup> The office manages the Build to Scale, STEM Talent Challenge<sup>17</sup>, and the National Advisory Council on Innovation & Entrepreneurship among other programs.

*Build to Scale (B2S)*

The goal of the Build to Scale<sup>18</sup> program, funded at \$45 million in FY22, is to encourage and support the development of regional and local innovation support systems. B2S has evolved over its existence to meet the changing needs of innovation ecosystems and is currently comprised of two national grant competitions. The Venture Challenge provides support for entrepreneurship and the Capital Challenge develops investment infrastructure. Through these programs, OIE can spur investment capital, accelerate company growth, and empower the next generation of entrepreneurs in communities across the country.

The Venture Challenge<sup>19</sup> awards grants to intermediary organizations like accelerators, universities, community colleges, and non-profits supporting new high-growth business ventures. Awardees connect new companies with resources such as business support, mentoring, and cohort programming.

The second challenge, the Capital Challenge<sup>20</sup>, seeks to increase access to capital in communities where risk capital is in short supply. Awards provide operational support for the formation, launch, or scale of investment funds that seek to create sustaining investment vehicles to invest in scalable startups within a community, region, or regional industry.

*National Advisory Council on Innovation & Entrepreneurship*

The National Advisory Council on Innovation & Entrepreneurship (NACIE) is a Federal advisory council managed by OIE.<sup>21</sup> It is comprised of 30 leaders from business, non-profit, labor, and economic

<sup>15</sup> [eda.gov/about/](https://eda.gov/about/)

<sup>16</sup> OIE was authorized in the *America COMPETES Reauthorization of 2010*, and falls within the House Science, Space, and Technology Committee jurisdiction.

<sup>17</sup> The STEM Talent Challenge serves to develop or expand regional workforce capacity to support entrepreneurial ventures, industries of the future, and other businesses that have a high likelihood of accelerating economic competitiveness and job creation within a region. It was funded at \$2M in FY22. FY 2021 STEM Challenge awardees [eda.gov/oie/stem/2021/](https://eda.gov/oie/stem/2021/)

<sup>18</sup> Previously called the Regional Innovation Program

<sup>19</sup> In FY 2022, Venture Challenge awards ranged from \$375k to \$2 million. EDA award press release [eda.gov/news/press-releases/2022/10/05/build-to-scale.htm](https://eda.gov/news/press-releases/2022/10/05/build-to-scale.htm)

<sup>20</sup> In FY 2022, Capital Challenge awards ranged from \$263k to \$750k, [www.eda.gov/oie/buildtoscale/capital/2022/](https://www.eda.gov/oie/buildtoscale/capital/2022/)

<sup>21</sup> Authorized by the America COMPETES Act of 2010 (Pub. L. 111–358)

development backgrounds and leaders from EDA, NSF, and USPTO.<sup>22</sup> NACIE is charged to develop a National Entrepreneurship Strategy to strengthen America's competitiveness and start-up success. The council was largely inactive throughout the Trump Administration but has re-formed and held two meetings in 2022 with enthusiastic support from Secretary Raimondo. The Council is well suited to inform broad Federal innovation strategy, yet it is not clear how widely the Council's recommendations have been implemented within and beyond EDA. This may be due in part to limited resources of staff and low awareness and buy-in from other Federal agencies.

*Build Back Better Regional Challenge*

EDA's \$1 billion Build Back Better Regional Challenge (BBBRC), signed into law in the *American Rescue Plan Act of 2021*, was established to boost economic recovery from the pandemic and rebuild American communities, including those grappling with decades of disinvestment. The awards focused on supporting regional coalitions dedicated to long-term strategy for economic transformation driven by local partnerships of public, private, and social sector entities. Although the BBBRC is housed outside of OIE, the leadership and staff of OIE were instrumental in sharing experience and expertise to standing up the Build Back Better Regional Challenge.<sup>23</sup> Of note, the *CARES Act* and ARPA funding increased EDA's budget from \$300 million per year to over \$3 billion.

- **Phase 1-** EDA selected 60 finalists out of 529 initial applicants in December 2021.<sup>24</sup> Each finalist coalition received \$500,000 to begin execution of their concept proposals along with a three-month facilitated "Good to Great" process in which coalitions received cohort-based technical assistance to strengthen their clusters and proposals leading up to Phase 2 submission.
- **Phase 2-** On September 2, EDA announced that 21 awardees spanning 24 states have been selected and will receive between \$25 million and \$65 million to execute transformational projects and revitalize local industries.<sup>25, 26</sup>

EDA is continuing to support the Phase I finalists, even those that did not receive Phase 2 support. For example, EDA is funding a Community of Practice (CoP) dedicated to long-term support for the Build Back Better Regional Challenge's 60 finalist coalitions.<sup>27</sup>

**Other Relevant Federal Programs**

While no programs cover the same mission of Build to Scale, many programs at other Federal agencies provide complementary support for innovation and entrepreneurship efforts around the country.

*Small Business Administration (SBA)*

Programs at the SBA serve small business owners and entrepreneurs across the country.

<sup>22</sup> [eda.gov/oie/nacie/members/2022-24/](https://eda.gov/oie/nacie/members/2022-24/)

<sup>23</sup> Meeting with EDA

<sup>24</sup> [eda.gov/arpa/build-back-better/faq/](https://eda.gov/arpa/build-back-better/faq/)

<sup>25</sup> [eda.gov/arpa/build-back-better/finalists/](https://eda.gov/arpa/build-back-better/finalists/)

<sup>26</sup> This federal funding is matched by more than \$300 million of local investment and will leverage support from over 450 private sector and 27 labor unions or workers organizations.

<sup>27</sup> \$4 million to Research Triangle Institute (RTI) International RTI International in partnership the State Science & Technology Institute (SSTI)

**SBIC** - Small Business Investment Company (SBIC) Program is an investment program that increases access to capital for growth-stage businesses. An SBIC is a privately owned investment fund that's licensed and regulated by SBA. An SBIC uses its own capital, plus funds borrowed with an SBA guarantee, to make equity and debt investments in qualifying small businesses.

**SBIR/STTR** - The Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs are competitive programs that encourage domestic small businesses to engage in Federal Research/Research and Development (R/R&D) with the potential for commercialization.<sup>28</sup> SBIR programs are operated through Federal agencies that fund extramural R&D. The program provides funding for research and business development.

**SBDC** - Small Business Development Centers (SBDC) Programs deliver professional, high quality, individualized business advising and technical assistance to existing small businesses and pre-venture entrepreneurs.<sup>29</sup>

*Minority Business Development Agency (MBDA)*

MBDA, housed within the U. S. Department of Commerce, is dedicated to the growth and global competitiveness of minority business enterprises.<sup>30</sup> MBDA offers customized business development and industry-focused services to provide greater access to capital, contracts, and markets. Although MBDA serves a much-needed role, the agency's primary focus has not been on high growth potential businesses.

*National Science Foundation (NSF)*

NSF has typically supported fundamental R&D projects driving innovation from within the lab. While this continues to be an essential part of the country's innovation strategy, NSF has also piloted new and successful approaches to advancing discoveries beyond the lab.

**I-Corps** – NSF launched the Innovation Corps (I-Corps) program in 2011 to support would-be entrepreneurs with NSF support through the customer discovery process to enable a quick assessment of market potential. I-Corps prepares scientists and engineers to extend their focus beyond the laboratory. NSF runs a National Innovation Network I-Corps, which enables broader geographic access to the programs.<sup>31</sup> The success of I-Corps has led other agencies to run similar programs.

**RIE**- The Regional Innovation Engines (RIE) program, new this year, aims to fund regional coalitions to catalyze technology and science based regional innovation ecosystems. Each Engine will focus on addressing specific aspects of a societal and/or economic challenge that are of significant interest in a regional area. NSF will fund Engines to carry out an integrated and comprehensive set of activities spanning use-inspired research, translation-to-practice, entrepreneurship, and workforce development to nurture and accelerate regional industries. EDA and NSF have been collaborating on the synergies of this work with EDA's OIE and the BBBRC.

<sup>28</sup> [www.sbir.gov](http://www.sbir.gov)

<sup>29</sup> [www.sba.gov/local-assistance/resource-partners/small-business-development-centers-sbdc](http://www.sba.gov/local-assistance/resource-partners/small-business-development-centers-sbdc)

<sup>30</sup> Although in existence since 1969, MBDA was Congressionally authorized for the first time the *Bipartisan Infrastructure and Jobs Act* in 2021.

<sup>31</sup> [beta.nsf.gov/funding/initiatives/i-corps/about-national-innovation-network](https://beta.nsf.gov/funding/initiatives/i-corps/about-national-innovation-network)

*National Institute of Standards and Technology (NIST)*

The Manufacturing USA program is network of manufacturing innovation institutes coordinated through NIST. These institutes serve as partnerships between companies, academia, and entrepreneurs to develop and deploy advanced manufacturing technologies. Manufacturing USA institutes provide startups with access to manufacturing networks and technology, often for a significantly reduced member fee.

*Other agencies*

Mission-based agencies that support R&D including the Department of Energy, the National Institutes of Health, the Department of Defense, the U.S. Department of Agriculture, and the National Aeronautics and Space Administration also house programs to support entrepreneurship. Many agencies run SBIR and STTR programs, some have I-corps or other technology transition programs, and some run specialized entrepreneurship support programs. DOE's National Labs collaborate with business incubators and four labs participate in the Lab-Embedded Entrepreneurship Program<sup>32</sup> to support entrepreneurial training and technology maturation through use of the labs' facilities and resources.

Regional innovation strategies, such as those supported by the BBBRC, aim to develop comprehensive economic planning around the growth of an advanced technology sector. Thoughtful strategies should incorporate planning around future housing, workforce, and transportation needs to accommodate the industry growth. Thus, the Department of Housing and Urban Development, the Department of Labor, and the Department of Transportation have potential roles in supporting these strategies.

**Additional Challenges**

EDA has helped seed the nation with incubators and accelerators thereby supporting the high-tech industries that will fuel our future economy and provide innovative solutions. The Build to Scale program has run eight national competitions and awarded \$174 million in grants, matched by over \$215 million in community dollars across 326 projects. Collectively, these grants have helped create more than 14,200 jobs and driven more than \$1.6 billion in follow on investment capital into startups and new venture funds.<sup>33</sup>

However, there are several possible limitations to the OIE programs. A 2019 Evaluation of Build to Scale noted the limited number of OIE staff and their significant caseloads.<sup>34</sup> The staff number has not grown proportional to the program funding and responsibilities. This may limit the office's ability for outreach to new communities, project oversight, and strategic planning such as in support of NACIE. While EDA does prioritize geographic diversity in making awards, many rural communities struggle to compete for funding. Although business incubators and accelerators have popped up around the country there is no formal entity that supports knowledge exchange. B2S awardees could benefit from cohort activities designed for best practice sharing and networking. Finally, the programs have limited access to longitudinal data and evaluation to understand long term program outcomes and for use in program updates.

<sup>32</sup> [www.energy.gov/eere/amo/lab-embedded-entrepreneurship-program](http://www.energy.gov/eere/amo/lab-embedded-entrepreneurship-program)

<sup>33</sup> [www.eda.gov/oie/impacts/](http://www.eda.gov/oie/impacts/)

<sup>34</sup> Evaluation of the EDA Regional Innovation Strategies Program 2014 to 2017: Seed Fund Support and i6 Challenge Program, <https://www.eda.gov/files/oie/ris/EDA-RIS-Full-Program-Evaluation.pdf>

**Appendix**

**Relevant EDA Awards to the witnesses and their organizations**

Maureen Donohue Krauss, Detroit Regional Partnership - [Global Epicenter of Mobility \(GEM\)](#)

David Spalding, Iowa State University - [2020 Venture Challenge](#), [2017 i6 Challenge](#)

Linda Olson, Tampa Bay Wave - [2022 Venture Challenge](#), [2018 Seed Fund support](#), [2015 i6 Challenge](#), [2012 i6 Challenge](#)

Chairwoman STEVENS. This hearing will come to order. Without objection, the Chair is authorized to declare recess at any time.

Before delivering opening remarks, I just wanted to note that, today, the Committee is meeting both in person and virtually, and I wanted to just announce a couple of reminders to Members about the conduct of this hearing. First, Members and staff who are attending in person may choose to be masked, but it is not a requirement. However, any individual with symptoms, a positive test, or exposure to someone with COVID-19 should wear a mask while present. Members who are attending virtually should keep their video feed on as long as they are present in the hearing. Members are responsible, certainly, for their own microphones. Please also keep your microphones muted unless you're speaking.

Finally, if Members wish to submit for the record, please email the Committee Clerk, whose email address was circulated prior to this hearing.

So with that, good morning, and welcome to the final Research and Technology Subcommittee hearing of the 117th Congress. Today, we're taking a closer look at the Economic Development Administration, or the EDA, and their role, their incredible role to promote regional innovation through community-led economic development.

I want to thank our distinguished witnesses for joining us. I know you all have powerful testimony to share. And I would like to especially express my deep gratitude to Assistant Secretary Alejandra Castillo. Since I was elected to Congress, I devote Mondays primarily to visiting manufacturers or small businesses in my district. It's what I call Manufacturing Monday. And part of this is to showcase southeastern Michigan's innovation economy. I've seen firsthand the power of targeted, direct Federal investments to uplift the industry and talent already in our region. And these investments create coalitions by bringing a wide variety of community stakeholders to the table with a shared vision and shared goals. It opens new doors that otherwise would not be possible to open. And frankly, we have seen the return on the investment and the return to the dedication of supporting our manufacturing economy, our emerging industries all over this country.

All the Members participating in this hearing know great innovators in their district, and they see it all across the country. So the question before us today is how to build innovation ecosystems in different communities with different strengths because I believe we can widen this pie. We can carve out equitable pathways for economic growth by supporting modernization to become part of a supply chain for industries of the future and to ensure American competitiveness.

And certainly this is not just an issue of geography. Women and entrepreneurs of color have faced a more difficult road to commercial success. And in recent years, Black and Hispanic founders in the United States raised just 2.4 percent of the total U.S. venture capital funding, despite making up 30 percent of the population. When we leave behind segments of our population, we leave behind countless great ideas and the benefits that come with them. An investment to increase geographic diversity and participation is also

an investment to bolster domestic supply chains and grow our manufacturing capacity.

Despite our standing, America still has lost about 1/4 of its manufacturing capacity over the last quarter of a century. This has certainly cost us good jobs and left critical supply chain vulnerabilities and gaps. The COVID-19 pandemic, as we all know, was a wake-up call in this space, and it was hardly our first wake-up call.

In response to the Great Recession, this very Committee authorized the regional innovation programs at EDA in 2010. Through these programs, EDA has been building up support for entrepreneurs in local investment networks around the country. In midst of the COVID-19 pandemic and associated economic impacts as a result of the pandemic, EDA took on a much larger task. Congress directed EDA, in the *American Rescue Plan*, to help enable economic recovery in an effort to rebuild American communities. The Build Back Better Regional Challenge contributes to a stronger EDA going forward, one with an expanded suite of proven tools to nurture and support innovation economies across this country.

We will hear from a variety of EDA success stories today from our witnesses. I recognize the hometown advantage, and I certainly am eager to hear from our witness, Maureen Donohue Krauss, President and CEO (Chief Executive Officer) of the Detroit Regional Partnership, and her experience securing the \$52 million grant through EDA's Build Back Better Challenge known as the global epicenter for mobility. Led by one of the most diverse regions in the United States, this example offers the opportunity to create a national model for equitable economic growth. And the award is a testament to the power of integrating all the pieces of an innovation ecosystem together.

This Congress has taken immeasurable steps to bolster American manufacturing to lead the world in innovation and advanced technology, and I'm so proud of the multitude of bipartisan provisions this very Committee advanced in the *CHIPS and Science Act*. While this legislation is now law, I recognize that Congress still has work to do to fully fund the appropriations the bill authorized and certainly the role that we will play in oversight of the implementation of the *CHIPS and Science Act*. America's ability to compete globally hinges on us taking action to fully fund the *CHIPS and Science Act*.

Lastly, it is my hope that this discussion continues beyond just today's hearing. As we look to the future of our work in Congress, I believe there is an appetite from both sides of the aisle to advance a vision for America to lead the world on this front. I want to thank our witnesses and my colleagues for their their contributions today.

[The prepared statement of Chairwoman Stevens follows:]

Good morning and welcome to the final Research and Technology subcommittee hearing of the 117th Congress. Today, we take a closer look at the Economic Development Administration and their role to promote regional innovation through community-led economic development. I want to thank our distinguished witnesses for joining us—I know you all have powerful testimony to share. I would like to especially express my gratitude to Assistant Secretary Alejandra Castillo.

Since I was elected to Congress, I devote my Mondays to visiting a manufacturer or business in my district—what I call “Manufacturing Mondays”—to showcase southeast Michigan's innovation economy. I have seen firsthand the power of targeted federal investments to uplift the industries and talent already in our regions.

These investments create coalitions by bringing a wide variety of community stakeholders to the table with a shared vision. It opens new doors that otherwise would not have been possible to open. I have seen the return on investment.

All of the Members participating in this hearing know great innovators in their Districts and in pockets across the country. So, the question before us today is how to build innovation ecosystems in different communities with different strengths. Because I believe we can widen this pie. We can carve out equitable pathways for economic growth by supporting modernization to become part of a supply chain for industries of the future.

This is not just an issue of geography. Women and entrepreneurs of color face a more difficult road to commercial success. In recent years, Black and Hispanic founders in the U.S. raised just 2.4% of the total U.S. venture capital funding despite making up over 30% of the population. When we leave behind entire segments of our population, we leave behind countless great ideas, and the benefits that come with them.

An investment to increase geographic diversity and participation, is also an investment to bolster domestic supply chains and grow our manufacturing capacity. Despite our standing, America has lost a quarter of its manufacturing capacity over the past 25 years. This has cost us good jobs and left critical supply chains unacceptably vulnerable. The COVID-19 pandemic was a wake-up call for sure, but hardly our first.

In response to the Great Recession, this very committee authorized the regional innovation programs at EDA in 2010. Through these programs, EDA has slowly been building up support for entrepreneurs and local investment networks around the country.

In midst of the COVID-19 pandemic and associated economic impacts, EDA took on a much larger task. Congress directed EDA, in the *American Rescue Plan*, to help enable economic recovery and rebuild American communities. The Build Back Better Regional Challenge will contribute to a stronger EDA going forward—one with an expanded suite of proven tools to nurture and support innovation economies across the country.

We will hear a variety of EDA success stories today from our witnesses. I recognize the hometown advantage and am eager to hear from our witness, Maureen Donohue Krauss, President and CEO of the Detroit Regional Partnership and her experience securing a \$52.2 million grant through EDA's Build Back Better Regional Challenge. Led by one of the most diverse regions in the United States, this example offers the opportunity to create a national model for equitable economic growth. This award is a testament to the power of integrating all of the pieces of an innovation ecosystem together.

