



Cluster-Based, Inclusive Regional Economic Development

Lessons From California's Inland Empire

AUTHORS

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Alison Schmitt

Associate Director, JFF

Molly Dow

Senior Program Manager, JFF

Sanjana Seth

Senior Program Manager, JFF

Acknowledgments

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Introduction

As we continue to navigate the effects of the COVID-19 pandemic and growing economic inequities, regions across the country are looking to build back better—in ways that produce more resilient economies, quality jobs, and equitable economic opportunity. One economic development strategy supported by the U.S. Economic Development Administration (USEDA) is the formation of regional industry clusters. This concept has been around for decades, with notable examples in the development of the technology cluster in California’s Silicon Valley and in Boston, Massachusetts, where a life sciences cluster is centered. Other models can be found in various stages of development across the country, including in Milwaukee, Wisconsin; Syracuse, New York; Cleveland, Ohio; and Fresno, California.

Theoretically, the formula for cluster development as a tool for economic growth is straightforward—think tanks, such as the Brookings Institution, and academic leaders, such as Michael Porter of Harvard University, have produced extensive, well-researched reports on how to define and grow an industry cluster.¹ However, Silicon Valley and Boston, which are both home to successful clusters and strong economic growth, notably still experience extreme inequality. For example, the top 16 percent of Silicon Valley households hold 81 percent of the region’s wealth, while the bottom 53 percent hold just 2 percent.² Inequity is further highlighted when we look at both race and gender. Silicon Valley men are paid 61 percent more than women, and women in computer and technology roles in Silicon Valley still earn only 82 cents for every dollar that men earn. Further, Black, Hispanic, and Native American women accounted for 18 percent of the college-age population in 2013 but earned only 6 percent of computing degrees and 3 percent of engineering degrees.³ These figures indicate that the traditional method of cluster-based economic development has not closed racial and gender equity gaps. Research shows that economically healthy cities are more inclusive than distressed ones, highlighting the critical and layered importance of pursuing an inclusive approach to developing industry clusters, where widespread and shared prosperity can lead to even further economic growth.⁴

So the question is, what does it take for a region to build and sustain an industry cluster while also intentionally producing equitable outcomes for its residents? Jobs for the Future (JFF) has been working directly with practitioners in California who are tackling this very challenge, and we have learned about and identified some exciting and promising practices. This document is intended to serve as a tool for practitioners around the country who also want to implement inclusive, cluster-based strategies to produce economic growth benefiting all residents in their regions.

We will use an emerging model in the Inland Empire region of Southern California called Inland Economic Growth & Opportunity, or IEGO, to explore how a region can develop a cluster-based economic development strategy that prioritizes the triple bottom line of quality jobs, environmental sustainability, and inclusive growth. Located just east of Los Angeles, the Inland Empire represents the combined metropolitan area of Riverside County and San Bernardino County in Southern California, comprising approximately 4.6 million residents across 27,000 square miles. It is one of the fastest-growing population centers in the United States and is expected to grow to approximately 7 million residents in the next 30 years.⁵



Figure 1: Map of the Inland Empire.

What Is Cluster-Based Economic Development?

To understand how a cluster-based economic strategy was applied in the Inland Empire through IEGO, it is important to fully understand what this approach entails and how and when to apply it in practice. The Brookings Institution defines an *industry cluster* as “a group of firms that gain a competitive advantage through local proximity and interdependence,” unlike sector development, for example, which targets the growth of just one existing industry.⁶ Successful cluster efforts are private sector driven, public sector funded, and college and/or university supported. In addition, cluster-based economic development is most effective when it prioritizes traded-sector clusters where the potential for economic growth is greatest.

A traded sector is a sector or industry that sells or exports its own products outside the region where they were produced, such as to other states or countries.

Successful cluster models improve the productivity of firms both within and outside the cluster, attract talent, increase employment opportunities, improve job quality outcomes for workers, and encourage innovation across the cluster. These impacts contribute to regional economic prosperity and positive economic growth.

Is It a Cluster, or Is It a Sector?

The following outlines how to determine whether a region could benefit from a cluster-based economic development approach, what those strategies could look like, and the potential impact of those initiatives compared with a sector-based model.



