

National Commission on Innovation & Competitiveness Frontiers

Key Takeaways from Phase 2 Working Groups



Working Group 4

The Future of Place Based Innovation: Broadening and Deepening the U.S. Innovation Ecosystem

Session 4: June 5th, 2024

This Working Group session focused on strengthening local innovation ecosystems by enhancing community readiness, including digital infrastructure and local financing capabilities.

I. KEY THEMES

Working Group discussion identified several key themes during this session:

- 1) **Expanding and improving infrastructure** underlying community readiness for innovation, including digital and physical infrastructure.
- 2) **Creating locally-relevant regional innovation toolkits** that local leaders can use to address specific conditions, needs, and opportunities in their communities.
- 3) **Building management and leadership skills in young people** to meet current workforce needs and allow young workers to thrive in workplace environments.
- 4) **Implementing innovative financing models** to drive more capital into innovation and create sustainable financiers ecosystems.

II. PRELIMINARY IDEAS & POTENTIAL RECOMMENDATIONS

Expanding and improving infrastructure

- Data infrastructure is an important aspect of readiness for any community to engage in innovation. Secure and fast wireless connections, for example, help households across the country participate in innovation, even when they might not live near major cities. The federal government recently invested in the physical infrastructure underpinning data (e.g., broadband, fiber optic cables, and 5G networks) through the BIL, CHIPS, and IRA laws, but more investment may be needed, particularly in rural communities.

- In addition to physical data infrastructure, digital infrastructure – the data and administrative systems allowing for the storage, transfer, and access of data – is equally important. However, this aspect has not received meaningful federal investment, despite the existence of aging systems that are becoming unruly.
- For a data-rich innovation environment, data should be collected and shared among multiple stakeholders. For example, financial and staffing information from businesses can help to understand diversity and equity in firm ownership and operation, which can inform government and industry planning efforts. The government can play a role as a data arbiter, collating and sharing data across multiple entities.
- Public data collection agencies like the Bureau of Labor Statistics (BLS) and Census Bureau are instrumental in providing reliable statistics to inform policy and economic decision-making. However, funding challenges have led BLS and Census to reduce the sample size in the Current Population Survey – a key tool for benchmarking critical statistics. This sample cut is symptomatic of a larger issue in federal statistics; each agency needs innovation in survey methods, but lacks the funding to implement these plans. In fact, agencies are facing budget cuts and attempting to manage a growing data enterprise with a shrinking level of funding. Recommendations to improve federal statistical systems include:
 - Increased funding levels for statistical agencies. A modest budget increase of \$500M-\$1B, spread across several agencies, would help support existing data collection methods and allow for innovation in survey methods.
 - Legislative reforms for secure, responsible data sharing across agencies. Many agencies are prohibited by law from sharing data with each other, resulting in redundant data collection that often yields very different results. Data sharing reforms between agencies would reduce redundant costs and improve the quality of data collection and analysis.
- “Heavy” infrastructure – including roads, bridges, and water systems – is also needed to prepare a community to fully engage in innovation. If access to water or transportation is unavailable, participating in innovation is impossible. Aging systems need to be updated or replaced, and for both older and newer systems, investments in climate resiliency are necessary. Climate resiliency measures will ensure that the investments made in infrastructure today will remain valuable in the years and decades to come.
- A reliable and affordable housing supply is also important for increasing access to innovation. Greater access to housing can attract highly qualified or skilled talent, and increase the number of diversity of people entering the innovation workforce talent pool. The housing challenge is particularly acute in certain communities and regions, including the Northeast.

- Oftentimes, innovation is the response to local challenges. For many regions, rather than simply attracting data centers, innovation means deploying new and emerging solutions to meet locally relevant challenges. For example, in Vermont, a local power company is leveraging emerging technology to take whole neighborhoods of houses off the grid and onto batteries, alleviating grid stress. These types of specific, innovative solutions to meet local challenges at the intersection of infrastructure and technology should be considered innovation and supported as such.