This Congress has taken incredible steps to bolster American manufacturing to lead the world in innovation and advanced technology. I am so proud of the multitude of bipartisan provisions this committee advanced in the *CHIPS and Science Act*. While this legislation is now law, I recognize that Congress still has work to do to fully fund the appropriations the bill authorized. America's ability to compete globally hinges on us fully funding the *CHIPS and Science Act*.

Lastly, it is my hope that this discussion continues beyond just today's hearing. As we look to the future of our work in Congress, I believe there is an appetite from both sides of the aisle to advance a vision for America to lead the world on this front. I want to again thank the witnesses and my colleagues for their contributions today.

Chairwoman STEVENS. And with that, the Chair now recognizes Mr. Feenstra for an opening statement.

Mr. FEENSTRA. Thank you, Chairwoman Stevens, for holding this wonderful hearing today. I also want to thank Chairman Lucas for attending today. Thank you for being here. And I also want to thank our witnesses for your participation today and to hear your stories. I look forward to hearing your testimonies and all your success stories. I hope that we can use this hearing as an opportunity to build upon prior work to learn how we can continue to support regional innovation economies around the Nation.

I would especially like to thank Assistant Secretary Castillo for taking the time to speak with us today and how the Economic Development Agency, EDA, supports local and regional economies. We have to ask ourselves, how do we promote meaningful innovation

to drive economic development not only in Silicon Valley, but also in places like Iowa and the American heartland? This is a challenge for my colleagues as I have examined this in Congress to learn how we can support regional innovation around the country as every community has their own unique set of goals and challenges for developing their own innovation economy.

I've directly seen result in investing in our regional innovation in my own home State Iowa, and I believe it can provide a strong example of how public-private partnerships and a focus on local strengths can build an economy of good-paying jobs while supporting innovation. Agriculture is one of the driving forces in our economy. In Iowa, we are proud to be one of the Nation's leading States in the agricultural sector and the Nation's largest producer of pork, corn, eggs, ethanol, and biodiesel. Iowa has developed several key industries such as biosciences, advanced manufacturing, and transportation to help drive economic growth and innovation. And when it comes to enhancing both economic growth and economic opportunities, Iowa State University has done an exemplary job at cultivating an innovation ecosystem to spur growth.

Thank you to Dean Spalding for being here today to discuss the role of higher education and how it plays out in promoting regional innovation and economic development. Just last month, Iowa State won an Innovation and Economic Prosperity University Award for the fourth time since 2017 from the Association of Public and Land-grant Universities. Iowa State took home first-place award for innovation—for exemplary innovations, spurring entrepreneurship, technology-based economic development. This recognition demonstrates how Iowa State Leadership in innovation can successfully enhance economic opportunities across Iowa and across our Nation.

Iowa State is home to Iowa State University's Research Park, which serves as a technology community and incubator for business and provides access to countless resources at Iowa State, including talent pipelines, specialized equipment, and research infrastructure. The research part plays a key role in economic development at Iowa State when it comes to technology transfer, as it's part of a network that connects technology creation, business formation, and development assistance with established technology firms. This is just one example of how public-private partnerships at Iowa State have a tremendous success to advance innovation across Iowa and our Nation.

I hope we can use today's hearing as an opportunity to discuss the importance of private partner—partnerships to drive regional innovation. I am proud of Iowa State's tremendous work in promoting innovation and entrepreneurship, and I hope institutions around the country look to them as an example of how to be successful in this space. I also hope we can continue the important dialog of how all communities, whether big or small, rural or urban, can have the opportunity to become leaders in regional innovation. Every American in every zip code deserves the opportunity to participate in the innovation economy, whether that's starting their own business or building a career in a high-tech, good-paying job.

I would be remiss if I did not acknowledge my support for the *Metropolitan Areas Protection and Standardization Act* called

*MAPS*, which the President signed into law last month, that ensures smaller and rural communities have a fair opportunity to receive Federal funding and assistance from programs like the ones we are discussing today.

With that, I thank our witnesses. And with that, I yield back.

[The prepared statement of Mr. Feenstra follows:]

Thank you, Chairwoman Stevens, for holding today's hearing. And thank you to our witnesses for your participation today.

I look forward to hearing your testimonies and success stories. I hope we can use this hearing as an opportunity to build upon prior work to learn how we can continue to support regional innovation economies around the nation.

I would especially like to thank Assistant Secretary Castillo for taking the time to speak to us today about how the Economic Development Agency (EDA) supports local and regional innovation economies.

We have to ask ourselves: how do we promote meaningful innovation to drive economic development not only in Silicon Valley, but in places like America's Heartland?

This is a challenge my colleagues and I have examined this Congress to learn how we can support regional innovation around the country, as every community has their own unique set of goals and challenges for developing their own innovation economy.

I've directly seen the results of investing in regional innovation in my home state of Iowa, and I believe we can provide a strong example of how public-private partnerships and a focus on local strengths can build an economy of good paying jobs while supporting innovation.

Agriculture is one of the driving forces of our economy. In Iowa we are proud to be one of America's leading states in the agriculture sector, and the nation's largest producer of pork, corn, eggs, ethanol, and biodiesel.

Iowa has developed several other key industries such as biosciences, advanced manufacturing, and transportation, to help drive economic growth and innovation.

And when it comes to enhancing both economic growth and economic opportunities, Iowa State University has done an exemplary job at cultivating an innovation ecosystem to spur growth.

Thank you, Dean Spalding, for being with us here today to discuss the role higher education plays in promoting regional innovation and economic development.

Just last month, Iowa State won an Innovation and Economic Prosperity University Award for the fourth time since 2017 from the Association of Public and Land-Grant Universities.

Iowa State took home the first-place award for "Innovation" for exemplary initiatives spurring innovation, entrepreneurship, and technology-based economic development.

This recognition demonstrates how Iowa State's leadership in innovation can successfully enhance economic opportunities across Iowa and the United States.

Iowa State is also home to the Iowa State University Research Park, which serves as a technology community and incubator for businesses and provides access to countless resources at Iowa State including talent pipelines, specialized equipment, and research infrastructure.

The Research Park plays a key role in economic development at Iowa State when it comes to technology transfer, as it is part of a network that connects technology creation, business formation, and development assistance with established technology firms.

This is just one example of how public-private partnerships at Iowa State have had tremendous success to advance innovation across Iowa and the nation.

I hope we can use today's hearing as an opportunity to discuss the importance of public-private partnerships to drive regional innovation.

I am proud of Iowa State's tremendous work in promoting innovation and entrepreneurship, and I hope institutions around the country look to them as an example of how to be successful in this space.

I also hope we can continue this important dialogue on how all communities, whether big or small; rural or urban; can have the opportunity to become leaders in regional innovation. Every American in every zip code deserves the opportunity to participate in the innovation economy, whether that's starting their own business or building a career in a high tech, good paying job.

I would be remiss if I did not acknowledge my support for the *Metropolitan Areas Protection and Standardization (MAPS) Act*, which the President signed into law last month, that ensures smaller and rural communities have a fair opportunity to

receive federal funding and assistance from programs like the ones we are discussing today.

Thank you, and I yield back.

Chairwoman STEVENS. Great, thank you, Mr. Feenstra. And in the spirit of big 10 rivalry, you should remember that while Iowa has great public-private partnerships, Michigan invented the public-private partnership. So we're glad to all be here discussing that today. But if—just kidding.

But at this time, if there are Members who wish to submit additional opening statements, your statements will be added to the record at this point.

And at this time, I'd like to introduce our incredible witnesses. Our first witness is the Honorable Alejandra Castillo, Assistant Secretary of Commerce for Economic Development. Assistant Secretary Castillo has served in leadership positions for three Presidents, President Biden, President Obama, and President Clinton. Prior to her position at EDA, Ms. Castillo was the Chief Executive Officer of the YWCA USA. In 2014 she was appointed by President Obama to serve as the National Director of the Commerce Department's Minority Business Development Agency, becoming the first Hispanic woman to lead the agency. Ms. Castillo has served as a senior policy analyst in the White House during the Clinton Administration, and we love watching her leadership shine.

Our next witness is Ms. Maureen Donohue Krauss from my home State of Michigan. Ms. Krauss is the President and CEO of the Detroit Regional Partnership, a leading economic development nonprofit, serving the 11-county metro Detroit region. Ms. Krauss is an accomplished economic development officer with more than 30 years of leadership in economic development, nonprofit, and government sphere, successful having shepherded the Global Epicenter of Mobility (GEM) initiative through. This initiative will accelerate economic growth in metro Detroit by building on the region's unrivaled—our region's unrivaled mobility assets to create a smart, secure, sustainable, and inclusive advanced mobility industry. Prior to her role at the Detroit Regional Partnership, Ms. Krauss served as Vice President of Economic Development and Business Attraction at the Detroit Regional Chamber and worked for the Oakland County Department of Economic Development and Community Affairs, an award-winning county agency where she led a team of over 100.

Our third witness is Mr. David Spalding. Mr. Spalding is the Raisbeck Endowed Dean of Debbie and Jerry Ivy College of Business at Iowa State University. He also serves as the interim Vice President for Economic Development and Industry Relations. During his time as dean, the college has added five undergraduate majors and launched five master's programs. Dean Spalding has served on a number of corporate boards and nonprofit organizations and currently serves on the Ames Economic Development Commission Board of Directors.

Our next witness is Ms. Linda Olson. Ms. Olson is the founder and CEO of Tampa Bay Wave, which runs the only Florida-based accelerator accredited by the Global Accelerator Network. In 2012, Ms. Olson led a regional effort to secure a \$1 million Federal grant from the U.S. Economic Development Administration that launched

Tampa Bay Wave's Venture Connector and Accelerator Program in partnership with the University of South Florida. Ms. Olson is an original member of Startup America Partnership and is currently an active member of Startup Champions Network.

As our witnesses should know, you will each have 5 minutes for your spoken testimony. Your written testimony will be added in the record for the hearing. When you have all completed your spoken testimony, we'll begin with questions, and each Member will have 5 minutes to question the panel. We will start with Assistant Secretary Castillo.

**TESTIMONY OF HON. ALEJANDRA CASTILLO,  
ASSISTANT SECRETARY OF COMMERCE  
FOR ECONOMIC DEVELOPMENT,  
ECONOMIC DEVELOPMENT ADMINISTRATION**

Ms. CASTILLO. Good morning, and thank you, Chairwoman Stevens, and Ranking Member Feenstra, and distinguished Members of the Subcommittee. Thank you for this opportunity to testify on the Economic Development Administration's regional innovation programs and place-based economic development strategies. Since our inception in 1965, we've made targeted, locally driven investments directly in distressed communities. While these investments are and will remain a core of our investment strategies, we have evolved with economic development approaches and now invest with a regional and place-based focus toward innovation and competitiveness.

Our Build to Scale, our Build Back Better Regional Challenge, and our Good Jobs Challenge programs are excellent examples of the direction we are taking today. With recent substantial appropriations including \$3 billion appropriated through the *American Rescue Plan* and disaster supplemental funding, EDA has ramped up its capacity and technical assistance to support the growth of regional industry clusters, strengthen our critical national infrastructure, and broaden the opportunities for communities to develop and implement innovation strategies that help them compete in the global economy.

EDA's flagship program for enabling innovation is the Build to Scale program. The Office of Innovation and Entrepreneurship leads and manages the design and implementation of this program. These grants advance the growth of connected tech-driven economies that enable innovation and accelerate technology commercialization to increase global competitiveness. The Build to Scale program is incredibly impactful, and it is a great example of place-based programming that is critical to driving the innovation ecosystem and our Nation's economy forward. We are committed to maximizing the impact of these programs to best serve our customers, your communities.

As part of the recently enacted *Research and Development Competition and Innovation Act*, Congress authorized two new programs for EDA. While no funds have been appropriated to implement either program, we are excited about how these dynamic new programs will continue to strengthen and build on our legacy of providing impactful place-based programming to stoke the innovation economy. If funds are appropriated for the program, we will

build a fair and equitable process to ensure all regions across the country have the opportunity to compete. To have place-based strategies succeed, we strongly believe that we need programming like those delivered through EDA's historic \$3 billion *American Rescue Plan* allocation and as proposed through the *CHIPS Act*.

With our Build Back Better Regional Challenge and Good Jobs Challenge EDA supercharged its focus on regional cluster, making multiple simultaneously—simultaneous interconnected investments and explicitly funded governance to make those regional clusters more durable. The \$1 billion Build Back Better Regional Challenge is the Nation's largest economic development competition, awarding 21 regions across the country between \$25-\$65 million to catalyze local innovation and competitiveness. Nineteen of the 21 winners had at least one technology-based project component.

The \$500 million Good Jobs Challenge is helping build communities that are resilient to future pandemic, economic downturns, and climate-related shocks through industry-led worker-centered workforce training grants. Together, the 32 Good Jobs Challenge awardees will train workers in 15 industries with a focus on industries that are essential to powering regional competitiveness and economic growth. Tech hubs would continue the evolution initiated under these challenges. Leveraging EDA's expertise, agility, and scalability, as well as our range of perspective from local to national, to enable regions to rapidly grow into global leaders in the industries of the future.

To close, I'd like to mention our efforts to reauthorize EDA. It has been 17 years since EDA was last authorized by Congress. EDA's *Public Work and Economic Development Act* and Stevenson-Wydler authorized programs work together seamlessly, forming a continuum of assistance to meet community needs wherever they are on the economic development journey. New industries have emerged while other sectors have declined, regions have encountered and responded to devastating natural disasters, and we have all suffered the impact of a pandemic. Reauthorization is vitally important to strengthen EDA's response to new economic development challenges.

Chairwoman Stevens, Ranking Member Feenstra, and Members of the Subcommittee, thank you for the opportunity to discuss how EDA is promoting regional innovation through programs and initiatives to support local economic development strategies. We have a bright future ahead, and I'm happy to answer any questions you may have. Thank you.

[The prepared statement of Ms. Castillo follows:]



*Testimony by*

**Ms. Alejandra Y. Castillo**  
**U.S. Assistant Secretary of Commerce for Economic Development**  
**U.S. Economic Development Administration**  
**United States House of Representatives Committee on Science, Space, and**  
**Technology**  
**Subcommittee on Research and Technology**

**December 7, 2022**

**INTRODUCTION**

Chairwoman Stevens, Ranking Member Feenstra, and distinguished members of the Subcommittee, thank you for this opportunity to testify on the Economic Development Administration's (EDA) regional innovation programs and place-based economic development strategies.

We are proud of our 57-year history of helping communities advance their locally-driven innovation and community-led economic development strategies.

At our inception in 1965, we made targeted, locally-driven investments directly in distressed communities. While these investments are, and will remain, a core of our investment strategy, we have evolved with economic development theory and now also invest in innovation and competitiveness with a regional and place-based focus, including through our Build to Scale, Build Back Better Regional Challenge, and Good Jobs Challenge programs.

With recent substantial appropriations, including \$3 billion appropriated through the American Rescue Plan Act of 2021 (ARPA) and supplemental funding to respond to disasters that occurred in 2017, 2018, and 2019, EDA has ramped up to support the growth of regional industry clusters, strengthened our critical national infrastructure, and broadened the capacity of our communities to develop and implement innovative strategies that can help them compete in the global economy.

I am pleased today to provide you an overview of how EDA works to help innovation ecosystems flourish. I will also note our focus on supporting place-based economic development strategies and the need to reauthorize EDA to best position the agency to support our grantees and your constituents.

#### **REGIONAL INNOVATION AT EDA**

EDA helps localities and regions start and grow their innovation economies.

We directly fund projects that support innovation ecosystems; we fund enabling infrastructure; we coordinate with other agencies; and, through a Federal Advisory Committee, we facilitate policy recommendations from nonfederal leaders and experts.

Across the EDA enterprise, leadership and staff engage with localities and regions across the country to understand what they need to build their innovation economies. EDA relies on a suite of tools and touchpoints to support technology-based economic development (TBED), one of EDA's seven current investment priorities, to expand the geography of and participation in innovation economies, increase our domestic supply chain capacity through advanced manufacturing, and ultimately strengthen security and resilience across the U.S.

EDA's flagship program for enabling innovation is the Build to Scale (B2S) program, which is EDA's implementation of its regional innovation grants authority.

EDA's Office of Innovation and Entrepreneurship (OIE), leads and manages the design and implementation of the B2S program.

B2S grants advance the growth of connected, innovation-centric economies that enable innovation and accelerate technology commercialization to increase global competitiveness. The organizations receiving these grants operate initiatives to unlock investment capital across a region or sector, operate programs to accelerate company growth, empower the next generation of entrepreneurs, or otherwise enable technology commercialization, including by making available necessary but expensive equipment for testing and demonstration.

We greatly appreciate the Committee's efforts to reauthorize our Office of Innovation and Entrepreneurship in 2020. The Build to Scale program is incredibly impactful and is a great example of place-based programming that is so critical to driving the innovation economy forward.

Beyond the B2S program, OIE manages the STEM Talent Challenge, EDA's implementation of its STEM apprenticeship program authority. Where the B2S program enables entrepreneurs and unlocks capital, the STEM Talent Challenge increases the pipeline of talent that technology entrepreneurs need to grow their companies and raise capital.

OIE also manages the National Advisory Council on Innovation and Entrepreneurship (NACIE), which advises the Secretary of Commerce on all matters related to OIE's mission "to foster innovation and the commercialization of new technologies, products, processes, and services with the goal of promoting productivity and economic growth in the United States."

Recently reestablished, NACIE's current members held their first public meeting on July 12, 2022. There, they began to explore their charge of identifying three decadal moonshot achievements and the small and large actions that DOC and other actors can take to ensure America realizes these achievements to increase economic and national security and to improve individual prosperity and wellbeing.

Through its staff and leadership in its Regional Offices and at headquarters, EDA builds and maintains relationships with local and regional leaders, from those who pursue innovation as the top priority to those who are considering its place in their economic development strategies.

Dialogue with these leaders—in one-on-one meetings, in response to questions about a program, while managing a grant, at conferences—are rich sources of anecdotal feedback about local and regional conditions that help EDA iteratively design and improve its programs and operations.

Additionally, OIE is currently developing customer experience tools to collect more regular and more structured data on our potential and actual applicants and recipients' experiences with our innovation programs and their implementation, all in an effort to identify opportunities more rigorously for new and redesigned programs that will better serve our localities and regions.

Furthermore, EDA Regional Offices fund a variety of locally designed, innovation- and TBED-centric projects.

Traditional EDA programs support these ecosystems not just through programs and equipment but also through this infrastructure. As technology-driven innovations in agriculture, energy, manufacturing, biotechnology, and other industries continue to rebalance toward a greater proportion of physical (instead of digital) products, infrastructure for access to and production and transport of those products grows even more important.

EDA also collaborates with other federal agencies, especially those with scientific and technological missions, to coordinate program design and implementation at various levels of formality.

Informal coordination takes place through interagency fora (e.g., the Lab-to-Market Subcommittee of the National Science and Technology Council) and cross-sharing opportunities

(e.g., with the Small Business Administration’s Office of Investment and Innovation and with the National Science Foundation).

Formal coordination, including collaborative funding through prior funding opportunities like the R2 Network Challenge (with the National Institute of Standards and Technology and FirstNet) and the FY 2020 B2S Industry Challenge (with the Department of Energy), have allowed EDA and a sibling science and technology agency to partner to pursue economic, scientific, and technological missions simultaneously by enabling entrepreneurial ecosystems that generate economic growth and accelerate innovation.