Figure 2: Cluster versus sector development.⁷

For an opportunity to be considered for a cluster-based approach, two foundational criteria must be met: geographic proximity and economic interdependence.⁷ In other words, firms must be located within the same geographic region (e.g., county) that can gain a competitive advantage or outperform competitors in the region, and they must rely on the same or a similar economic network. Such clusters can result in increased innovation (such as the development of new products, services, or research due to the collocation of resources and collaboration across firms), increased productivity (such as the ability to produce more goods and services), and higher wages, among other benefits, by allowing firms across industries to benefit from shared technology, information, networks, talent, and resources.⁸

Silicon Valley offers a classic example of an industry cluster. The high-technology landscape in Silicon Valley has grown due to cross-industry collaboration, idea sharing, and proximity to both research universities and a variety of postsecondary institutions. The growth of this industry cluster resulted from a combination of several factors, including increased funding from the U.S. Department of Defense in the 1950s and an increase in demand from the private sector for more technology development. Since then, there has been continued coordination among the public sector, education institutions, and the private sector, which has allowed the region to see economic growth.⁹

Once an opportunity is identified as having cluster potential, leaders in that region (such as collaboratives like IEGO, local governments, and employers) can consider several different economic development intervention strategies to leverage that cluster to promote inclusive economic growth. These strategies can include straightforward information and network sharing across companies in the cluster, the ability to develop and grow a talent pool in the region with skills that can be applied across different firms, or coordinated capital attraction strategies. In addition, clusters can collaborate with regional partners and universities to foster increased research and development, resulting in innovations from which businesses across the industry can benefit. Strategies can also promote the development of and investment in shared infrastructure for the cluster.

Cluster-Based Example

Another example of a successful industry cluster in the United States is the agriculture technology (AgTech) industry cluster in St. Louis, Missouri. The development of this cluster was supported through a partnership between BioSTL (an organization driving St. Louis's innovation economy across industries through investments, infrastructure, public policy, and more), the Danforth Plant Science Center, and the St. Louis Economic Development Partnership. According to the Brookings Institution, a key consideration when prioritizing cluster initiatives in a region is the growth potential of that industry. St. Louis was a leading candidate for an AgTech industry cluster because it is home to many emerging startup and growth-stage companies in life sciences. The region also has the support of both public-sector leaders and reputable research universities that contribute to the success of the industry cluster. The collaboration among these key stakeholders has resulted in economic growth in the region.

In particular, the U.S. Department of Commerce provided a \$500,000 grant in 2015 to fund the 39 North Master Plan, a culmination of the cluster initiative for economic growth in the St. Louis region. The purpose of this plan is to develop an “innovation district in St. Louis County that is uniquely positioned to advance the region's global leadership in plant and life sciences.”¹⁰ This center includes space for mixed retail, residential, and office space to attract and retain

employees to grow the industry sector even further. Because of this intentional approach to growing the AgTech industry cluster, St. Louis is seen as a global leader in this space.

Sector-Based Example

Not all industries in a region are prime candidates for a cluster-based approach to economic development. Sector-based economic development approaches are often still the optimal strategy to promote economic growth in a region where specific and targeted economic development policies are geared toward supporting multiple key sectors in the region rather than specific industry groups. For example, to promote access to higher-paying jobs, a local government could fund job training efforts to promote the financial sectors in a specific region as a sector-based approach to economic development.

Further, a region that has thriving industries that are promoting economic growth and job creation might lack the necessary factors to have a successful cluster strategy. For instance, a region might have a robust health care industry, as well as increasing demand for health care due to external factors such as demographic shifts (e.g., population growth or an aging population), but it might not be an innovation hub or a global leader in the market. The Greater Boston area, for example, is renowned as a life sciences cluster due to its health care systems, proximity to various universities and research institutions, and public-private partnerships; the Inland Empire's strong demand for skilled health care professionals, however, does not assure that it is suited for cluster development in that area. Some industries are also more suited for sector-based strategies if they have businesses that are in the very early stages of development rather than in the growth or maturity stages. In addition, industries in nontraded sectors that serve local markets only and don't export their products or services (e.g., construction and transportation) might be more suited for sector-based strategies as well.

It is important to note that industry clusters are not usually created from scratch. Therefore, where some regions might have successful industries that could have cluster potential *in the future*, the industry must meet the aforementioned enabling criteria before a cluster intervention can be applied.