Creating locally-relevant regional innovation toolkits

- Regional and local leaders need better tools to build thriving innovation ecosystems in their communities. An innovation toolkit – a set of solutions, best practices, data, and technical support – can help leaders implement and actualize visions for local innovation ecosystems. The toolkits can be developed nationally, but should be tailored to each region’s unique challenges, opportunities, and needs.
- When developing innovation toolkits, it is important to recognize that success looks different from region to region. Defining a successful innovation ecosystem at the national level can help to provide goalposts, but should not be uniformly applied to each region. Similarly, necessary or valuable infrastructure may vary significantly between regions. Of course, many challenges (e.g., housing) are shared across regions, and solutions and best practices can be adopted from other regions. Ultimately, arming regions with tools and potential solutions rather than prescribing actions will allow each region to achieve a successful innovation ecosystem as defined locally.
- One important piece of a regional innovation toolkit is data, and the ability to understand data. Utilizing regional workforce and economic development data is critical for leaders to understand and address local challenges and opportunities. Regional and local leaders need better education and training on how to access, understand, and leverage available data.
- Regional and local leaders are being faced with rapidly evolving trends in artificial intelligence (AI) and big data. However, many leaders do not have a clear understanding of what AI constitutes, the opportunities and challenges it presents, and the implications for economic development planning. An effective innovation toolkit will provide tools, educational materials, and best practices to help leaders understand how communities can leverage AI to advance innovation. When utilized properly, AI is an effective, widely available tool that smaller communities can use to participate in innovation.
- State and local partners that work with federal agencies need capacity building programs. These programs will clarify details of the partner agency’s programs, grant writing and compliance, performance monitoring and data-collection, data-driven decision-making, and responding to economic scenarios. This need is particularly acute in traditionally underserved communities. Federal agencies should allocate resources

for capacity building amongst these partners, and the Economic Development Administration or the Regional Commissions should lead and coordinate these efforts.

- Inclusivity in innovation is often-cited as a goal, but can be difficult to implement in practice. Education is important to help local leaders understand the value of inclusivity and diversity, and the many dimensions where inclusivity issues may arise. However, regions also need technical support to implement their inclusivity visions. Understanding disparities, identifying communities for active inclusion, and implementing these programs can be difficult, and technical support can help regions achieve progress more effectively.
- Some communities are employing a systems thinking approach to innovation that focuses on applying innovations within existing systems (e.g., energy, healthcare etc.). First, a systems maps is created to understand what systems are at play, connections between systems, and where innovations might fit in. This mapping exercise helps to identify the solutions and recommendations that can and should be put into practice. This approach helps to move faster on targeted innovations and ensures a seamless fit into existing systems. Best practices around systems thinking and mapping should be included in innovation toolkits.

Building management and leadership skills in young people

- Many students and professionals lack adequate leadership and management skills, but this gap does not receive a lot of attention. While technical skills are important to build, so too are the 'soft' skills that underlie professionalism and the ability to navigate complex work environments. Many companies, especially small- and medium-sized businesses, have cited a lack of these skills in both entry-level workers and more experienced employees. This skill gap delays the advancement of existing employees and creates a risk of a shortage of first-line supervisors and mid-level technical workers who require the 'soft' skills.
- Structured career pathways for existing employees can help to build these skills before they are needed, but these pathways often do not exist. In addition, education and training providers should incorporate more work-based learning experiences (for both future and existing workers) to help workers develop emotional and management skills.
- Policymakers should consider tying funding for education and training programs to evidence of anticipated job and career demand, including in the reauthorization of the Workforce Innovation and Opportunity Act (WIOA) and the Higher Education Act (HEA). This approach would fund programs that lead to industry-demanded jobs and skills, including leadership and management skills.
- Policymakers should consider offering more localized earn-and-learn experiences and business cohort models for entry-level workers, incumbent workers, and students.

These programs can also be an effective avenue for teaching high-demand technical skills that are constantly evolving.

- In addition to creating a pipeline of workers, the nature of work may need to adapt to better fit the skills and inclinations of workers. For example, one program hired neurodivergent people to do data-focused jobs that other workers were not interested in. Implementing these sorts of programs to match workers to jobs that best fit their skills and personalities will help bring a greater diversity of people and skills into the innovation workforce.

Implementing innovative financing models

- Innovative approaches to funding can help communities gain access to new streams of capital, especially when government support is unavailable. For example, a combination of impact investing and philanthropic supports – targeting the bottom of the capital stack – can help direct funding to important causes, knock down the cost of other financing, and perpetuate more philanthropic work. This approach also helps to avoid debt-financed growth that can endanger businesses seeking to make transformational products with longer time horizons.
- Creating and supporting a financiers ecosystem may be even more important than unlocking capital in the short-run. A vibrant and self-sustaining investment ecosystem will allow communities to invest in new projects, even without government support. Programs like the State Small Business Credit Initiative (SSBCI) channel funding to small businesses and communities, but also create a network of investors and entrepreneurs that can support future investment.
- Policy supports are also important for guiding the development of investment ecosystems. Local tax policies and other local policies can heavily affect how much investment a community or region receives. Policymakers should consider creating and updating local policies to encourage the development of financial ecosystems.