EDA is committed to continuing to evolve, leverage our expertise, agility, and scalability, as we build on perspectives from local to national, to enable regions to rapidly grow into global leaders in the industries of the future. We are excited about the future.

#### **TECH HUBS AND THE RECOMPETE PILOT PROGRAM**

As part of the recently enacted Research and Development, Competition, and Innovation Act, Congress authorized two new programs for EDA. Although no funds were appropriated to EDA to implement either program, we thank you for this authorization and are excited about how these dynamic, new programs may one day help build on our legacy of providing impactful, place-based programming to stoke the innovation economy.

- First, the Regional Technology and Innovation Hub Program authorizes EDA to designate, plan, and implement geographically-distributed “regional technology hubs.” These hubs would focus on technology development, job creation, and expanding U.S. innovation capacity.
- Second, the Recompete Pilot Program authorizes EDA to make concentrated economic development investments in communities with large prime age employment gaps.

EDA is prepared to move forward in executing the vision of the authorizations should funding be made available

EDA has no role in the semiconductor piece of the CHIPS Act of 2022.

In addition, EDA and Department of Commerce leadership are in close communication and collaboration with the National Science Foundation (NSF), including its newly authorized Directorate for Technology, Innovation and Partnerships, to align any tech hubs, if ultimately funded, with the NSF Regional Innovation Engines program. We share a vision for a highly synergistic relationship in which the NSF Engines and EDA tech hubs will be a key part of the nation's innovation enterprise going forward. NSF's Engines start from one side of the spectrum, seeding new R&D ecosystems that feed into EDA's tech hubs. The tech hubs would sit on the other side of the spectrum, scaling up and expanding the R&D outputs and ecosystems from the Engines.

#### **FOCUS ON PLACE-BASED ECONOMIC DEVELOPMENT**

We strongly believe that in order for Federal investments to truly benefit a diverse range of local economies, we need place-based programming.

With our ARPA Build Back Better Regional Challenge and Good Jobs Challenge, EDA supercharged its focus on regional clusters, making multiple, simultaneous, interconnected investments and explicitly funding governance to make those regional clusters more durable.

The \$1 billion Build Back Better Regional Challenge (BBBRC) was the nation's largest economic development competition, awarding 21 regions around the country between \$25 and \$65 million to catalyze local innovation and competitiveness. Of the \$1 billion, the largest share, \$300 million, went to projects and programs that accelerate the development and adoption of technology and innovation to improve local competitiveness. Nineteen of the 21 winners had at least one technology-based component project.

Through these awards, dozens of American communities will be positioned to not just survive the global economy but thrive in it. Tens of thousands of workers will have new skills to

adapt to changing technology and access good jobs; startups outside the coasts will have the tools they need to grow and become employment generators; and the science discovered in once siloed research institutions will become a competitive enabler for regional economies across the country.

The \$500 million Good Jobs Challenge (GJC) is helping to build communities that are resilient to future pandemics, economic downturns, and climate-related shocks through industry-led, worker-centered workforce training grants. Together the 32 GJC awardees will train workers in 15 industries, with a focus on industries that are essential to powering regional competitiveness and economic growth.

The GJC supports EDA's mission to lead the federal economic development agenda, recognizing that workforce development is a critical pillar to supporting locally led innovative and competitive economic development. Across the GJC awardees, there is an innovative focus on growing a diverse STEM workforce, a priority for the Committee – from revitalizing American manufacturing through inclusive apprenticeship training programs to fighting the climate crisis, these investments are building a workforce that is ready to tackle the challenges facing our nation and prepare for a future of work that works for all.

#### **REAUTHORIZING EDA**

To close, I'd like to mention our efforts to get EDA reauthorized. We thank the Members that have been helping us shepherd this important action through Congress, including reauthorizing OIE and B2S in 2020, and for enacting the Tech Hubs and Recompets authorities.

It has been 17 years, however, since the rest of EDA was last authorized by Congress. EDA's Public Works and Economic Development Act authorized programs and Stevenson-Wydler authorized programs work together to seamlessly form a continuum of assistance to meet communities needs wherever they are on their economic development journey.

Over the last 17 years, new industries have emerged while other sectors have declined, regions have encountered and responded to devastating natural disasters, and we have all suffered the impacts of a global pandemic.

Reauthorization is vitally important to strengthen EDA's response to new economic development challenges.

Reauthorization will allow EDA to help our nation build back better by giving us the ability to implement programs in a way that further improves conditions in highly distressed communities and supports needs in modern infrastructure, resiliency, and equity.

Simply put, to be as supportive as possible to regions across America, EDA must evolve.

We need to modernize our tools to provide the services that communities across the nation need to build contemporary, resilient economies.

We need to update how we define distress so that our funding is more equitably distributed. To me, reauthorization is more than a technical process – it is essential for EDA to fulfill its historic mission.

Through reauthorizing EDA can we best help our communities – your communities – create positive outcomes.

Our collective goal must be to best position EDA to support the competitive, innovative, impactful economic development strategies that our communities are pursuing today to set the course forward to a brighter future.

## **CONCLUSION**

Chairman Stevens, Ranking Member Feenstra, and members of the Subcommittee, thank you for the opportunity to share ways EDA is promoting regional innovation through programs

and initiatives to support local economic development strategies that enhance community resilience and regional economic competitiveness across the U.S.

We look forward to the future and are excited about the prospects of implementing the EDA provisions noted in the Research and Development, Competition, and Innovation Act if funded. We also look forward to working with members of the committee to get reauthorized as soon as possible. These efforts will be critical to continuing the evolution of the agency to best support place-based economic development strategies across the nation.

I look forward to answering any questions you may have.

**ALEJANDRA Y. CASTILLO**

Alejandra Y. Castillo was sworn in as U.S. Assistant Secretary of Commerce for Economic Development on August 13, 2021. She has served in leadership positions for three presidents - Biden, Obama and Clinton. Her professional career spans two decades, focusing on creating equitable and inclusive opportunities for all Americans.

Prior to EDA, Castillo was the Chief Executive Officer of YWCA USA, where she championed the 163-year-old organization delivering critical social, educational, and economic development services throughout its 204 associations.

In 2014, Castillo was appointed by President Obama to serve as the national director of the Commerce Department's Minority Business Development Agency (MBDA), becoming the first Hispanic woman to lead the agency. During her tenure, she led MBDA's efforts to boost the growth and global competitiveness of minority business enterprises (MBEs). Under her leadership, MBDA expanded its effort to help MBEs gain access to capital, contracts, and business opportunities, assisting MBEs in growing in size and scale.

Castillo first joined the Department of Commerce in 2008 as a Special Advisor to the Under Secretary for the U.S. Department of Commerce's International Trade Administration (ITA). Additionally, Castillo served as a Senior Policy Analyst in the White House during the Clinton Administration.

She holds a bachelor's degree in Economics and Political Science from the State University of New York at Stony Brook, a master's degree in public affairs from the LBJ School at the University of Texas at Austin, and earned a Juris Doctor degree from American University's Washington College of Law.

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Chairwoman STEVENS. Thank you so much. And with that, if we can, we're going to hear from Ms. Maureen Donohue Krauss.

**TESTIMONY OF MS. MAUREEN DONOHUE KRAUSS,  
PRESIDENT AND CEO, DETROIT REGIONAL PARTNERSHIP**

Ms. KRAUSS. Good morning, everyone. And thank you, Chairwoman Stevens, Ranking Member Feenstra, and distinguished Committee Members. I'm honored to speak to you today. Thank you for your leadership on this important issue. And thank you to Chairwoman Stevens, who has been extremely supportive and a champion of the Detroit region and the State of Michigan and the automotive industry. She truly is out visiting companies every Monday in our region to learn firsthand.

I'm Maureen Donohue Krauss, President and CEO of the Detroit Regional Partnership. We are tasked with attracting investment and jobs to create a more prosperous 11-county 5.4 million-person Detroit region. Our organization essentially travels the world to look for and meet with companies who want to innovate and expand their operations in southeast Michigan. With that perspective, I would like to share our experience in being awarded a \$52 million grant from the Economic Development Administration's Build Back Better Regional Challenge.

As you know, the world is experiencing a historic shift as we transition from internal combustion engines to electric and automotive companies continue to provide more advanced connected and fully autonomous vehicles. Building off our automotive legacy, the Detroit region is at the forefront of this new mobility innovation, but we understand that our leadership comes with no guarantee.

Detroit, like our country, faces intense global competition to win the future of advanced mobility and electrification. The global electric vehicle (EV) market is expected to grow from \$287 billion in 2021 to \$1.3 trillion in 2028. Given the current rate of technological development, the trajectory of automotive industry for the next 100 years will likely be defined in the next 10 years. This is a critical juncture for the entire industry.

Our region and our State are leading the push for electrification but also providing the testing grounds for alternative power sources such as hydrogen and other forms of clean energy technology. Let me share two recent examples with you. Our Next Energy is a homegrown startup founded in 2020 that is poised to deliver cutting-edge energy storage technology that will allow electric vehicles to drive 600 miles on a single charge, doubling their current range. They recently announced a \$1.6 billion investment to build a gigafactory in our region that will employ more than 2,100 people and deliver cutting-edge battery technology developed right here in the Detroit region. Less than 3 years ago, Our Next Energy did not even exist, and now they employ 150 on their way to 2,100. There are not many places in the world that can develop and produce this level of transformation innovation that quickly.

Another company, Dunamis Clean Energy Partners, is the first Black-owned EV charging manufacturer that we are aware of in the world. Dunamis is building high-tech chargers for residential, business, and commercial fleets. They're committed to ensuring

that historically excluded communities are included in the transformational wealth transfer that electrification will bring.

Up and down the supply chain, the Detroit region is home to pioneers who continue to deliver cutting-edge battery, EV, and advanced mobility technologies. This advanced mobility stretches beyond traditional automotive and includes unmanned ground vehicles for the military, e-bikes, personal aviation, and drones, creating more opportunities to innovate. This grant will help the region marshal all of our resources to support the next Our Next Energy and the next Dunamis Energy.

Building on more than 100 years of industry leadership, this grant will further entrench our region as the Global Epicenter of Mobility. GEM, as we call it, will help create an inclusive and sustainable advanced mobility cluster and ensure workers, companies, and communities are not left behind during this transition. The beauty of GEM is that we are not starting from scratch. We're building around more than 400 existing assets in our region that comprise the world's densest automotive and mobility industry cluster. The Detroit region has the world-class universities, testing facilities, supply chain, and infrastructure to deliver even more innovation and to do so in a way that maximizes the EDA's investment.

Before I close, I have a few recommendations on how to build regional innovation economies. First, require regions—incentivize regions to collaborate in order to qualify for transformational economic development projects that will maximize the best return on your investment. Require—secondly, require inclusion and equity to be a continued focus in economic development. Regions across this country have so much untapped or unutilized talent that can increase productivity and innovation. And third, seek out regions in this Nation that do something better than anywhere else. Innovative regions like Detroit are worth investing in.

Thank you for this opportunity to testify today, and I look forward to your questions.

[The prepared statement of Ms. Krauss follows:]



# Detroit Regional Partnership

Prepared testimony of

**Maureen Donohue Krauss**  
**President and CEO**  
**Detroit Regional Partnership**

Before the

U.S. House of Representatives Committee on Science, Space, and Technology  
Subcommittee on Research and Technology  
*Building Regional Innovation Economies Part II*

Wednesday, December 14, 2022

Testimony of Maureen Donohue Krauss  
President and CEO, Detroit Regional Partnership  
Subcommittee on Research and Technology

Chairwoman Stevens, Ranking Member Feenstra, and distinguished subcommittee members:

Thank you for this opportunity. I am honored to speak to you today, especially before Chairwoman Stevens who has been such a great champion of our region, state, and automotive industry.

I am here as the President and CEO of the Detroit Regional Partnership. We are a public-private economic development partnership tasked with attracting investment and jobs to create a more prosperous 11-county Detroit Region. Our organization essentially travels the world promoting the region and meeting with companies that are looking to innovate and expand their operations in North America. We then help them locate to, and thrive in, our unique business climate and innovative ecosystem.

With that perspective, I would like to share the Detroit Regional Partnership's experience in being awarded a \$52.2 million grant from the U.S. Economic Development Administration through the Build Back Better Regional Challenge. I would also like to highlight how approaching economic development and innovation through a regional lens is so important.

**Detroit's Perspective on Regional Innovation Economies Is Critical**

As you know the world is experiencing a historic shift as we transition from internal combustion engines to electric, connected, and fully autonomous vehicles. The Detroit Region's experience in maintaining our global leadership in automotive is particularly relevant to your discussion on how best to build regional innovation economies.

In the Detroit Region, we have weathered the economic ups and downs and the global competition for manufacturing for decades. We have often been the hardest hit during times of recession due to the cyclical nature of our signature automotive industry. Yet each time, we have overcome those challenges and re-emerged as a global center of innovation that the country turns to when it needs the best that American ingenuity has to offer.

We also share a border with our nation's largest trade partner, Canada, and at center of one the North America's most important supply chains. Given the challenges throughout the pandemic, we are all painfully aware of the importance of supply chain resiliency, most recently with the semiconductor chip shortages and potential impact of the averted railway strike. When it comes to building a more resilient economy that leverages the strength of local communities, we have important perspective.

**Detroit Is Ready to Lead Transformational Shift in Mobility**

Building off of our well-documented automotive legacy that put the world on wheels in the 20<sup>th</sup> century, the Detroit Region is at the forefront of advanced mobility technology as the world phases out the internal combustion engine. Companies that want to lead in automotive and mobility continue to locate in the Detroit Region to create next-generation mobility solutions with the support of our premier ecosystem.

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As you may be aware, Michigan is the No. 1 state for automotive R & D and production.<sup>1</sup> From 2017 to 2021 there was \$5.2 billion in automotive and mobility investments in the Detroit Region alone, which created 17,000 jobs. Michigan also leads the nation in new mobility and automotive investments, accounting for 41% of all U.S. investment in the sector between 2009-2019<sup>2</sup>.

But we understand that our leadership in automotive and mobility comes with no guarantees. Detroit, like our country, faces intense global competition and the world is competing daily to win long-term transformational economic investments in advanced mobility and define how the world moves throughout the 21<sup>st</sup> century.

The global electric vehicle (EV) market is expected to grow from \$287 billion in 2021 to \$1.3 trillion in 2028<sup>3</sup>. Given the rate of technological development that will come with that investment, the trajectory of the automotive and mobility sectors for the next 100 years will likely be defined in the next 10. This is a critical juncture for the entire industry.

#### **Advanced Mobility Industry Is More Than Cars**

The rapid transition to electrification and advanced mobility by the automotive industry is also having a secondary effect of pulling other industries and companies into these sectors. Ensuring that the automotive industry continues to research, develop, test, and deploy new technologies in the Detroit Region will have a major spillover effect on the overall growth of mobility and this country's ability to maintain its global economic leadership.

Our region and state are leading the push for electrification, but also providing the testing grounds for alternative power sources such as hydrogen and other forms of clean-energy technology. We are also leading mobility innovation that stretches well beyond traditional automotive, such as unmanned ground vehicles for the military, e-bikes, personal aviation, and drones – all which will shape advanced mobility, the workforce, and our society for decades to come.

While the cartoon the Jetsons may have looked like an outlandish fantasy during many of our childhoods, the days of flying taxis are nearly upon us. Innovators in our region are mapping lower altitude highways in the sky that will dictate the next era of aerial mobility.<sup>4</sup> As a country, we cannot be left out of that type of innovation. Investing in the Detroit Region's automotive and mobility industry cluster will ensure that we are not.

<sup>1</sup> National Center for Science and Engineering Statistics and Census Bureau, Business Enterprise Research and Development Survey, 2019.

<sup>2</sup> Center for Automotive Research American Communities Partnership Data.

<sup>3</sup> The global electric vehicle market was USD 246.70 billion in 2020. The market is projected to grow from USD 287.36 billion in 2021 to USD 1,318.22 billion in 2028 at a CAGR of 24.3%. "Electric Vehicle Market Size, Share & Covid 19 Impact Analysis, By Vehicle Type (Passenger Car and Commercial Vehicle), By Type (BEV, PHEV or HEV and Regional Forecasts, 2021-2028. Report ID FBI101678." Published September 2021.

Read More at:-

<https://www.fortunebusinessinsights.com/industry-reports/electric-vehicle-market-101678>

<sup>4</sup> "Detroit Region Aerotropolis: Establishes Low Altitude Drone Transportation Infrastructure." Airspace Link Inc., August 2020. Read more here: <https://www.detroitaero.org/wp-content/uploads/2020/08/AerotropolisCaseStudy.pdf>

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### **Detroit Is the Best Bet to Extend U.S. Mobility Leadership**

In the Detroit Region's application to the Build Back Better Regional Challenge, we made the case to the EDA that there is no better bet than Detroit to help the U.S. lead the world in mobility.

Building on more than 100 years of industry leadership, this grant will further entrench our region as the Global Epicenter of Mobility and usher in the next century of mobility leadership. The Global Epicenter of Mobility, or GEM as we call it, will create an inclusive and sustainable advanced-mobility cluster and ensure our workers, companies, and communities are not left behind.

We will accomplish this by building around the world's densest automotive industry cluster. Our signature industry is anchored by household brands that continue to make transformational investments. GM's first fully dedicated EV assembly plant known as Factory Zero, Stellantis' Detroit Assembly Complex Mack facility, the first new assembly plant in the city in 30 years, and Ford's hub of innovation and mobility, the Michigan Central Station — are just a few recent highlights. While these companies are well known to the members of this committee, the rest of the region's automotive and mobility cluster is also driving innovation.

Michigan is home to 29 Original Equipment Manufacturers and 96 of the top 100 automotive suppliers — most of which are in the Detroit Region<sup>5</sup>. We have over 2,200 facilities with engineering, R & D, testing, and validation centers<sup>6</sup>. We have top research universities and community colleges and our region's talent pool is deep — we are 1st in the nation in mechanical engineering talent and 1st in industrial engineers<sup>7</sup>.

Collectively, this is one of the most innovative ecosystems in the world. From 2010 to 2020 there was \$41 billion in mobility investment in our region.<sup>8</sup> The Detroit Region continues to design, engineer, test, build, and ship the latest cutting-edge mobility and automotive technology and vehicles.

- Electric vehicle production in the U.S. is centered in the Midwest, and Michigan ranks #1 for number of EV Supply Chain Plants in 2022<sup>9</sup>.
- 1/3 of U.S. battery production and development facilities are in Michigan<sup>10</sup>.
- Michigan is the #1 state for connected vehicles with U.S. DOT-Funded Operational Deployments and more than 6,000 ITS devices deployed by the Michigan Department of Transportation.<sup>11</sup>

<sup>5</sup> "Michigan is Automobility." MICHauto, 2021.