A New Approach to Cluster Development: IEGO

In 2015, a cross-sector group of leaders in the Inland Empire region of Southern California came together to solve a longstanding problem: *How do we create more quality jobs in our region, particularly for those without a four-year college degree?* Supported by experts from the Brookings Institution, the leaders who would help establish the IEGO network decided to take a strategic approach to answer this question. This approach was intentionally based on the concept of *cluster strategies*, whereby “public policy and investment foster the geographic concentration of competing firms and complementary activities that generate greater economic value and larger talent pools to access higher-wage jobs.”¹¹ It also focused on *traded industry sectors*, or sectors that generate economic activity by exporting to national and international markets, because of their tendency to pay higher wages and attract resources. The IEGO network also prioritized their core tenets of quality jobs, environmental sustainability, and inclusive growth—a strategy that aims to ensure that all people and communities within the region could benefit from its work.

The first step in this process was to identify key industries for IEGO to prioritize. Using [analysis](#) from the Brookings Institution, IEGO chose to focus on four key sectors: advanced manufacturing, logistics, cybersecurity/IT, and green technology. The sectors were chosen based on existing assets in the region and their potential to produce quality jobs, particularly for workers without a four-year degree, given that almost half of all Inland Empire adults have no postsecondary education.¹²

When JFF joined the IEGO team in 2020 to support the development of implementation strategies across these industries, IEGO was ready to translate the data analysis and regional planning exercises executed to date into an actionable plan. JFF’s approach combined the technical economic development theory of growing industry clusters with critical but often overlooked and underfunded elements that are essential for both the long-term sustainability of such efforts and the provision of equitable outcomes. Such outcomes include and depend on trust building, developing relationships and cross-sector networks, communication, and inclusion.

It is important to note that the development of these cluster strategies occurred during the pandemic. The group of cross-sector leaders who convened as part of this initiative were able to prioritize and elevate this work despite the resulting challenges, from the virtual work environments to the real time economic impact of the pandemic on the region’s communities.

Planning and Implementing a Cluster Strategy: Sustainable Logistics

From the beginning, it was paramount that the approach to strategy development be grounded in the local context of the Inland Empire. JFF worked with the Brookings Institution and key IEGO stakeholders to determine which of the four industries should be prioritized to develop the first investment strategy and implementation plan for the region. While advanced manufacturing, green technology, and cybersecurity/IT were identified as target industries for investment, the logistics industry was selected as a starting point due to the level of regional activity and concentration of both jobs and businesses. The logistics industry has historically been the largest driver of jobs in the region; at the start of 2021, it employed about 1 in 8 workers there.¹³ It holds a vast amount of assets, including a concentration of warehouses, distribution centers, and research institutions that are working on clean technologies to address the industry's environmental and health effects on the region's residents. The region also includes educational institutions from kindergarten through PhD programs that provide related career pathway opportunities, degrees, and credentials to help students enter the logistics industry.

Of the four industries originally identified by IEGO, the logistics industry also had the greatest opportunity for growth, given its critical location and importance in the Southern California logistics corridor: an estimated 40 percent of the United States' goods come through the Inland Empire.¹⁴ This provides immediate potential for national leadership in the logistics space.

In many ways, the future of the region has become inextricably connected to the future of the logistics and supply chain sector. However, it has also given rise to many low-paying jobs that are vulnerable to automation and negative effects on the environment and quality of life. For example, while the industry has seen positive economic growth in the region, the average annual wage for the sector declined from 2001 to 2016, with many occupations failing to provide living wages for the region's residents and workers.¹⁵ For instance, the median hourly wage for some of the most represented occupations in the sector include laborers and material movers (\$15.35) and packers and packagers (\$12.42).¹⁶ With an above-average yet untapped concentration of good and promising jobs for workers with less than a four-year degree, including positions as operations managers and first-line supervisors, logistics holds tremendous promise for IEGO to make real progress in closing the region's equity gaps.¹⁷ This was an opportunity for the Inland Empire to be a leader and implement an inclusive economic development strategy rooted in the community.

To enable all residents to benefit from the logistics cluster, IEGO pursued a triple-bottom-line approach focused on (1) quality jobs, (2) environmental sustainability, and (3) inclusive growth. This approach led to the intentional shift in language from a logistics cluster to a *sustainable*

logistics cluster. A sustainable logistics cluster leverages advances in technology (including green technology, drones, robotics, the Internet of Things, and automation/machine learning) to develop innovations that can be commercialized to grow the economy, improve the sectors and subsectors in the cluster, improve job quality, and provide more opportunities for residents to receive leading-edge training for jobs that are developed and grown in the region. Ultimately, IEGO decided to invest in a sustainable logistics and supply chain cluster because of its incredible potential to transform the region.