<sup>6</sup> "Michigan is Automobility." MICHauto, 2021. Read report here: <https://michauto.org/michigan-is-automobility/>

<sup>7</sup> "Mobility and Automotive." Detroit Regional Partnership, 2022; Lightcast (formerly EMSI)

<sup>8</sup> Center for Automotive Research American Communities Partnership Data.

<sup>9</sup> "Mobility and Automotive." Detroit Regional Partnership, 2022. Read more here:

<https://www.detroitregionalpartnership.com/mobility-automotive/>

<sup>10</sup> "Mobility and Automotive." Detroit Regional Partnership, 2022.

<sup>11</sup> Michigan is Automobility." MICHauto, 2021.

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- The state also has the largest deployment of Vehicle-2-Infrastructure (V2I) in the country with 500 miles of V2I technology roadway and 120 miles of technology-enabled smart corridors<sup>12</sup>.

In fact, next year Detroit is poised to have the first road to charge EVs as they drive, a critical step needed to foster widespread adoption of EVs<sup>13</sup>.

#### **Michigan's Homegrown Companies Are Driving Global Innovation**

Let me share two recent examples of the companies that are driving this type of innovation. Our Next Energy is a homegrown startup founded in 2020 that is poised to deliver cutting-edge energy storage technology that will allow electric vehicles to drive 600 miles on a single charge, doubling their range.

It recently announced a \$1.6-billion investment to build a gigafactory that will employ more than 2,100 people and deliver cutting-edge battery technology developed in the Detroit Region<sup>14</sup>. Less than three years ago, Our Next Energy did not even exist and now employs nearly 150<sup>15</sup>. There are not many places in the world that can develop and produce this level of transformational innovation that quickly.

Another company, Dunamis Clean Energy Partners, is the first Black woman-owned EV charger manufacturer that we are aware of in the world. Dunamis is building high-tech, high-efficiency chargers for residential, business, and commercial fleets. Based in Detroit, Dunamis is also committed to ensuring that historically excluded communities (HECs) are included in the once-in-a-generation wealth transfer that electrification and advanced mobility will bring.

Up and down the supply chain, the Detroit Region is home to pioneers who continue to push the envelope on cutting-edge battery, EV, and advanced mobility technologies. This grant will help the region marshal all of its resources to support the next Our Next Energy and the next Dunamis Energy.

#### **GEM: Building a Secure, Sustainable, and Inclusive Advanced Mobility Industry**

The Global Epicenter of Mobility (GEM) initiative includes six projects that will create a smart, secure, sustainable, and inclusive advanced-mobility industry. Overall, GEM has received commitments from our partners to create more than 17,000 jobs with regional investment commitments totaling more than \$5.4 billion.<sup>16</sup>

<sup>12</sup> "Mobility and Automotive." Detroit Regional Partnership, 2022.

<sup>13</sup> "Michigan plans 1st U.S. electric vehicle charging road in Detroit by 2023." Detroit News, Feb. 1, 2022.

<sup>14</sup> Michigan Economic Development Corporation. "Gov. Whitmer Announces 2,000 New Jobs, Investment of \$1.6 Billion as Michigan-Based Our Next Energy Builds New Battery Manufacturing Facility in Wayne County." October 5, 2022.

<sup>15</sup> "Mobility Tech Stars." Detroit Magazine, Sept. 2022.

<sup>16</sup> Global Epicenter of Mobility Detroit Region: Build Back Better Regional Challenge, Phase II Application, March 15, 2022.

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 President and CEO, Detroit Regional Partnership  
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The beauty of GEM is that we are not starting from scratch. We are building around more than 400 existing mobility assets that have been assembled over the past 100 plus years. The Detroit Region has the world-class research universities, testing facilities, supply chain, talent, and infrastructure to deliver even more innovation and to do so in a way that maximizes the EDA's investment. Grants like the one we received from the EDA will only increase the amount of innovation this region provides.

GEM also recognizes how a regional innovation economy requires our workforce and training centers, universities, and community colleges working together to deliver the high-tech talent needed by advanced mobility companies today and into the future. That is why we built a strong coalition that includes industry leaders, local governments, institutions of higher education, nonprofits, labor unions, and community-based organizations from every corner of our region.

Creating GEM is a truly collaborative process of organizations working together to build out this new advanced mobility cluster, including co-recipients (below) and many more sub-recipients throughout the region. As part of GEM:

- The **Detroit Regional Partnership** will increase site readiness to attract major mobility projects.
- The **State of Michigan's Office of Future Mobility and Electrification** will increase equitable access to the state's world-class testing and proving assets.
- The **Southeast Michigan Community Alliance (SEMCA)**, in coordination with **MichiganWorks!**, will help existing companies meet evolving high-tech talent needs, offset retirement losses, and support career pathway advancement for historically excluded communities.
- Entrepreneurship hub **TechTown Detroit** will accelerate the growth of mobility startups that drive innovation to fill gaps in the mobility value chain.
- The **University of Michigan Economic Growth Institute** will help existing small- to medium-size manufacturers transition to the electric vehicle market through a new **Advanced Mobility Supply Chain Transformation Center**.

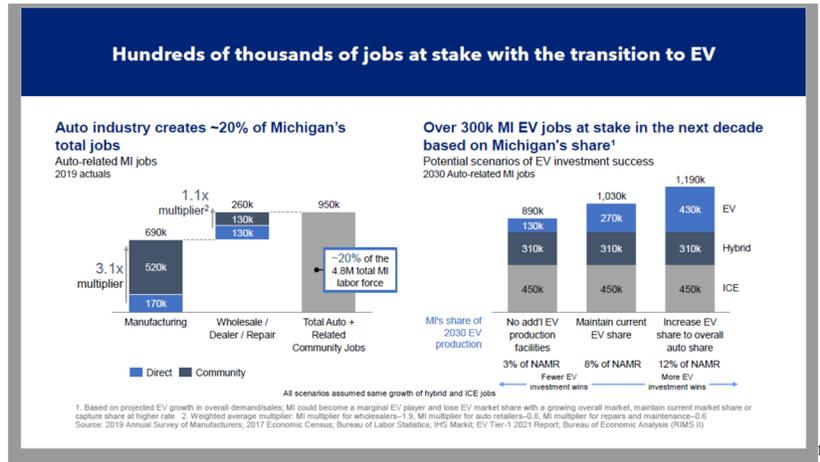
**'All Hands On Deck' Needed to Support Workers, Companies and Communities Through Mobility Transition**

Companies around the world are in the midst of a major effort to design, develop, and build electric, connected, and automated vehicles and other mobility-related technologies. As a result, a myriad of new skills such as software and systems engineers, testing technicians, electricians and electrical engineers, systems administrators, user experience designers, and others are redefining the automotive job market and are in high demand.

Traditional automotive has 200,000 manufacturing jobs and impacts 20% of Michigan's labor force, which is at risk during this transition. With EV sales in the U.S. expected to increase from 2% to 30% of production in the next decade, the Michigan Economic Development Corporation estimates there are over 300,000 Michigan EV jobs at stake based on Michigan's current share of auto-related jobs (see chart). Many legacy companies will need help through this transition to stay competitive as will many workers who suddenly find their skillsets outdated. This is truly an

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“all-hands-on-deck” situation to ensure our domestic automotive and mobility industry remains competitive, our workers remain employed, and our communities that rely on the industry remain prosperous.



By bringing together our regional partners, GEM will support workers, startups, and existing companies so they can adapt to, and succeed in, the new rapidly evolving advanced mobility industry. It will be essential to ensuring we have the workforce and supply chain that can support the automotive and advanced mobility industries moving forward.

Amid this historic shift, we must ensure that all talent has the ability to acquire the right skills for jobs of the future; and all smaller sized companies can have access to the resources to compete in this new sector of mobility. Through inclusiveness and sustainable practices, we have the opportunity to further transform the industry creating more large scale and future mobility supply chain companies.

**Advanced Mobility Offers Opportunities to Drive Innovation, Equitable Growth**  
 Amidst this remarkable mobility transition, we also recognize the opportunity to make our communities and regional economy more resilient through inclusive and equitable economic

<sup>17</sup> “Improving Michigan’s EV Competitiveness.” Michigan Economic Development Corporation, October 2021.

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growth. Too often, historically excluded communities (HECs) are left out of traditional economic development as they face additional barriers — such as lack of access to capital — that prevent their success. HECs also often lack effective mobility solutions or the opportunity to inform the development of essential mobility projects that have such an impact on communities and neighborhoods. GEM can help change that.

Each GEM project defines diversity, equity, and inclusion efforts and directly engages data-identified distressed communities to address equity, gain insight, and elevate community voices regarding resident needs. It can help create more pathways for entrepreneurs from HECs to test their innovations and bring their ideas to market. This is essential to our region's ability to reach its full productivity and potential.

Diversity provides a series of tangible and strategic benefits that allow a business, an industry, and a region, to adapt to changing circumstances more adequately. It is essential to expanding into new markets, cultivating new avenues of doing business and responding to adversity. Increasing diversity and inclusion in economic development strategies will increase innovation and resiliency by bringing more talent and small businesses into the fold.

I commend the EDA for including equity and diversity in these grants and forcing regions across the country to work together to apply for them. Economies are regional. Talent, workforce, and supply chains are regional. Businesses, commerce, and people do not stop at city or county lines and neither does innovation. As importantly, talent and ingenuity are not limited to any specific race, gender, or culture — but too often, opportunity is. Those realities should dictate the way we approach economic development.

A few years ago, the EDA might have received five different applications from our region — and very likely those applications would have missed out. Or the EDA would have awarded a grant to an entity that might have had to allocate portions of the money to services or resources already present somewhere else within our region, reducing its overall impact.

Instead, via the Build Back Better Regional Challenge, the EDA received one comprehensive application that harnesses the resources of 11 counties that make up one of the most innovative regional economies in the world. It will provide much better value to the taxpayers who ultimately fund these grants.

#### **Keys to Building Regional Innovation Economies**

Before I close, I have a few recommendations about how to build regional innovation economies.

- Require and incentivize regions to collaborate in order to qualify for transformational economic development grants. It will deliver the best return on your investment by forcing regions to maximize their collective assets. Starting from scratch is so much more expensive than building on what you have.
- Make inclusion and equity a continued focus in economic development. Regions across this country have so much untapped or underutilized talent. Inclusive economic development increases productivity and innovation.
- Create a more inclusive grant-making process by providing forward funding. The current

Testimony of Maureen Donohue Krauss  
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reimbursement model tends to sustain or exacerbate inequities between grant applicants and puts this process out of reach for many potential applicants, particularly historically excluded communities.

- Seek out the regions in this nation that do something better than anywhere else. Innovative regions, like Detroit, are worth investing in, and doing so will allow for a more resilient, competitive, and prosperous country.

Thank you for the opportunity to testify today. Chairwoman Stevens, thank you for all you do for the Detroit Region, for Michigan, and for the automotive and mobility industry.

I also thank this entire committee for your leadership and efforts to drive innovation and regional economic development. I look forward to your questions.



### Maureen Donohue Krauss

*President and CEO*

Maureen Donohue Krauss is President and CEO of the Detroit Regional Partnership (DRP), a leading economic development nonprofit serving the 11-county Detroit Region. The organization serves as the single point of contact for business, marketing the Region to out-of-state and international companies to attract investments and jobs.

Krauss is an accomplished economic development officer with more than 30 years of leadership in economic development, non-profit and government. She has extensive experience in guiding international companies to successful location decisions and growth in the U.S. and has participated in more than 60 trade missions over the past 18 years.

Prior to her role at the DRP, Krauss was elected as the first chief economic development officer at the Indy Chamber where she managed Accelerate Indy, a regional economic development plan for a nine-county region with 2.3 million people. She led programs and initiatives encouraging innovation and accelerating business growth and oversaw Indianapolis' Amazon HQ2 bid, which was a finalist in the national competition.

Previously, Krauss served as vice president of economic development and business attraction at the Detroit Regional Chamber and was responsible for strategy, operations, and projects for its business attraction program. She also worked for the Oakland County Department of Economic Development and Community Affairs, an award-winning county agency where she led a team of over 100 staff, often traveling overseas on business attraction missions.



#### PAST EXPERIENCE AND EDUCATION

- Chief Economic Development Officer, Indy Chamber
- Vice President of Economic Development and Business Attraction, Detroit Regional Chamber
- Director of Economic Development and Community Affairs, Oakland County
- Bachelor's degree in political science, Albion College
- Master's degree in public policy, University of Michigan

#### NOTABLE ACHIEVEMENTS AND COMMUNITY INVOLVEMENT

- Led Top 20 Amazon HQ2 proposal (Indianapolis)
- Board Member, Swedish American Chamber of Commerce of Detroit
- Board Member, Italian American Business and Technology Council
- Board Member, British American Business Council
- Prior President and Board Member, Michigan Economic Developers Association
- Arizona Economic Developer of the Year Award
- Mike Conboy Professional Development Award, Michigan Economic Developers Association
- Medalist of the Year, Michigan Economic Developers Association, 2021

Chairwoman STEVENS. Thank you. And with that we'll hear from Mr. Spalding.

**TESTIMONY OF MR. DAVID SPALDING,  
RAISBECK ENDOWED DEAN OF THE DEBBIE AND JERRY IVY  
COLLEGE OF BUSINESS AND INTERIM VICE PRESIDENT  
OF ECONOMIC DEVELOPMENT AND INDUSTRY RELATIONS,  
IOWA STATE UNIVERSITY**

Mr. SPALDING. Chairwoman Stevens, Ranking Member Feenstra, and esteemed Members of the Subcommittee, thank you for this opportunity to testify on behalf of Iowa State University. As part of today's hearing, I look forward to exploring the role of the Economic Development Administration to promote regional innovation through support for community-led economic development strategies.

For over 150 years, Iowa State's motto has been "science with practice" and aptly describes our interest in science with practical applications. We pride ourselves in serving each of our almost 30,000 students and businesses in all 99 counties in the State of Iowa through our economic development programs. Innovation is woven into the fabric of our university culture, which inspires entrepreneurial thinking and innovation in all seven of our colleges. For each of the last several years we have been among the top 100 universities worldwide for U.S. patents granted for our science and technology discoveries.

In the last 2 years, we won the two top awards for entrepreneurship in higher education. In 2021, we received the United States Association for Small Business and Entrepreneurship Model Program Award. And just last month, we received the Nasdaq Center for Entrepreneurial Excellence Award from the Global Consortium of Entrepreneurship Centers. We are proud for the last 3 years we were—we have been recognized as the number 11 undergraduate entrepreneurship program by Princeton Review. And I appreciate Congressman Feenstra mentioning the four awards we've received for economic development over the last 6 years from the Association of Public and Land-grant Universities. All the accolades are really a testament to the work our economic development teams do every day.

The Build to Scale program goal is building regional economies through scalable startups. The program has provided Iowa State and the State of Iowa with foundational funding to expand or establish two important programs, the Iowa Startup Factory and the Iowa Go-To-Market Accelerator. These programs are the centerpieces of our work with startups, and both have provided substantial economic return on investment. To date, 88 startups have graduated from our Startup Factory program, and they've raised more than \$52 million in external funding. Our first Build to Scale grant began in the fall of 2017. We used EDA's \$406,000 award in the Startup Factory to support founders working to develop startups in food production, food safety, and new food products. Twenty-nine companies were supported, and they reported raising over \$16 million in financing.

One of these companies is Clayton Farms, a startup founded in 2017 by Iowa State alum Clayton Mooney, who grew up on a farm

in a small town in southeast Iowa. Now, Clayton Farms doesn't grow row crops. They are a vertical organic farming operation, which means they grow on racks indoors. They grow lettuce, tomato, microgreens that they sell to over 800 subscribers to their service. Clayton Farms attributes the Startup Factory as being one of the major reasons for the success that they had in their launch, and they've raised more than \$3 million in external capital.

Our second and most recent grant from the Build to Scale program helped us partner with BioConnect Iowa to launch the Iowa Go-To-Market in fall of 2020. Go-To-Market is a post-accelerator that provides startups with advanced training, business resources, and advising services to develop innovative technology-driven products or services. Since its launch, nine startups have completed the program with three more beginning this month. One of those companies, Mazen Animal Health, takes traditional animal vaccines and puts them into animal feed. They've successfully raised \$11 million in venture funding shortly after completing the program.

We've also leveraged the early success of the Startup Factory and the first EDA investment in responding to demand for rural innovation programs. We shared resources with America's Small Business Development Center Iowa to launch the Rural Business Innovators program, which provides customized, one-on-one counseling and group training to help rural technology entrepreneurs develop and scale their businesses to create jobs in rural Iowa.

I hope that the testimony shared today showcases what programs like Build to Scale can do when thoughtfully administered and executed to maximize return on investment. Iowa State University remains committed to delivering science with practice, and we hope to continue to partner with the EDA as we innovate at Iowa State. It has been an honor to share my perspective with you today. Thank you for the opportunity, and I look forward to answering any questions. Thank you.

[The prepared statement of Mr. Spalding follows:]

**Statement of**

**David Spalding**

**Raisbeck Endowed Dean of the Debbie and Jerry Ivy College of Business and interim Vice  
President of Economic Development and Industry Relations, Iowa State University**

**Before the**

**Subcommittee on Research and Technology of the  
U.S. House Committee on Science, Space Technology**

**December 14, 2022**

Chairwoman Stevens and Ranking Member Feenstra:

Thank you for this opportunity to testify on behalf of Iowa State University on this important topic.

My name is David Spalding, and for the last nine years I have been the Raisbeck Endowed Dean of the Debbie and Jerry Ivy College of Business and for the last four years, interim Vice President of Economic Development and Industry Relations at Iowa State University, and I am testifying before you today wearing both of those hats, which really speaks to the unique nature of how we approach innovation and entrepreneurship at Iowa State University. Prior to my tenure at Iowa State, I was a senior administrator at Dartmouth College in New Hampshire for eight years, and before that I enjoyed a 29-year career in finance in New York City, in various roles, including as managing director for Lehman Brothers doing private equity investing. I received my undergraduate degree from Dartmouth and my MBA from New York University.

As a part of today's hearing I look forward to exploring the role of the U.S. Department of Commerce's Economic Development Administration (EDA) to promote regional innovation through support for community-led economic development strategies that increase geographic diversity and expand participation in the innovation economy, bolster domestic supply chains, grow manufacturing capacity, and strengthen community resilience across the United States — all topics that are at the heart of the work we do at Iowa State.

I would like to start by providing some additional background about Iowa State to frame our discussion and shine a light on the important investment the EDA Build to Scale program has created in our entrepreneurial ecosystem. Later in my testimony, I will showcase some additional ways that we leverage our partnership with EDA at Iowa State.

Iowa State's motto since the 1870s has been "Science with Practice," and aptly describes Iowa State's interests in science with practical applications. We pride ourselves on serving each of our almost 30,000 students, and home-grown businesses in all 99 Iowa counties through our Iowa State Extension and Outreach network and economic development programs.

Innovation is at the core of our curriculum at Iowa State and is woven into the fabric of our university culture, which inspires entrepreneurial thinking and innovation in every college and academic program across our campus. One physical manifestation of *Innovate at Iowa State* is the 140,000 square foot Student Innovation Center, which is our epicenter for on-campus innovation, fostering interdisciplinary creativity and problem-solving.

We have been recognized for our focus on innovation. In 2021 we received the United States Association for Small Business and Entrepreneurship (USABE) Model Program award, and just last month we received the prestigious Nasdaq Center for Entrepreneurial Excellence Award from the Global Consortium of Entrepreneurship Centers (GCEC). These are the top awards from the United States entrepreneurship educators and entrepreneurship centers around the globe. We are also proud that for the last three years, Iowa State has achieved a number-eleven ranking for undergraduate entrepreneurial programs by Princeton Review's annual survey.

We traditionally rank in the top 100 universities worldwide for patents granted for our science and technology achievements. Our focus on innovation has also earned us recognition by our peers — the Association of Public and Land Grant Universities (APLU) annually recognizes winners in Innovation and Economic Prosperity (IEP). Iowa State achieved APLU’s Innovation and Economic Prosperity designation in 2016 and since then we have earned awards in Talent, Innovation and Place in 2017, 2020, 2021 and 2022, and we were a finalist in 2018. One program highlighted in our most recent submission focused on a public private partnership between Iowa State’s Digital Agriculture Innovation and several corporate partners that are housed at the Iowa State University Research Park (ISURP). That Iowa State team is training engineers, data scientists and agronomists for the workforce of our corporate partners, and have developed intellectual property in 22 products sold globally and accounting for 66 separate IP events, all with corporate partners in the equipment manufacturing space.

The Build to Scale Program builds regional economies through scalable startups through the Venture Challenge and Capital Challenge grants, and previously the Industry Challenge grants. The program provided Iowa State and the State of Iowa with foundational funding to establish or expand two important programs—The Iowa State Startup Factory (SUF) and the Iowa Go 2 Market (G2M) accelerator. Both programs function under our economic development umbrella, and both have provided substantial economic return on investment.

We have received two Build to Scale awards to date totaling just shy of one million dollars. The first was a \$406,000 investment in the Iowa State Startup Factory that was a three-year award used to support companies developing innovations in food, and the second, was a \$525,472 EDA investment in the creation of the Iowa Go 2 Market post accelerator. In both cases, Iowa State provided 1:1 in-kind matching funds.

The Startup Factory and The Iowa Go 2 Market accelerator and post accelerator are the centerpieces of our work with startups at Iowa State University. To date, 88 startups have graduated from our Startup Factory program, and more than \$52 million has been raised in external financing since the program’s inception. This includes 30 SBIR phase I, 8 SBIR phase II, 27 State of Iowa funding events, 26 angel investment rounds, totaling more than 150 distinct funding events and a handful of successful exits.

Developing startups requires the ventures to simultaneously technically perfect their product or service and make sure that there is correct product market fit. The Startup Factory and Iowa Go 2 Market programs do not take equity in these companies, because the entrepreneurs are still in the ideation and development stage — learning to move from “tech speak” to “business speak.” They do not benefit from the added pressure of a typical equity-based accelerator that is driven to generate revenue.

Our first Build to Scale award began in Fall 2017. We put the EDA’s \$406,000 three-year award to use in supporting companies in the Startup Factory working to develop food and food safety innovations. This was broadly defined as encompassing startups in food production, food safety and new food products.

Over the course of the award, 29 companies were supported, and they raised \$11.5 million in

funding through investments, including just over \$5 million in state and federal grants and in loans. The companies created or retained 80 jobs and launched dozens of new products.

The EDA investment in our program helped to scale startup companies that are helping farmers in rural Iowa and affecting global food security. I would like to briefly highlight a few of those companies. These examples not only showcase the strength of Iowa's agricultural and manufacturing economies — they also provide strong evidence on how this investment helped meet the goals of Build to Scale in several ways:

- Haber Technologies: developed a DRI-Stack system to improve the grain drying process while reducing energy use and increasing grain quality. This company was started by undergraduates that grew up on farms, and through entrepreneurial coursework in our College of Agriculture and Life Sciences created a more efficient way to dry grain. They eventually took part in our Startup Factory program funded by the Build to Scale investment.
- The FarmPost app (formerly FarmHand app): developed a platform to connect farmers with workers for seasonal or day-to-day employment to help address labor scarcity issues in the agricultural sector.
- EnGenious Ag: developed low cost, instant read-out sensors for field-based measurement of nutrients in crops, water, and soils. They received Phase I SBIR awards from U.S. Department of Agriculture and National Science Foundation and the underlying technology was developed at Iowa State.
- Deadeye BBQ (sauce): scaled and refined a family recipe for BBQ sauce, company has since been acquired and now has products in two of Iowa's largest grocery store chains (Fareway and Hy-Vee).
- Tres Mentos Salsa: scaled and grew a family recipe for salsa. The company has since diversified its product lines, expanded operations and is sold by grocers throughout the Midwest.
- Ideo Pak (food packaging safety): Ideo Pak was founded to provide consulting services on packaging and polymeric materials focused on safety, quality, and performance.
- Gym-n-Eat Crickets: the development of an alternative protein source through sustainable cricket farms.
- Kimle Aquaculture: development and scaling of indoor shrimp farms currently selling sustainably raised shrimp direct to business and consumers throughout the Midwest.
- Nebullam (now Clayton Farms): started in 2017 as an equipment and software solution for indoor farms. In 2020, they pivoted to a direct-to-consumer business model growing and delivering year-round fresh lettuce and greens. The company has raised \$3 million in capital from equity and debt, has expanded to more than 800 subscribers and recently

expanded into Minnesota. This startup is currently the only Iowa company to graduate from the prestigious Y Combinator accelerator.

Our second, and most recent grant from the Build to Scale program helped us launch the Iowa Go 2 Market in Fall 2020. This \$525,427 award made possible, with matches, a total project cost of \$1.3 million.

Iowa Go 2 Market is a post accelerator, with rolling cohorts, that provides startups with advanced training, business resources and advising services to develop innovative technology driven products or services. The program is a partnership involving BioConnect Iowa, Iowa State Startup Factory and VentureNet Iowa. The Iowa State Startup Factory administers the program, so our startups have synergy in leadership and mentorship following their graduation from our Startup Factory program. Since the launch of Go 2 Market, nine startups have completed the program. Three startups are part of the fourth cohort, which began this month (December).

Startups in the three cohorts to date are:

- Cohort 1:
  - CartilaGen (injections for osteoarthritis treatment)
  - Classroom Clinic (virtual rural mental health for children) Classroom Clinic has expanded its service presence in Iowa with the help of G2M where they revised their business plan financial projections and were introduced to Iowa Ed-Tech consortium
  - FBB Biomed (RNA blood test for predicting disease severity)
  - Mazen Animal Health (oral pre-dosed vaccine delivery via feed) Mazen recently completed an \$11 million investment round after strengthening their messaging, financial pro forma, business plan and pitch during G2M
- Cohort 2:
  - SoilSerdem (precise soil mapping for targeted application of chemicals)
  - Sublime Stericeuhasticals (pharmaceutical freeze-drying equipment)
- Cohort 3:
  - Janas Materials (sustainable technology for coatings industry) Janas Materials secured an ISU CEO and joint development agreement with Diamond Vogel for their water-based stain additive following their participation in Startup Factory and G2M
  - NanoSpy (rapid pathogen detection biosensors)
  - Zymosense (rapid enzyme measurement) Zymosense leveraged their Startup Factory business plan deliverable into a \$400,000 NIST grant

Since completing the Iowa Go 2 Market program, one startup recently announced it has raised more than \$11 million in Series A funding. Another won first place in the investor pitch category with the John Pappajohn Entrepreneurial Center (JPEC) Summer 2022 Accelerator. Another startup won a Small Business Development Center statewide small business award. Three others have received State of Iowa Innovation funding or America's Seed Fund Small Business Innovation Research grants. I would like to highlight a few companies that have reaped the benefits of the Startup Factory and Go 2 Market:

- SoilSerdem: developed a technology for creating higher quality, lower cost soil maps using machine learning. The underlying technology for this company was developed at Iowa State as part of the founders' PhD work. These founders have now participated in three of our accelerators.
- NanoSpy: implemented our program to develop sensors for rapid detection of food-borne pathogens for improved safety. Its underlying technology was developed in part at Iowa State and the company recently received a Phase I SBIR award from the National Science Foundation.
- Soylei: leveraged over \$30 million in research funding and recently secured a commercial contract for its soybean-based polymer additive for asphalt.

The John Pappajohn Entrepreneurial Center at Iowa State University (JPEC) is part of our Economic Development and Industry Relations group, and Iowa State University's Ivy College of Business. This organization serves as the home for The Startup Factory and the Iowa Go 2 Market program. JPEC works collaboratively with four other programs throughout the state to host a statewide student competition, a statewide Iowa entrepreneur competition, a weeklong entrepreneur summer boot camp, and a fellowship with the Entrepreneurs Organization Iowa. Through these programs and support this year from Iowa Economic Development Authority, the John Pappajohn Entrepreneurial Centers awarded \$120,000 in incentives for entrepreneurial ventures.

Additionally, JPEC placed 46 student interns in startup companies located at the ISU Research Park and reported more than 6,720 students enrolled in entrepreneurship-themed coursework across campus in the last year. More than 10,000 individuals (students, faculty and community members) participated in programs and classes focused on entrepreneurship, startups and small business in the last year. Programs outside of the classroom included conferences, internships, speaker series, and more.

All our Iowa State accelerators operate from the ISU Research Park, a 550-acre innovation campus located adjacent to our campus connecting 120 tenant companies and 2,500 employees to the vast array of resources at Iowa State. Five companies that started operations at our research park have since gone on to successful initial public offerings and multiple others have enjoyed liquidity events, including the acquisition of an early Startup Factory company, SmartAg, by Raven Technologies (now Case New Holland).

We also leveraged the early success of The Startup Factory and the first EDA investment in responding to demand for a rural innovation program. We shared resources with America's Small Business Development Center Iowa (SBDC) - also co-located at our research park - with these accelerators, and launched *The Rural Business Innovators* program. This program provides customized one-on-one counseling and group training to help rural, technology innovation entrepreneurs develop and scale their business ideas and create jobs in rural Iowa. Participants in the program have developed more than 20 companies and collected external funding from multiple sources. They are in various vertical markets, including precision agriculture, renewables, manufacturing, and ed-tech. All are located in rural locations throughout the state.

The organization partnering with the accelerators is the Small Business Development Center Iowa, which also is an important part of our economic development footprint at Iowa State. In FY2022 our statewide Small Business Development Center counseled 4,217 clients located in every Iowa county and those companies self-reported \$121,595,607 in capital infusion, \$156,714,054 in sales increases, 213 new business starts and 1,961 new jobs created.

Finally, I would like to highlight two additional organizations in Iowa State's economic development ecosystem that have both received and benefited from EDA investments in recent years.

Our Center for Industrial Research and Service (CIRAS) received a \$690,000 award as an EDA University Center, between 2018 and 2023. The Iowa Workforce Innovation Network (iWIN) team is working with research universities, regional Council of Governments (COGs), economic developers, and education and business leaders to develop innovative, multi-faceted solutions to Iowa's systemic workforce issue. CIRAS previously had wrapped up a 5-year EDA award in the fall of 2018. That earlier award, with matching funds, totaled \$1.25 million and focused on technology readiness of manufacturing sub-sectors in Iowa.

CIRAS also received a \$300,000 University Center, Coronavirus Aid, Relief, and Economic Security Act, or CARES Act, Supplemental Disaster Recovery and Resiliency Award, that ran from summer of 2020 to summer of 2022. This award provided services to directly support the ability of businesses and communities to respond to the coronavirus outbreak. This effort included support for making and distributing personal protective equipment, supply chain shortages, back to business checklists and more.

The impact of injecting EDA investment into CIRAS reaches companies in every county in Iowa. Clients that CIRAS helped reported \$2.5 billion in impact in the last five years alone, including in 2021-2022 \$614 million in economic impact, 1,591 companies served, 200 onsite technology assessments for manufacturing companies, 740 attendees from 247 manufacturing companies into our digital manufacturing lab, 96 student capstone projects with 62 Iowa businesses and hosting 120 companies for Lean practices education.

Our ISU Research Park received an important \$1.3 million EDA infrastructure investment that with a match created \$3.6 million in additional infrastructure to support the expansion of the park. Since then, the research park has grown the footprint of the primary tenant that created the expansion, and next year alone that tenant will invest more than \$9 million in research at Iowa State and hire more of our graduates than any other company. The company has grown its footprint at ISU Research Park by more than 300 percent.

It has been an honor to share my perspectives with you today. I would be remiss if I closed my remarks without adding that we have been well-served by our regional EDA representative who has proven thoughtful, fair, and helpful in identifying and leveraging EDA's investment into each of the programs and organizations I highlighted today.

I hope that the testimony shared today showcases what programs like Build to Scale can do when thoughtfully administered and executed to maximize return on investment. Iowa State University remains committed to serving and delivering “Science With Practice” and we hope to continue to partner with federal government in support of these EDA programs as we Innovate at Iowa State.

### About David Spalding

David P. Spalding, the Raisbeck Endowed Dean of the Ivy College of Business at Iowa State University, is the fifth dean of the college. He also serves as interim vice president for economic development and industry relations.

Under his leadership, total enrollment at the Ivy College of Business grew 33.6 percent from fall 2012 to fall 2022. He led the effort to secure more than \$140 million from donors, including a \$50 million gift from Debbie and Jerry Ivy that named the college in September 2017. During his time as dean, the college has added five undergraduate majors including entrepreneurship, business analytics, human resources management, and health care management, and a bachelor of business administration (BBA), which is an online program for those who started college and want to complete their degree. In addition, five new master's programs were launched including finance, business analytics, entrepreneurship, healthcare analytics and operations, and real estate development.

Before arriving in Ames in August 2013, Spalding served for eight years at Dartmouth College in New Hampshire, most recently as senior vice president and senior advisor to Dartmouth's president. Prior to Dartmouth, he had a 29-year career in finance in New York City. He began his career in New York with The Chase Manhattan Bank. He also was a vice president with The First National Bank of Chicago and a senior vice president with GE Capital Corporate Finance Group Inc. In addition, he was a managing director at Lehman Brothers in New York. He was most recently vice chairman of The Cypress Group LLC, a firm that he co-founded and co-managed.

Over the years, Spalding has served on a number of corporate boards and nonprofit organizations, including the Make-A-Wish Foundation of Metro New York, where he was board chair. He currently serves on the Ames Economic Development Commission Board of Directors and is the United Way of Story County Tocqueville Society Campaign Chair. Spalding received an AB in history cum laude in 1976 from Dartmouth and an MBA in finance from New York University in 1984.

Chairwoman STEVENS. Thank you. And with that, we'll hear from Ms. Olson.

**TESTIMONY OF MS. LINDA OLSON,  
PRESIDENT/CEO, TAMPA BAY WAVE**

Ms. OLSON. Good morning, Chairwoman Stevens, Ranking Member Feenstra, and honorable Members of the Subcommittee on Research and Technology. It is a great honor to be part of this distinguished panel, and I'm grateful for the Subcommittee's kind invitation to join you. My name is Linda Olson, and I'm a proud Tampa Bay native and the CEO and founder of Tampa Bay Wave, Florida's No. 1 accelerator that helps entrepreneurs transform innovative ideas into real-world solutions and scalable businesses through our world-class programs and services. As a 501(c)(3) nonprofit, our mission is focused on the expansion of Tampa Bay's innovation-driven economy throughout an eight-county region by providing early stage companies with the resources they need to build bold, innovative, breakout tech companies.

I can state without any hesitation that funding provided by the EDA's Office of Innovation under the Regional Innovation Strategies program has been absolutely essential to the rise of Tampa Bay's innovation economy and our reputation as a burgeoning tech hub. I am—in my role as the founder of Tampa Bay Wave, I've had a front row seat to this growth for more than a decade. I originally launched Tampa Bay Wave as a meetup group in 2008, being myself a tech founder struggling to build my own company in a region with little to no tech ecosystem. Given my previous experience working for a venture-backed dot-com in Boston before and after the bubble burst, I saw firsthand what a healthy tech ecosystem looked like, and I wanted better for my own hometown.

Within just a few years, the entrepreneurs in Wave's meetup group would decide to roll up their own sleeves to lead the change we wanted to see. We could no longer sit idly by waiting for a healthy ecosystem to magically emerge on its own, and we were tired of hoping the region's political and economic development leaders would start to prioritize innovation-based ecosystem building in our region. Tampa Bay was our home where we were raising our families while growing our businesses. Plus, we wanted the economic benefits of a thriving innovation-based ecosystem in our local community, benefits like new business formation, high-wage job creation, capital and talent attraction, not to mention the creation of pathways to economic mobility and opportunity for those at risk in our communities.

In 2011, we brought together local early stage investors and entrepreneurs, academia, and big corporate execs to build an exciting vision for our region, but the primary hurdle was how to fund such a vision in a region without the local political will to invest in ecosystem building and local—and without local, large companies capable of making sizable sponsorships since Tampa Bay lacks any Fortune 100 companies.

Everything changed in the summer of 2012 when I led a regional coalition that included the University of South Florida and a network of universities, local businesses, nonprofits, and public sector partners, which was awarded a \$1 million i6 Challenge grant from

the EDA to launch Wave's venture center and accelerator. We were also awarded a second i6 Challenge grant of \$500,000 in 2014 and a \$300,000 seed fund support grant in 2018. Overall, Tampa Bay Wave has now raised a total of \$14 million from various Federal grants, corporate sponsors, generous donors, all in support of our mission and vision, including a new \$2 million Build to Scale grant awarded just in October 2022.

Ten years since that first grant after 28 accelerator cohorts, I am proud to report Wave has now supported 450 startups that have raised over \$650 million and created over 4,000 jobs, making Wave one of the critical economic drivers for the region and the State of Florida. Without this first EDA i6 Challenge grant, I can confidently say that the Tampa Bay tech startup ecosystem would not be anywhere close to what it is today. A mere total of \$1,800,000 in EDA grants from 2012 to 2018 has led to hundreds of millions of dollars of impact in the region in terms of new business formation and high wage job creation, not to mention the creation of a new \$25 million early stage seed fund in Tampa Bay called Tampa Bay Ventures. I hope you agree this is a pretty good return on investment for taxpayer dollars.

As a mother to two future female entrepreneurs, Cadence and Cassidy Creely, who are now 9 and 7 years old, respectively, both my husband Curt Creely and I cannot stress enough how the EDA grant programs give my family, as well as families throughout the United States, hope for their children and for the future of this country.

Again, I appreciate this invitation to appear before the Subcommittee today and I look forward to your questions, which I will try to answer. Thank you.

[The prepared statement of Ms. Olson follows:]

**Prepared Statement of Linda Katherine Olson,  
Founder and CEO of Tampa Bay Wave**

**Before the  
House Committee on Science, Space, and Technology  
Subcommittee on Research and Technology  
for the Hearing on  
*“Building Regional Innovation Economies Part II”*  
December 14, 2022, 10:00 A.M. EST**

**United States House of Representatives Washington, D.C.**

## Introduction

Good morning, Chairwoman Stevens, Ranking Member Feenstra, and honorable members of the Subcommittee on Research and Technology. It is a great honor to be part of this distinguished panel. I am grateful for the Subcommittee's kind invitation to join you.