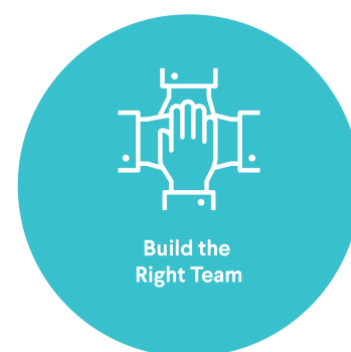
Lessons Learned:

Essential Elements for Launching an Inclusive Cluster Strategy

In July 2020, IEGO began the process of shifting from high-level strategy to implementation. While it experienced some challenges, especially in light of the COVID-19 pandemic, IEGO learned how important a few key factors can be in planning and executing an inclusive cluster effort grounded in the triple-bottom-line approach. These factors included building the right team, working on concrete deliverables, and celebrating short-term wins. While IEGO continues to iterate on and evolve its cluster strategy, we believe the following lessons can serve as useful guideposts for future cluster efforts in the Inland Empire and other regions across the country.

Build the Right Team

With varied entry points and interest on a group and individual level, any network seeking to advance a cluster must learn to engage the right people at the right time. Industry voices need to have a specific role. Community-based organizations (CBOs) need to be brought into the process early on to establish and maintain connections with community needs, concerns, and aspirations. The public sector, as well as education institutions, must be engaged to ensure that economic development strategies are connected to broader regional plans (e.g., that they can be aligned with a Comprehensive Economic Development Strategy) developing and incorporating explicit pathways to job opportunities. To gain momentum in turning conversations and vested interests into action, the strategy and the teams that execute it must be structured to highlight and empower all members.



Start With the Early Innovators

To grow a cluster, particularly without extensive upfront funding, it is crucial to identify local leaders, experts, and stakeholders who believe in the work, are deeply connected to the region, and are determined to push it forward. These early innovators are the first champions of a cross-sector effort—the ones willing to take a risk and roll up their sleeves, even when a clear direction has not yet been set. In the case of the IEGO team, this group first took the form of the Sustainable Logistics Core Team. JFF worked with IEGO to conduct a scan of the region and identify cross-sector leaders and experts in the logistics industry—including those in higher education, K-12, and CBOs, and within the industry itself—to make up the initial core team.

The IEGO network had already convened more than 60 regional stakeholders to discuss the promising opportunities of this strategy, but to advance the cluster, a committed group of leaders, implementers, and co-designers needed to be formally identified and mobilized. Despite the intention to make this core team representative across sectors, a majority of the initial members represented higher education for several reasons. For instance, many industry, public-sector, and CBO partners were in crisis and/or rapid-response mode during the pandemic, without time to devote to longer-term efforts. Additionally, there was some hesitancy to jump into design and innovation mode before foundational relationships and trust were established with some community partners. Despite the absence of some of these voices at first, the early participants were critical to setting ideas in motion while new partnerships were built in parallel.

Continue to Build Trust and Expand Agile Partnerships

To expand the core group from the early participants to include other critical voices, partners need to prioritize developing strong relationships centered on building trust and demonstrating value. Setting an inclusive table requires conveners to show up as conspicuously reliable partners who are always willing to take the time for a one-on-one conversation, are dependable and consistent in their actions, and hold spaces for difficult conversations between stakeholders who do not always see eye to eye. It requires radical hospitality—not just inviting community groups to participate in economic development initiatives, but also providing them with important leadership roles and equitable decision-making authority. To share in the potential benefits of economic development, these historically excluded groups—and the constituencies they represent—must be meaningfully included in the design and implementation process as owners, not observers.

For IEGO, one way this manifested was through key additions to its overall governance team and to the Sustainable Logistics Core Team. In 2020, CBOs, including Youth Action Project (YAP) and Young Visionaries Youth Leadership Academy, were invited to join IEGO alongside public-sector and industry leaders. According to Alex Avila, a grassroots organizer, professor at

California State University, San Bernardino (CSUSB), and special project consultant to YAP, “We’re not usually invited into these spaces. IEGO has provided YAP not only a voice but a leadership role in this effort.” Without including groups like YAP in the design of IEGO’s strategies, there is no guarantee that the economic benefits generated will translate to wealth-building opportunities for the most disconnected residents. But Avila’s participation in this effort led him to organize a coalition with other local CBOs called the Multicultural Collective (formerly known as the Black and Brown Collective), with the goal of making sure that Black and Latinx residents have access to the quality logistics jobs and training opportunities that IEGO is working to generate. Without CBOs at the decision-making table, it is unlikely that the group would have developed a project that has such an intentional equity focus with clear support for and the involvement of historically marginalized and underserved communities.