My name is Linda Katherine Olson. I am a proud Tampa Bay native and the CEO and founder of Tampa Bay Wave (**Wave**), *Florida's #1 Accelerator* that helps entrepreneurs transform innovative ideas into real-world solutions and scalable businesses through our world-class programs and services. Our mission is focused on the expansion of Tampa Bay's innovation-driven economy throughout an eight-county area by providing early-stage companies with the resources they need to build bold, innovative breakout tech companies. As a 501(c)(3) nonprofit, we take zero equity from the startups we support.

Since our programs launched in 2013, I am proud to report Wave has supported **450 startups** who collectively have raised over **\$650 million** and created over **4,000 jobs**, making Wave one of the critical economic drivers for the region and the state of Florida.

Founded "by entrepreneurs for entrepreneurs", Wave is a unique organization with a successful track record that combines best practices of nationally recognized accelerators and incubators with strategic connections to existing regional entrepreneurship resources, mentors, capital, and other expertise in order to foster a highly cohesive innovation ecosystem. As Florida's only Global Accelerator Network (**GAN**) member, Wave fills an important gap in Tampa Bay's and Florida's ecosystem as Florida's top tech accelerator in terms of startup volume, investment capital raised, and job creation.

I originally launched Wave as a meetup group in 2008, because I was one of the tech startup founders facing the challenge of building my tech company in a region with little to no tech startup ecosystem at the time. Given my previous experience working for a venture capital backed "dot com" in Boston (2000-2003), I saw firsthand what a healthy tech ecosystem looked like, and I wanted better for my own hometown.

Within just a few years, the entrepreneurs in this meetup group would decide to roll up their sleeves to lead the change we wanted to see. We could no longer sit idly by waiting for a healthy ecosystem to magically emerge on its own, and we were tired of hoping our region's political and economic development leaders would start to prioritize innovation-based ecosystem building in our region. Tampa Bay was our "home", where we were raising our families while growing our businesses here. Plus, we all wanted the economic benefits of a thriving innovation-based ecosystem in our local community; benefits like new business formation, high-wage job creation, capital and talent attraction, not to mention the creation of pathways to economic mobility and opportunity for the at-risk populations in our region.

In 2011, we brought together local early stage investors and entrepreneurs, academia, and big-corporate executives to help us craft an exciting vision for the region. And yet, this vision may never have become a reality if it were not for the EDA. At the time, there was little to no

political will to invest in ecosystem building. Plus, given that Tampa Bay lacks Fortune 100 companies, sizable sponsorships are incredibly hard to come by in our region.

Everything changed in the summer of 2012, when I led a regional coalition that included the University of South Florida and a network of universities, local businesses, nonprofits and public sector partners, which was awarded a \$1 million **i6 Challenge** grant from the EDA to launch WAVE's Venture Center and Accelerator. We were also awarded a second i6 Challenge grant of \$500,000 in 2014 and a \$300,000 Seed Fund Support grant in 2018.

Overall, Tampa Bay Wave has now raised a total of \$14 million from various federal grants, corporate sponsors, and generous donors to support our mission and vision, including a new \$2 million Build to Scale grant awarded in October 2022.

Today, WAVE runs the only 90-day accelerator program in Central Florida focused on tech startups that are "Seed to Series-A ready", typically 2-3 cohorts per year (28 accelerator cohorts in total since that 2012 grant), and the only program recruiting startups from across the US and beyond including 17 non-US startups in the last four accelerator cohorts. By including non-local startups in our cohorts, we are fostering a stronger national and global reputation for the Tampa Bay region while also providing connections for local startups looking beyond the state's borders for talent, capital, and various business opportunities.

In 2021, WAVE launched its first cybersecurity-focused program, *CyberTech|X Accelerator*, and ran a second cohort in early 2022. In partnership with the University of South Florida, WAVE also launched a fintech-focused program earlier this year, the *FinTech|X Accelerator*. And thanks to the 2022 Build to Scale grant that we were recently awarded, WAVE will run nine industry-focused accelerator cohorts over the next three years and focus on growing regional innovation clusters in cybersecurity, fintech, and (now) healthtech in the greater Tampa Bay region. Each of our industry-focused programs include an advisory council made up of volunteer representatives from local industry giants which are designed to provide cohort startups with expert mentorship and strategic industry connections. Council members also benefit from "early looks" at the innovative technologies plus networking with one another, thus sparking industry-focused regional collaboration.

**The role of the Economic Development Agency (EDA) in supporting the development of Tampa Bay's regional innovation economy.**

The funding provided by the EDA's Office of Innovation and Entrepreneurship (OIE) under the Regional Innovation Strategies (RIS) program has been absolutely essential to the growth of Tampa Bay's innovation economy and our reputation as a burgeoning tech hub. As both an entrepreneur and now founder and CEO of the region's largest tech startup support organization, I have had a front row seat to this growth for more than a decade.

Today, Tampa Bay regularly attracts media attention as one of the nation's hottest growing tech hubs; but 10 years ago, that coverage was more focused on our region's reputation for 'brain drain.' Local media, in particular, liked to remind its readers about Tampa Bay's reputation for

losing tech startups to Silicon Valley such as Wikipedia in 2006, Sendhub in 2012, and countless others.

During Tampa Bay Wave's early meetup days, our growing membership of local tech entrepreneurs regularly discussed the difficulties faced by our startups. The 'ecosystem gaps', as we call them today, included:

- Lack of capital. (Note: For decades, Florida business have attracted barely 2% of the nation's total venture capital activity in terms of dollars)
- Lack of talent due to brain drain, with local talent leaving the region for Silicon Valley and other tech hubs
- Lack of major tech success stories and successful exits to give local startups credibility
- Lack of mentorship-driven programming for startups
- Lack of hubs, incubators, and/or coworking spaces
- Lack of corporate engagement with local startups
- Lack of government-backed or other intentional efforts to build a healthy ecosystem for tech startups to thrive.

Within just a few short years of the meetup group launch, Wave members grew tired of waiting for someone to start addressing those gaps. Doing nothing was no longer an option. Plus, we knew a thriving local ecosystem would not only benefit our individual businesses but also could make a real economic impact on our region in a number of ways:

- Greater new business formation, especially innovation-focused businesses
- Increased job creation, especially high-wage jobs typically found in tech businesses
- Reversal of "brain drain" by both attracting new talent and retaining existing local talent
- Increased capital investment, including the attraction of capital "to" Tampa Bay
- Improving the region's attractiveness for company relocations
- Plus, numerous indirect benefits including the formation of many indirect jobs and the creation of pathways to economic mobility and opportunity for the at-risk populations in our community.

We also believed expanding support for innovators would have societal benefits by increasing the likelihood of their important innovative ideas becoming a reality. For example, several of the startups we support are working on digital solutions for those struggling with mental and behavioral health issues, including one focusing on the needs of our active duty and veteran service men and women ([Neurflow](#), a digital solution covering 15 million people today). Others have solutions for fixing the payday loan industry ([SoLo Funds](#)) or improving access to home ownership for certain populations under-represented in the mortgage industry ([Home Lending Pal](#)). Wave also works with startups solving for allergen-free breastfeeding ([Free to Feed](#)), online educational tools for autistic children ([GoManda](#)), timely heart failure prediction ([Future Cardia](#)), mobility challenges for the blind and visually impaired ([Lazarillo](#)), and even smoking cessation ([Vincere Health](#)), just to name a few.

Originally, we thought that informing and educating our region's political and economic development leaders would encourage them to prioritize innovation-based ecosystem building. Unfortunately, we eventually concluded a much stronger catalyst was needed.

Prior to the first EDA grant in 2012, we repeatedly heard local leaders say things like, "The best thing the government can do for entrepreneurs is to 'get out of their way.'" A local economic development leader actually once said to me, "Linda, you are absolutely right about the importance of entrepreneurship; it is the third leg of the economic development stool. The three legs are recruitment, retention, and entrepreneurship. We focus on recruitment and retention, and leave entrepreneurship to the entrepreneurs." In other words, entrepreneurship was intentionally not a priority. However, this sentiment was not his alone at the time.

Many local leaders also used to claim the only way to unlock our region's potential for a vibrant innovation economy was for Tampa Bay to have its own breakout tech success story, saying "Look what Dell did for Austin's startup tech scene. We need our own Dell success story." However, comments like these unfortunately perpetuated the 'hands off' approach because it also propagated the suggestion that there was nothing to be done but 'sit and wait.'

In other words, because it was no one's job to address the gaps and foster a stronger entrepreneurial ecosystem, no one was doing the work that needed to be done. Which is why we entrepreneurs decided to roll up our sleeves to be part of the solution... but how?

In 2011, we started crafting an exciting vision for the region with the help of local early stage investors and entrepreneurs, academia, and big-company executives. And yet, as I mentioned previously, without the local political will to invest in ecosystem building or large local corporations capable of making sizable sponsorships, the vision was in jeopardy.

Everything changed in the summer of 2012, when we came across the EDA's i6 Challenge competition. Finally, we had a mechanism for approaching the local private and public sector for funding, because there was the potential for matching federal funds. To be clear, it was no easy task pulling together the \$1 million in matching funds while drafting our first-ever federal grant proposal, all within the incredibly short time-frame to meet the application deadline. However, this EDA grant was the perfect catalyst we needed for getting seed funding for our plan and for unlocking the local stalemate so that we could find ongoing funding from both the local private and public sectors.

Without this first EDA i6 Challenge grant, I can confidently say that the Tampa Bay tech startup ecosystem would not be anywhere close to what it is today.

In addition, the follow-on EDA grant programs have continued to challenge our regional innovation community to look for new opportunities to further grow and expand our ecosystem and the resources available to budding local innovators and entrepreneurs. For example, In 2018, WAVE partnered with Orlando's StarterStudio on a \$300,000 Seed Fund Support (SFS) grant from the EDA to launch Upsurge Florida, a project designed to help close the capital gap in the early-stage tech ecosystem across the I-4 Corridor in Central Florida. The three-year

Upsurge Florida project resulted in the formation of a new \$25 million seed-stage fund in 2020 called **Tampa Bay Ventures**.

**The role of the Economic Development Agency (EDA) in fostering greater diversity and inclusion within Tampa Bay's regional innovation community to increase participation.**

As a woman with a long career in the tech industry, in Tampa Bay as well as in Boston and New York, I have personally experienced discrimination and been the "only woman in the room" on numerous occasions. Yet those experiences pale in comparison to the challenges I faced as a woman tech entrepreneur, especially one trying to raise venture capital. Those challenges had a huge influence on me and how we made diversity and inclusion a priority for Tampa Bay Wave and the greater regional innovation economy from the beginning.

In the days leading up to our first EDA grant, not to mention the years prior, the concepts of diversity and inclusion when building entrepreneurial ecosystems were hardly ever mentioned. Thus, when the EDA announced the 2014 competition for the i6 Challenge grants, we were excited to be one of the awardees, in part, because one of the desired outcomes of our proposal included the creation of services specifically designed for increasing the participation of women and veteran-led startups in our regional ecosystem.

Because of this 2014 EDA grant, we were able to start focusing on the needs of underrepresented tech entrepreneurs while our innovation ecosystem was still forming. Today, I am proud to report that Tampa Bay Wave has a long history of supporting diversity and equity in building our region's tech ecosystem, with 85% of members meeting diversity definitions thanks to our many DEI-focused programs including the *TechDiversity Accelerator*, funded annually by the Nielsen Foundation since 2018. In 2020, Wave launched the *TechWomen Rising Accelerator*, funded by JPMorgan Chase. In 2021, WAVE was awarded a \$50,000 Growth Accelerator Fund Competition grant from the U.S. Small Business Administration (SBA) to address the lack of women entrepreneurs in the cybersecurity industry to help us recruit women-led startups for the 2022 *CyberTech|X Accelerator* cohort.

Yet with all these and other DEI-focused programs in Florida, I would be remiss if I did not mention that more work is needed. Even in 2022, the statistics around access to capital nationwide for these founders is inexcusable: women-led startups only raised 2.4% of the nation's venture capital (down from 2.7% in 2020). African-American or Black-led startups raised less than 1% of the nation's venture capital, as did Latino-led startups as well. So for entrepreneurs in the state of Florida which, on the whole, receives 2% of the nation's venture capital funding, underrepresented entrepreneurs in Florida receive only the tiniest fractions of fractions of total venture capital.

I am proud to report Tampa Bay Wave's proven track record is beating those odds for startups founded by women, persons of color, and other underrepresented groups. However, our organization only works with roughly 150 startups annually - not enough to make a dent in the national averages. Any meaningful improvement in these statistics should greatly increase participation and produce even greater economic benefit for all to enjoy.

**Conclusion**

There is no doubt Tampa Bay's tech innovation community would not be making headlines today if it were not for the EDA's investments over the past decade. A mere total of \$1,800,000 in EDA OIE RIS grants in 2012, 2014, and 2018 has led to hundreds of millions of dollars in impact on the region in terms of new business formation and high-wage job creation, not to mention the creation of a new \$25 million early-stage seed fund in Tampa Bay. I hope you agree that is a pretty good return on investment for tax payer money.

As a mother to two future female entrepreneurs, Cadence and Cassidy Creely who are nine and seven years old respectively, both my husband Curt Creely and I cannot stress enough how the EDA's grant programs give my family, as well as families throughout the U.S., hope for our children and the future of our country. I believe the work that is being done in Tampa Bay and across the U.S. in building healthy innovation-based regional economies means that my daughters can grow up knowing they have real options of entrepreneurship, that they do not need to leave Tampa Bay for those options, and they can live in the world which is benefitting from all the innovative technologies Tampa Bay Wave and others are supporting today.

Thus, I would like to urge this committee to continue supporting the efforts that lead to the development of strong, healthy regional innovation economies in communities across the U.S. I would also like to encourage this or another appropriate committee to explore options for increasing access to capital, especially for the underrepresented entrepreneurs and their startups. Finally, given the challenges with early stage investment capital, I would also like to express my support and gratitude for the SBIR and STTR funding programs which provide critical lifelines for innovators, including many my organization supports today.

I appreciate the invitation to appear before the Subcommittee today and I look forward to your questions, which I will try to answer. Thank you.



**Linda Olson**, a proud Tampa Bay native, is the CEO & founder of Tampa Bay Wave, Florida's #1 Accelerator for tech startups. Tampa Bay Wave runs the only Florida-based accelerator accredited by GAN, the Global Accelerator Network, and has supported 450 startups since 2013. Collectively, these startups have raised \$650+ million and created 4,000 jobs.

In 2012, she led a regional effort to secure a \$1 million federal grant from the U. S. Economic Development Administration (U.S. EDA) under the Department of Commerce that launched Tampa Bay Wave's Venture Center and Accelerator program in partnership with the University of South Florida. In total, she has raised \$14 million from sponsors, foundations, donors, and others to support the nonprofit mission of growing Tampa Bay's tech startup ecosystem.

Linda began her career managing software implementation projects for Fortune 500 companies as a consultant with Arthur Andersen and has worked with tech startups and venture capital since 1999. She has Masters and BS degrees from Florida State University, and an MBA from Columbia University.

Linda is a proud alum of Leadership Tampa and Leadership Florida. She is also an original member of Startup America Partnership and is currently an active member of Startup Champions Network. Linda serves as an Honorary Commander at MacDill Air Force Base and sits on numerous boards such as USF Research Foundation, USF CAMLS, Synapse Florida, Tampa Downtown Partnership Foundation and Visit Tampa Bay.

Linda was selected to the U.S. delegation to the Global Entrepreneurship Congress in Bahrain in 2019, and again in Riyadh in 2022.

In 2019, Linda was awarded the Community Dedication and Leadership award by Tampa Bay Tech. She was also recognized by the Tampa Bay Business Journal's as Business Woman of the Year honoree in 2018 and as Angie Joseph Excellence in Mentoring honoree in 2022.

**Tampa Bay Wave**

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Chairwoman STEVENS. Thank you to our witnesses. And at this point, we are going to begin our first round of questions, and the Chair is going to recognize her herself for 5 minutes.

The overwhelming majority of entrepreneurs, as Ms. Olson just intimated, founding high-growth startups are oftentimes White and male. And certainly, this leaves out essential wealth-building and economic growth opportunities for Americans in minority communities, including many communities here in metro Detroit but obviously all across the region. And the lack of founder diversity also limits the types of businesses created and the types of challenges that the businesses are addressing.

And so while some of the Build to Scale and Regional Challenge awardees have focused on supporting entrepreneurs from underrepresented groups, a significant gap still exists. And, Ms. Donohue Krauss, I wanted to ask you, what are ways that the Global Epicenter for Mobility Consortium is engaged with historically left behind communities, and how did relationships and your approach evolve through the planning process of GEM?

Ms. KRAUSS. Thank you for that question. When we put this proposal together, we ended up with 140 individuals and organizations throughout the Detroit region who participated in the process. And it was really terrific to hear all of the voices. We were very inclusive. We said at every meeting we had, who is not at this table, get them an invitation. And so there were groups that might not traditionally be in the conversation, but we were very intentional about keeping them a part of it. Our GEM proposal does have a DEI (Diversity, Equity, and Inclusion) officer who will assist entrepreneurs and small- to medium-sized companies in making sure that they are including those communities that haven't been—haven't had access to support or haven't had voices before, so it was very intentional. And we appreciate that the EDA made sure that was a part of all proposals.

You know, in the Detroit region, we have a very diverse population here, but we know that, especially in the entrepreneurial, small- to medium-sized companies, they don't always have access to the support they need. So this was very intentional on your part, and in fact, very intentional on our part to make sure that—and that goes for every—even in the urban-rural sense, our region is diverse that way as well. And, you know, we talk about the ag space, look forward to talking to Professor Spalding about, you know, how can we look at autonomous plows. Perhaps that might be the future for farming and in the mobility space. So it has been really eye-opening for some, but it was really a part of who we are already, and we just have to make sure it's front and center.

Chairwoman STEVENS. Assistant Secretary Castillo, having previously led the Minority Business Development Agency, and now the EDA, you know, I imagine you've put a lot of thought into this topic. And how is EDA creating opportunities for high-growth potential minority-owned businesses?

Ms. CASTILLO. So thank you for that question. Indeed, it is a—it is a personal passion of mine but a true commitment for EDA, as Ms. Krauss said. We not only took a look at our investment strategies, making equity one of the top investment strategies, but we also baked it into the notice of funding opportunities, making

sure that applicants understood from the very beginning that we were looking at a broad table, and equity meant many things across the country. It was not just responding to underserved communities, communities of color, but also rural communities, looking at a very broad approach of how we needed to make sure that when we put these grants together, we were actually addressing those areas of our country that either have been forgotten or left behind. And I will tell you, in my travels, particularly under these two—the *ARPA* grants, the Build Back Better Regional Challenge and the Good Jobs Challenge, it is so satisfying to hear individuals say thank you for keeping us in mind, thank you for giving us this opportunity. And it's been not only important in terms of who has been awarded but also, as was mentioned before, the broad scope of the coalitions that came together. And we are monitoring those engagements, as I mentioned in my testimony, on the governance side, just to make sure that those partnerships continue to be strong and that all communities are represented in these deep—in these different initiatives.

Chairwoman STEVENS. It's so incredibly important and so also deeply touching. And obviously, I'm out of time, but I think Ms. Olson's concluding testimony sticks with me, you know, the on-the-ground work here in metro Detroit and certainly from your national perch, Ms. Castillo.

So with that, I'll turn it over to Mr. Feenstra for 5 minutes of questioning.

Mr. FEENSTRA. Well, I just want to thank each and every witness for your testimony. It is quite amazing and very impressive. So I've got several questions. Dean Spalding, Iowa State University has received multiple awards for EDA Build to Scale programs to support Iowa's innovation ecosystem. In addition to these Federal awards, Iowa State has also received financial support from State and local communities. Can you explain the importance of State and local buy-in to create and maintain self-sustaining innovation ecosystems?

Mr. SPALDING. Thank you, Congressman Feenstra. I think that State and local support is critical to ensuring that you are bringing the control over efforts like this down to the to the ground level and ensuring that you are funding the programs that are successful within a State, within a region, within an area, that you have that community buy-in that the community is going to get engaged and get behind your programs because a lot of these programs require grassroot efforts. You know, we're—when I talked about companies that we have involved in our programs that are scaling technology, those often start as a smaller business that might be working with our small business development centers or working one of our student programs. And so having had that community and local support for those programs to feed them into these programs that can be supported by the larger dollars that come from an EDA grant I think is critically important.

Mr. FEENSTRA. Yes, and I agree with that. Thanks for those comments. I mean, being a past city administrator, I see how local support is so important to make sure things thrive and, you know, be successful.

With that, your role in higher education, I just want to know, how is it so important when you think of higher education and promoting entrepreneurship and innovation programs? I came out of a university, Dordt University, that does some of this. Also, I know Iowa State University is ranked 11th in the Nation for entrepreneurial studies, which I'm so excited about. But what do you think the benefits are from the academic world to be so involved in entrepreneurial studies?

Mr. SPALDING. Well, you know, when you think about it, I think it's still the case that studies would show that small businesses are the job creation engines for our country. Having a stronger climate, stronger support for small businesses really helps create good jobs all across our country, whether it be in rural areas, whether it be in inner city areas, which we have close to Ames and Des Moines that those small businesses are really critical to that. And so we in higher education, I think, have a role to play in preparing our students to be a part of that ecosystem. You know, we have 140 students in our entrepreneurship major this year. Not all of them are going to go off to start a company themselves, but they are perfectly prepared to be employee number 8, or employee number 20, or employee number 50 in a smaller venture that's looking to get going and continue to grow and continue to create jobs. And so I think that's where we have an important role to play. And it's very much core, again, to what we do here at Iowa State.

Mr. FEENSTRA. Yes, yes, well, thank you for those comments. I really appreciate those.

Assistant Secretary Castillo, the recently reestablished National Advisory Council on Innovation and Entrepreneurship, NACIE, EDA is considering the development of a national entrepreneurship strategy. The strategy would strengthen the United States' ability to compete globally as the world's leading startup Nation and leader in critical emerging technologies. Can you update me on the progress of this development and what are the next steps?

Ms. CASTILLO. Yes, Congressman. And if I may just take a minute to also underscore a couple of things to your previous questions to Dean Spalding. The interaction of so many different stakeholders is essential to the work that EDA does, and we rely on stakeholders like our university centers, of which Dean Spalding is part of it. We also rely on over 390 economic development districts, which are multijurisdictional entities that all come into play to make sure that economic development strategies is coming from the ground up. So I wanted to underscore those stakeholders because universities, community colleges, mayors, so many different individuals have to be part of a broader economic development ecosystem.

To your question about NACIE, Congressman, we're very excited. As you well noted, it has been reestablished. We announced the Members of that committee, advisory committee. The focus really is on a couple of really high level areas, one, as you well pointed out, the entrepreneurship strategy. We're also leveraging the expertise and background of NACIE to help us as we think about possibilities of tech hubs. What would that look like? What elements need to come into play? But we're also challenging NACIE to think about moonshots. What are those areas of the economy that need

to really be bolstered by an array of not only investments but expertise, capacity building.

And I'll just give you an example. The President's Office of Science and Technology just put out a report on the bioeconomy. These are the type of issues that NACIE is tackling. And I will also tell you, when we talk about entrepreneurship, we're talking about a broad spectrum of issues or barriers, but also opportunities. And with regards to some of those barriers in entrepreneurship, whether it's access to capital, access to technical assistance and support. So NACIE is very busy. We have a wonderful cadre of individuals, and we're looking forward to their report to the Secretary toward the end of 2024.

Mr. FEENSTRA. Thank you so much for those comments. And my time is up. I greatly appreciate it. I yield back.

Chairwoman STEVENS. Thanks. And with that, we're going to hear from Ms. Wild of Pennsylvania for 5 minutes of questioning.

Ms. WILD. Thank you, Madam Chair.

And this is really a pleasure to have this hearing. I was the author of the *Regional Innovation Act*, which I was proud to see signed into law on a bipartisan basis as part of the final *CHIPS* package. And it was driven by my focus on creating opportunities for a wide array of community stakeholders, including not only universities, of which we have many in my district, but also economic development organizations, workforce boards, and unions. And I know that these groups each play an essential role in my own district, and I'm confident that their ability to collaborate and develop a sustainable strategy for regional innovation in the greater Lehigh Valley area will lead to continued success in this field and in my district.

Ms. Donohue Krauss, what are some of the benefits and challenges involved in building these types of broad coalitions? We are still very much in that process in my district, and I'd love to know what lessons can be learned from your experience with the Build Back Better Regional Challenge.

Ms. KRAUSS. Thank you. You know, that is something with our proposal, our successful proposal that I am as proud of as getting the acceptance and approval from the EDA. Two things, inclusiveness and transparency were the two keys to doing this, but of course, it's much more than that. It was really digging deep and working together. I will say 5 years ago the EDA would have received five different proposals from our region, and none of them would have talked to each other. It was a much more competitive time. And this time, we all decided—and really, this is our overarching economic development, as well as for this proposal. We have decided—my organization is only 3 years old. We decided—and it was driven by our business leadership and our political leadership—that we're much more impactful when we combine our assets than when we show them separately.

And so when—I just returned from a trade mission with the city of Detroit and Ann Arbor, both parts of our region, and one of our local banks. So it was a process, but I think we've seen the benefits through a regional economic development organization that, you know, combining resources, combining assets, everyone gets to say, you know, that we have a world-class airport, and everyone gets to

say we have world-class universities in our region because boundaries between communities aren't really important for businesses that look for regional talent, regional supply chain, and, you know, an overall regional economy. So that's the theme we've used, and it's working well for us. And it's—as someone who's done this a long time here, it's really nice to see.

Ms. WILD. Excuse me. Let me just say, I agree with everything you just said. We've successfully done that in my district. My one concern—and I don't—I'm not asking you to comment on this because I want to get to another area—but is just making sure that we don't leave out certain sectors, whether it be minority communities or other types of communities that just somehow don't make it into that networking that exists. That's where I think we all probably need to really focus to make sure.

Assistant Secretary Castillo, in the near future, I hope to see Congress fully fund the creation of the regional innovation hubs in communities like mine across the country. Based on your experience, what qualities make a community well-suited to successfully develop emerging technologies and promote innovation on a regional scale?

Ms. CASTILLO. Congresswoman Wild, I'm going to piggyback a bit on what Maureen Krauss just said, a couple of things just to put it into perspective. One is the ability to come into partnership and coalitions and to do an assessment of their assets to look at where—what are the technologies or the spaces in which that particular community has some some positive gains in it.

I also want to mention that what made particularly the Build Back Better Regional Challenge as a good example of how to even think about the tech hubs was the fact that we, too, included equity into the notice of funding opportunity, but we also provided transparency. We provided the general public all of the information of the applicants. And that in itself stirred—created an opportunity for people to talk to one another, to speak to one another, to share lessons learned.

We have instituted a couple of things that I think is going to be very important as we think about tech hubs. One is communities of practice, communities of practice so that there is shared opportunities to learn from one another, but communities of practice to also look at how to best leverage assets and resources across region.

The other thing I think is going to be very important in terms of tech hubs in the event that Congress does appropriate the funds is to make sure that we do proper listening tours, but also that we keep ourselves very open to to work across the Federal Government and leverage all of the different resources.

Ms. WILD. Thank you so much. I do see that my time is up, which is always frustrating in these hearings. This one is so important. I would very much like to work with all of you in the future on making sure that these tech hubs become a reality. And I—my office will be reaching out. Thank you so very much.

Ms. CASTILLO. Thank you, Congresswoman.

Ms. WILD. Madam Chair, I yield back.

Chairwoman STEVENS. And with that, we're going to hear from Ranking Member Lucas for 5 minutes of questioning.

Mr. LUCAS. Thank you, Madam Chair.

Assistant Secretary Castillo, in September of this year, EDA awarded the Tulsa Regional Advanced Mobility Corridor approximately \$39 million. The project, led by the Indian Nations Council of Governments and Oklahoma State University will strengthen Oklahoma's national leadership as a hub of transformational air mobility research and development. Investing in this critical industry and local and State economies will increase Oklahoma—or—and I should actually say Oklahoma and America's technological competitiveness around the world.

So, Assistant Secretary, how does EDA plan to ensure that more rural and tribal communities like those in my district that received this award have the same opportunities as larger communities at developing innovative economies?

Ms. CASTILLO. Sure. And thank you, Congressman, for the question. And congratulations. As you know, it was a very competitive process. But here's what we have not only identified but also tried to work to address. We are very cognizant that we want to make sure that communities on the ground have the capacity and technical assistance to go after these grants. So in order to address some of the capacity questions on the ground, we have initiated both an equity impact investment program as well as an economic development core program. These two programs—and I'm happy to provide your team with more information—are—were designed to address some of the concerns that we saw on the ground of making sure that all communities had the wherewithal, the capacity to go after EDA grants.

Secondly, as I mentioned before, we work very closely with our economic development districts across the country, of which there are 390. We work closely through our regional offices, and our outreach is but one part of the work that we do to make sure that all communities are well-positioned to apply for EDA grants. We provide the technical assistance, the webinars. And, as I've mentioned before, I am on the road, Congressman, because it is the only way that we can bridge any gaps that may exist between the EDA opportunities and communities on the ground. So I'll work with you and your team to continue to engage communities in Oklahoma, but more importantly, our commitment to indigenous communities still stands very, very strongly, as has been witnessed by the many grants that were issued to indigenous communities across the country.

Mr. LUCAS. Continuing with this line of thought, Assistant Secretary, in your testimony you state that EDA is prepared to move forward in executing the vision of the authorizations should the funding be made available, always a key phrase, for the Regional Technology and Innovation Hub program. Can you share more about how EDA is planning to administer and oversee the program, given the large authorizations included in *CHIPS and Science* for the Regional Hub program?

Ms. CASTILLO. Sure, and thank you, Congressman. The tech hub authorization is not only exciting but so necessary. And you're absolutely right. If given the opportunity to have it appropriated, EDA stands ready. And here's how we're thinking through this process. Our Office of Innovation and Entrepreneurship really has

a very deep expertise in that area, not only administering the Build to Scale, but it was instrumental in the way we not only designed but also executed our Build Back Better Regional Challenge. So we do have the expertise in-house and the ability to scale depending on the authorized levels, appropriated levels, I should say.

A couple of things that I've mentioned before, we're leveraging the National Advisory Council on Innovation and Entrepreneurship to help us bring together not only the information but the elements that would make for a good tech hub, so we're leveraging that level of expertise. We're also leveraging the expertise across the Department of Commerce and the Federal—other Federal agencies as well. So in addition to not only doing our work and our due diligence, we have the experience and operation structures to execute on tech hubs within that time—within the timeframe that it was allotted.

So I will tell you, we're excited about it. The country needs it. Areas across the country, I usually say tech hub is going to democratize technology and innovation and bring it to communities that have all the right assets to transform their local economies.

Mr. LUCAS. And it's important that we work together since the money, substantial authorizations as they are in the *CHIPS and Science* program are not mandatory money, they're authorized, so we have to make the case to persuade the budgeteers and the appropriators to fund it. The Administration has to use it wisely. And then together, we can justify continuing to advance that good work, so it's a team sport. Thank you, Assistant Secretary.

Ms. CASTILLO. Absolutely. Thank you. Thank you, sir.

Chairwoman STEVENS. And with that, we'll hear from Mr. Lamb for 5 minutes of questioning.

Mr. LAMB. Thank you, Madam Chair. And thank you to all of our guests for being with us here today.

Secretary Castillo, I want to first say thank you for all of your work, particularly as it related to the Build Back Better Regional Challenges. My region of western Pennsylvania was lucky enough to win one of those awards, and we really have high hopes about the impact that it's going to make, particularly on jobs. You know, I think the reason so many of us supported these programs was to create jobs for people in our regions that need them, better jobs than what they have access to now.

But we had an interesting thing happen, which was that the week in October that we got together with two Members of Congress, an official from the EDA, and a whole host of local people who had supported our grant application, university folks, business folks, people from our Allegheny conference on economic development that really led the way, we got together in Westmoreland County, which is a more rural county outside of where Pittsburgh is at their community college. But it's also the home to a major investment that an autonomous vehicle company made in establishing a test track, so they had a ton of jobs. It was like a case of what we want to do, which is create jobs in areas that haven't had as many of them in this new economy. So we got together there, and then we had this wonderful event to talk about everything we were going to do with the award.

And then literally the very next week, that company went out of business. And now no one knows what's going to happen to all of those workers that they already had. It's not entirely clear how this award is going to employ people in that sector in the future. Our hope is obviously that it still will, but it was just kind of gut-wrenching to see such a major potential source of jobs for people be taken away so quickly at the very time that we're investing money to try to train people in robotics and self-driving and everything that goes into it.

So the first thing I just wanted to ask is whether, you know, you have seen examples like this, and maybe not identical, but that show that we need to find some way for these big companies—and the investors in the company that I'm talking about are two of the largest auto companies that there are—to get them to put more skin in the game. I mean, they didn't really have any skin in the game. We did this award with Federal tax dollars, and, you know, it didn't cost them anything to walk away just a week after we basically announced it. So have you all thought about that problem of making sure that, as we're creating jobs and doing job training for people, that the actual beneficiaries of all that work, these large for-profit companies actually have some skin in the game to stay involved?

Ms. CASTILLO. Thank you, Congressman. And it is an unfortunate situation. We have seen some of—situations like that. A couple of things that I would say. One is here is where we also want to work on the entrepreneurial side because you're absolutely right. There are these large companies that are anchor companies who are providing the businesses. But we also understand that by creating new, smaller—small businesses and connecting them to other sources of—melding them into the supply—the broader supply chain is also a way to grow the economy on that front.

As it relates to—and just to use your terminology—having skin in the game, we like to have stakeholders have skin in the game. There's a part of EDA, as you may know, that many of our grants require a match, and that is a way to have community and other stakeholders have ownership in this process. So I would very much welcome, Congressman, to work with you and others in your district to find solutions to the situation. I will tell you that the proposal that was put together was a strong proposal, and I—and we believe that there's a lot of future for that. So I welcome the opportunity to work with you more closely and also to address these matters.

Last thing I will say, sir, if I may, is a lot of this information is critically important to us, but we're also building more data analysis to be able to foretell, if possible, wherever possible, but to have some predictive analytics as well to address these issues before they happen. So please take my words as an invitation to work closely with your office on this particular matter.

Mr. LAMB. Thank you. Yes, and I know nobody expects you guys to be able to predict the future. I mean, the tech sector is very volatile right now. I just hope that if you see things like this going on in other parts of the country and it becomes an obstacle, please report that, you know, to the Congress. I'm on my way out, but I know my colleagues care about this as well because we may have

to revisit, you know, some of the ways that these awards get handed out if their intended beneficiaries are larger companies like this who are so free to walk away. I agree with you that there are a lot of smaller entities we want to help, and they often tend to be more locally rooted. But when our goal is to create jobs, it also makes sense to focus on the larger players as well. So thank you very much for the excellent work you're doing. I know we're going to make something out of it in western Pennsylvania.

Madam Chair, I yield back.

Chairwoman STEVENS. Great, thank you, very productive.

And with that, we're going to hear from Mr. Baird for 5 minutes of questioning. Jim, let's get you off mute.

Mr. BAIRD. Does that work better?

Chairwoman STEVENS. We can hear you.

Mr. BAIRD. Hey, thanks.

Chairwoman STEVENS. Good to see you, Dr. Baird.

Mr. BAIRD. Good to see you. Thank you, Chairwoman Stevens and Ranking Member Feenstra, for holding this interview session. And I really appreciate all of the witnesses being here. But, you know, with Purdue University in my district, I've had the opportunity to see firsthand the regional innovation efforts that really benefit Hoosier State, as well as directly affect the rest of the country. And so I often get the opportunity to meet with startup companies wishing to potentially set up learning centers and other entities associated with Purdue. And when I think about building regional innovation economies, these types of startup companies and partnerships are directly what comes to mind.

So, Assistant Secretary Castillo, in forming these partnerships, what role should the Federal Government play? And in that same vein, the State of Indiana is fortunate to have an active Economic Development Agency. So what would a healthy productive relationship look like between the Federal Government and the State? So would you care to elaborate on how you see that?

Ms. CASTILLO. Absolutely, sir, and thank you for the question. You know, we've talked about ecosystems throughout this entire hearing, and part of a very healthy ecosystem is one, not only the relationship on the ground, but as you point out, EDA's relationship with many stakeholders at the State and local level. I think we've been—we've shown what that looks like. And I'll give you a couple of examples of what that looks like. One, you know, leveraging EDA's opportunities to provide planning grants. One of the most important tools within the economic development space for EDA is the CEDS, the Comprehensive Economic Development Strategies. So making sure that at the State and local level we're developing CEDS that are comprehensive, that have equity at the forefront, that are also looking at opportunities to provide capital, but also tech commercialization, as well as STEM (science, technology, engineering, and mathematics) employment. So these are all some of the ingredients that are essential to it.

On the—on another level, I will tell you working with the universities, and Purdue is a prime example, but also working with our community colleges. And to the previous questions, also very—working with employers, one of our most successful grants under the ARPA, the *American Rescue Plan*, was the Good Jobs Chal-

allenge and, again, looking at making sure that not only are we developing a robust ecosystem that is supporting technology innovation, but at the same time developing a workforce that's upskilled and reskilled to meet these—those opportunities.

So, sir, I'm sure I can go on on many elements, but I also extend my—EDA's invitation to work very closely with you and your team.

Mr. BAIRD. Well, thank you very much. And, you know, I really appreciated you mentioning STEM because I think that's all integrated, you know, the STEM—but then the fact that those people have the opportunity, they get their hands on, and that stimulates them to get into the STEM program probably. And so thank you for that comment and your focus there.

Mr. Spalding, do you care—government should play in forming—

Mr. SPALDING. Sorry, Congressman, you broke up, and I was not able to get your question.

Mr. BAIRD. Do you want me to do that again?

Mr. SPALDING. Please.

Mr. BAIRD. Here you go. I just wanted you to comment on this, the role the Federal Government should play in forming these partnerships and just get your perspective on that issue.

Mr. SPALDING. You know, I think, Congressman, the EDA funding for us has been particularly helpful for us in starting up new programs, new initiatives where we're looking for seed funding. We may have local partners. We're always putting up match as part of those programs, but that seed funding is particularly important to us when the EDA gets involved. And we have a great, close working relationship with our EDA representative who covers the State of Iowa. He does an outstanding job, and that really helps us with being able to talk about these seed opportunities.

Mr. BAIRD. Well, thank you very much. I see my time is almost up, and so I yield back.

Chairwoman STEVENS. Excellent, excellent. No, that's great. Thank you.

And with that, we're going to hear from Mr. LaTurner for 5 minutes of questioning.

Mr. LATURNER. Thank you, Madam Chairwoman.

My first questions are for Dean David Spalding. How are you doing today?

Mr. SPALDING. I'm doing just fine. Thank you.

Mr. LATURNER. Good. I represent eastern and southeastern Kansas, and many of my constituents are farmers. Connecting the technical support for these programs to the real-world effects is important for garnering continued support. Can you discuss some examples that you're personally aware of that showcase how EDA investment helps support startup companies that benefit the agricultural sector?

Mr. SPALDING. Yes, so the first of the grants that we received we actually used in our Startup Factory Accelerator to focus on advancements in the food area writ large. And so that includes both growing food successfully, food products, food safety, food innovation. And so it was great to have the EDA support that effort, specifically focused on the work that we do here around agricultural startups.

Mr. LATURNER. I appreciate that. From your perspective, what is the biggest challenge for rural communities and—when it comes to participating in regional innovation, and what's the solution to that?

Mr. SPALDING. I wish I had the solution. You know, Kansas, Iowa, we're facing much the same challenge with a hollowing out of our rural communities. And there are a number of reasons for that. We need to create more reasonable-cost housing. We need to create more jobs, broad-based jobs in those communities. We need to have stronger childcare arrangements in those communities. But when I look at it, you know, I mentioned the Rural Business Innovators program that we have, and this is a program where we're reaching out across the State. We don't extend into the urban areas. We're extending only into the rural areas and bringing scalable businesses in those communities and giving them the opportunity to participate in our Startup Factory program. The program has been so valuable that we've had people drive 45 minutes in order to get to a good internet connection to participate in the program. And there's another one of those fundamental issues in rural communities, right, that lack of broadband access. But our programs have been so valuable that these people were willing to drive regularly to get to a place where they had a good internet connection and spend 3 hours connected into the sessions we run as part of that Startup Factory program. And so we're really, with that program, looking to build more scalable businesses in those communities, create more jobs in those communities, and really help our small rural ag communities thrive.

Mr. LATURNER. Talk to me about how Congress can continue to support the development of new regional innovation economies in your opinion.

Mr. SPALDING. Well, I think some of this comes with the base investment that I've talked about, whether that be rural broadband, which remains a challenge in our communities. But then we've pulled together here at Iowa State in the last year a group we call our Rural Vitality Council where we're pulling together faculty and our extension folks from across the university who are working in programs to help strengthen rural communities. It's giving us a chance to share best practices, share ideas, and we are talking about some opportunities to apply for Federal grant funding to help support the best performing of the programs that we've identified, which often are based on faculty research that's being done into what works best in those communities.

Mr. LATURNER. I appreciate it very much.

Ms. Castillo, how are you today?

Ms. CASTILLO. Doing great, Congressman.

Mr. LATURNER. Good. In your testimony you discussed the coordination that the Economic Development Administration does with other agencies and leaders to facilitate policy recommendations that grow innovation economies. Can you elaborate on that coordination process?

Ms. CASTILLO. Yes. And thank you for that question. The economic development integrators are our way to really blend in and braid so many of the different policy and initiatives across the Federal Government.

I want to underscore something that Dean Spalding just mentioned as well as we were talking about some of the challenges in rural America. I—as you may know, Congressman, EDA is part of a broader Commerce Department family. And one of the areas that we are working closely with is the National Telecommunication and Information Agency (NTIA), \$48 billion that’s being invested in terms of broadband because we understand that we need to continue to work with our our sister agencies across the Federal Government so that—the opportunity to work with NTIA but also the opportunity to work with Department of Energy, Department of Transportation, other Federal agencies across the government to make sure that as we think about these investments that we’re keeping an eye both on economic development, but also how to—how do we spur technology innovation.

If I may, sir, one last thing I will tell you, one of the Build Back Better Regional Challenges was in your State, but we—because we’re putting in place communities of practice, we are able then to also leverage what’s happening in Central Valley in California, which is a Build Back Better Regional Challenge on tech—agritech. So these are the type of opportunities to learn from one another, to be able to bring it to places as in your district, and make sure that we are continuing to invest in technologies in all industries and all in all sectors.

Mr. LATURNER. I want to thank you and all the witnesses and our very able Chairwoman. Thank you very much. I yield back.

Chairwoman STEVENS. Well, great, thank you so much.

And with that, we are at that time of bringing this incredible hearing to a close. And I just want to thank our witnesses so much for joining us and certainly thank my incredible partner and our Ranking Member, Randy Feenstra, for his close collaboration not only on this hearing but all the work that we have done throughout the 117th Congress.

Certainly, a lot of great engagement today and interest in deepening the success, doubling down on the success, and connecting the dots. And I certainly want to take a minute to thank, as this is our concluding Subcommittee hearing for the term, our just very dedicated Research and Technology Subcommittee staff who have worked long and hard throughout this term sort of nonstop and orchestrating just an impressive slate of hearings.

And given how things run at the end of the year, I know that many of our Members will be delighted to be reminded that the record is going to remain open for 2 weeks for additional statements from Members and for additional questions that the Committee may ask of the witnesses.

And, again, thank you to our witnesses for informing today, and we look forward to further conversation and efforts to advance the goal of regional innovation inclusivity strategies, growing economies of scale, winning in places like the heartland, to the South, to rural America, to the industrious Midwest, and on.

And with that, the witnesses are going to be excused at this point, and the hearing is now adjourned.

[Whereupon, at 11:21 a.m., the Subcommittee was adjourned.]

## Appendix

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ANSWERS TO POST-HEARING QUESTIONS

## ANSWERS TO POST-HEARING QUESTIONS

*Responses by Hon. Alejandra Castillo*U.S. HOUSE OF REPRESENTATIVES COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY  
SUBCOMMITTEE ON RESEARCH AND TECHNOLOGY*"Building Regional Innovation Economies Part II"*Questions for the Record to:The Honorable Alejandra Y. Castillo  
Assistant Secretary of Commerce for Economic Development  
U. S. Department of Commerce**Submitted by Representative Deborah Ross**

1. In your written testimony, you point out the successes made by "locally driven investments directly in distressed communities." In our previous hearing, I spoke about the research triangle park and efforts in North Carolina to boost Black and brown researchers in my state. I am proud of the successes made at RTP, but as my district in Wake County continues to attract talented students, professionals, and families, it also faces a housing crisis.
  - a. How might the EDA better define "distress" to ensure the equitable distribution of funds to those communities?

**Response:**

EDA is always evaluating its distress measures and associated grant rates to ensure they are equitably reaching the most distressed areas of this country. Our strength is our ability to meet communities where they are, and because societal understandings of economic distress evolved over time, we are constantly researching new ways to better measure distress.

One of the first actions I took as Assistant Secretary was elevating equity to the very top of our investment priorities, which is the overarching framework we use to determine the best use of our investment dollars. We are eager to continue to meet our mission of serving distressed communities across the country and ensuring that our assistance is distributed equitably.

- b. Considering that different regions have varying timelines in demonstrating their achievements, as well as unique qualities that contribute to those successes, what kind of common performance standards might you recommend for the Department of Commerce and EDA to gauge success?

**Response:**

Economic development creates the conditions for economic growth and improved quality of life by expanding individual, firm, and community capacities that help to bring new dollars into a community or region. The role of the public sector – like EDA – is to assist communities in building their capacity for economic development by creating, improving or better using their assets so that businesses will want to establish or grow in those areas and provide good jobs. Capacity building can take on many forms depending on the individualized needs of each community and region. As such, it is extremely challenging to

develop a single or limited number of metrics that can effectively measure the performance of all the various types of economic development capacity building.

EDA's traditional metrics measure jobs created or retained, and private investment leveraged for construction projects. In Fiscal Year 2020, EDA unveiled an innovative, flexible set of metrics to measure the impact of its non-infrastructure investments from programs that include Build to Scale, Local Technical Assistance, Revolving Loan Funds, Partnership Planning, and Research and National Technical Assistance, on local and regional economic development capacity. Grounded in EDA's Logic Model (<https://www.eda.gov/sites/default/files/filebase/archives/2021/files/performance/ED-Logic-Model.pdf>), EDA refined its metrics to fit a wide range of non-infrastructure economic development projects, their associated outputs and the intermediate, or capacity outcomes that were confirmed as key to sustainable long-term economic outcomes. Just a few examples include the number of new customers gained by clients of EDA-supported business and technology accelerators, types of new skills/certifications acquired through EDA-supported workforce projects, and wage/income changes in jobs created through EDA investments. For more information on EDA's non-infrastructure metrics see <https://www.eda.gov/impact/performance/gpra>.

The addition of this new suite of non-infrastructure metrics provides a comprehensive compliment to the standard jobs and private invest metrics of EDA's construction grant portfolio (collectively serving as EDA's Government Performance and Results Act (GPRA) metrics). EDA believes that these metrics reflect the best approach to measuring the impact of all types of economic development capacity building efforts.

In addition, EDA (in partnership with Argonne National Laboratory) recently launched the Economic Development Capacity Index (EDCI), which can assist economic development stakeholders by characterizing local economic development capacity across the United States. The EDCI is intended to support the analytical needs of multiple audiences. For communities, Economic Development Districts (EDDs), and other local or regional stakeholders, it provides a data-driven estimation of capacity, including relative strengths and potential areas for growth or maturation across five capacity areas composed of 53 unique indicators (<https://disgeoportal.egs.anl.gov/portal/apps/experiencebuilder/experience/?id=2f5c49623f354a8cbc95414784ca3e34>).

2. Grid modernization and security are top priorities of mine. Shortly before our first hearing on this issue last June, the attack on the colonial pipeline had a huge impact on North Carolina. And just a week and a half ago, another attack on a power station in Moore County left tens of thousands of North Carolinians without power for days. North Carolina also struggles with climate resilience, suffering damage from frequent flooding and hurricanes. The electric grid is an example of a technology and investment decision that affects a range of national priorities from national security to the economy to equity. Last June, we heard in Dr. Fuchs's testimony about the federal government's limited experience with and capacity to handle large-scale tech decisions.
  - a. Given these issues, what expertise can the federal government draw upon to develop a comprehensive strategy for maximizing an investment in the grid?

**Response:**

While EDA has funded projects to help harden infrastructure or diversify electrical

generation capabilities in communities to enhance resiliency to disasters and climate change, the Department of Energy has taken the lead on grid modernization. The Grid Modernization Initiative is a DOE-wide initiative that brings together experts, technologies and resources to advance grid modernization efforts. For more information see <https://www.energy.gov/gmi/grid-modernization-initiative>.

3. A strong research university is the cornerstone of any successful regional innovation economy. Silicon Valley has Stanford and the UC system. Massachusetts has MIT. North Carolina has NC State, UNC Chapel Hill, and Duke, which form the corners of the research triangle.
  - a. How can research universities strengthen their role in helping to anchor local and regional innovation economies?

**Response:**

For over 30 years, EDA’s University Center (UC) program has played a critical role in linking institutes of higher education with local units of government, private sector companies, and non-profit regional organizations to foster economic and business development. By making the resources, research, expertise, experience, and capabilities of the higher education system available to areas suffering economic distress, the UC program can be a game changer for communities looking to capitalize on opportunities, address problems and overcome economic challenges.

EDA is proud of the long-standing success of its UCs, and is continuously seeking ways to improve capacity for providing technical assistance to their communities and businesses. Through its Research and National Technical Assistance program, EDA awarded Virginia Tech and the University Economic Development Association (VT/UEDA) a cooperative agreement focused on strengthening the current UC portfolio.

With the goal of improving equity and resilience within communities, VT/UEDA is designing a University Center Cohort, which will convene current UCs. The program will emphasize information-sharing across the UC network to identify and document key challenges, opportunities, and emerging practices. Through this work, VT/UEDA will create opportunities for peer-to-peer engagement between UCs including webinars, in-person events, and virtual working sessions. Additionally, VT/UEDA will capture, elevate, and share UC findings in newsletters, blogs, and reports to strengthen and eventually grow the program.

EDA also helps localities and regions start and grow their innovation economies by directly funding programs that support innovation ecosystems as part of its suite of tools and touchpoints to support technology-based economic development (TBED), one of EDA’s seven current investment priorities. EDA’s Build to Scale (B2S) program, led by EDA’s Office of Innovation and Entrepreneurship (OIE), funds a broad array of organizations—including many research institutions—to create and expand services that help technology entrepreneurs start and scale technology-driven businesses. These businesses strive to fuel high growth with innovative technologies, often developed within research institutions or based on their discoveries, and in turn create high-skill and high-wage jobs, economic opportunity, and the industries of the future. The research institutions and other organizations that receive these grants operate initiatives to unlock investment capital across a region or sector, operate programs to accelerate company growth, empower the next

generation of entrepreneurs, or otherwise enable technology commercialization, including by making available necessary but expensive equipment for testing and demonstration. Beyond the B2S program, OIE also manages the STEM Talent Challenge, through which EDA funds research institutions and other organizations to increase the pipeline of talent that technology entrepreneurs need to grow their companies and raise capital.

*Responses by Mr. David Spalding*

U.S. HOUSE OF REPRESENTATIVES  
 COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY  
 SUBCOMMITTEE ON RESEARCH AND TECHNOLOGY

*“Building Regional Innovation Economies Part II”*

Responses for the Record:**Submitted to Chairwoman Haley Stevens**

by Mr. David Spalding

Raisbeck Endowed Dean of the Debbie and Jerry Ivy College of  
 Business Interim Vice President of Economic Development and Industry  
 Relations Iowa State University

1. A strong research university is the cornerstone of any successful regional innovation economy. Silicon Valley has Stanford and the UC system. Massachusetts has MIT. North Carolina has NC State, UNC Chapel Hill, and Duke, which form the corners of the research triangle.
  - How can states help strengthen their research universities’ capacity to support increased regional innovation?

States can help strengthen their research universities’ capacity to support regional innovation by actively and proactively supporting what we believe at Iowa State is at the core of our Land-grant mission— access, affordability, and completion of a college education by fostering an innovative mindset, supporting commercialization, and working to provide services to strengthen regional economies and creating avenues for workforce opportunities.

These concepts can be further bolstered by consistent funding and incentives for universities both to work with industry partners and to stimulate the commercialization and tech transfer process of new ideas. The federal government plays a significant role in working with states in cultivating an environment that supports the creative and innovative mindset. Great strides have been made in the last 20 years or so, but there is much work to be done.

An example of this is our work to bridge the gap for faculty and post docs following the completion of the National Science Foundation’s (NSF) I-Corps program, an immersive, seven-week experiential training program that prepares scientists and engineers to extend their focus beyond the university lab. Following that along the continuum, we created an accelerator, the Startup Factory, and most recently we added a post accelerator program called Go 2 Market, all intended to bring university intellectual property and innovations to the market. To date, Iowa State’s I-Corps has trained more than 200 participants, and they have earned more than \$3.2 million in funding to date and launched 12 startups. Iowa State’s Startup Factory has launched more than 100 startups since the program’s inception in 2016, and those companies have earned more than \$50 million in external funding to date. Grants from the NSF and Economic Development Administration have been important to all three of these programs.

2. North Carolina has the largest manufacturing workforce in the southeast. The majority of NC manufacturers are small businesses. Local business buy-in is crucial to a successful stand up of a regional innovation economy.
  - o What role can anchor universities have in facilitating that engagement and furthering equitable regional growth?

Iowa is similar to North Carolina, in that it is a state that is historically rich with small to mid-sized manufacturing companies. Iowa State utilizes its ISU Extension and Outreach, Center for Industrial Research and Service (CIRAS), and Small Business Development Center (SBDC) networks to reach manufacturing companies and small businesses in every county in Iowa, at their home location. CIRAS' five-year impact number with manufacturing companies is \$2.8 billion, with those companies reporting more than 30,000 jobs created or saved, and 4,400 distinct clients served. Over the last five years, we have enhanced collaboration among our economic development entities.

One example of this is our SBDC Rural Business Innovators accelerator, which provides customized, one-on-one counseling and group training to help rural tech/innovation entrepreneurs develop their business ideas and create jobs in rural Iowa. The program is based on our very successful Startup Factory program. We have had 22 participants go through this program since 2020, and five more in the program now. We share curriculum, instructors, and space with other economic development entities, and we are doing this where these entrepreneurs are and where more jobs need to be created— in the rural parts of our state. In 2022, the program expanded to include building prototyping capacity to help entrepreneurs test their product using flexible, fast, and affordable platforms offered to graduates of the program.

*Responses by Ms. Linda Olson*

*Thank you, Representative Ross, for your great question.*

*In my role as CEO of Tampa Bay Wave, I am proud to report that my organization has spent the better part of the past eleven years building regional coalitions involving both the private and public sector in order to help develop our region's innovation economy. Despite the incredible track record I am often asked to speak about, I can assure you that regional innovation economy building is no simple task, but one that requires a long-term outlook and commitment, as well as community-wide collaborations.*

*While my organization does not focus on the manufacturing sector, so I really cannot speak to that specific industry, I can try to address your questions about the role of small businesses, in general, in developing regional innovation economies. Small businesses of all types are the backbone of the U.S. economy, representing the majority of new job creation. Small businesses also play an important role in creating opportunities for economic mobility, as well as regional economic growth.*

*If I could be so bold as to make suggestions for the U.S. Department of Commerce in these efforts, from my experience, I believe there are a few areas that deserve more investment. First, I would recommend efforts that can increase the supply of skilled labor, including apprenticeship programs in critical industries like manufacturing, cybersecurity, and more. Second, expansion of early stage capital access is critical to the formation and growth of small businesses, including the expansion of capital access for under-represented entrepreneurs, as well as for SBIR/STTR grant programs. In other words, there is still a significant shortage of capital opportunities for small businesses, especially those that focus on high-growth technology such as in the clean-tech, cyber, fintech, and healthtech sectors. Third, the biggest impact will come from efforts that are collaborative in nature, so I would recommend investing in large private-public partnerships that support cutting-edge research and small business formation. Finally, from my experience working with under-represented tech entrepreneurs, programs that are focused on removing barriers can make a significant difference on regional innovation economies. Inclusive regional economies are those that maximize the opportunities for economic mobility and generate the greatest return on investment.*

*Again, thank you for the question and the opportunity to lend my experience to the greater good of the United States and communities throughout.*