The process of expanding partnerships can take many forms. Groups like IEGO operate as a network, which requires them to be fluid to some degree. Building agile subteams that can come together when needed is key for increasing the overall ability of the network to achieve tangible results, like launching new programs or securing funding. The role of industry, for example, is crucial for the success of the cluster, and that means finding the right way and time for industry stakeholders to engage. This could take the form of individual champions, a dedicated industry advisory council or work group, or specific outreach for inclusion in governance groups, as needed.

Engage Stakeholders at All Levels That Are Empowered to Act

One challenge in building an action-oriented, cross-sector team is that regional conveners like IEGO typically have no direct authority among team participants. These entities are truly reliant on the people who participate in them, who see the value of the collective work to their individual jobs, and/or who have requests or support from their own leadership to participate. One way to build ownership and accountability within groups like IEGO is to engage directly and secure the support of leaders at all levels of an organization, including executive-level leaders as well as implementers. Gaining the trust and support of executive leadership across diverse organizations and institutions can increase influence on other regional executives who may be needed to move the work forward. It may also help garner support from governmental and elected officials.

Getting executives on board is also critical to ensuring that the implementers, or individuals who have the skills and capacities to carry out cluster-related activities, are empowered to make time and activate resources for this regional work as part of their everyday job responsibilities. CSUSB provides an excellent example through its participation in IEGO at many levels. CSUSB President Tomás Morales was an early supporter of IEGO and remains deeply committed to it. His attendance at key meetings, his eventual nomination to the steering committee, and his

overall leadership empowered members of his institution—including professors, administrators, and leaders of its various academic centers—to prioritize IEGO within their own work. Thus, CSUSB stakeholders have been involved at every level of governance. They have also acted as key implementers for funding applications; for example, the Leonard Transportation Center played a critical role as a project lead for the USEDA’s Build Back Better Regional Challenge application. According to President Morales, “I encourage my leadership team, faculty, and staff to participate in mission-aligned IEGO activities because working with leaders throughout the Inland Empire to create a strong regional economy with high quality jobs is essential for the future success of CSUSB students and their communities.” CSUSB’s involvement is just one example of how explicit alignment between cluster priorities and organizational and role priorities are key complementary components as a team grows and moves toward cluster implementation.

Work Toward a Concrete Deliverable to Become Investment Ready

With such a large task at hand—to develop an implementation plan for the sustainable logistics industry in the Inland Empire—even the early innovators would need anchors and tangible goals. In fact, working toward a concrete deliverable was one of the momentum builders IEGO needed in order to transition from idea to collaborative reality.

Once a vision for the cluster was set, the dedicated cross-disciplinary experts of the Sustainable Logistics Core Team were mobilized to support the co-design of an investment plan—despite tremendous challenges raised by the pandemic. Grounded in the idea of building and investing in a sustainable logistics and supply chain consortium dedicated to triple-bottom-line outcomes, the investment plan provided a road map for future funding opportunities and began to nurture partnerships that have become crucial to the cluster’s planned activities. The core team’s responsibilities pivoted from continued discussion and analysis of the landscape, assets, and challenges toward six virtual action-oriented design meetings over the course of four months in order to co-design an investment plan for the cluster. This inclusive planning process would eventually yield a foundational document and important step forward for the cluster: an investment plan document titled [*Transforming the Logistics and Supply Chain Industry in the Inland Empire*](#). This plan was helpful in both grounding the work around the sustainable logistics and supply chain cluster and creating the foundation for IEGO to apply to the USEDA’s Build Back Better Regional Challenge.

Celebrate Short-Term Project Wins to Build Momentum

Inclusive cluster development takes time. Building and developing the foundation of partnerships, co-designing investment plans and fundable components, and lining up with the right opportunities for capital investment can take years. It is imperative that network members celebrate short-term project wins to keep stakeholders, leaders, and implementers engaged and

dedicated to forward motion. IEGO has done this in a few significant ways. Once the sustainable logistics investment plan was completed and shared publicly, there wasn't an immediate funding opportunity for the entire proposal. However, there were individual pieces that had the potential to be developed. JFF collected high-level funding ideas through a call for proposals from people who had been involved in the core team as well as others in the IEGO network who had been engaged in the process thus far. This yielded several smaller proposals that were used to apply to funding opportunities, including one secured from the Kresge Foundation in November 2021 that focuses on CBO and workforce partnerships.

Exercises like this can highlight what can be considered partnership wins. For example, this has taken the form of regional institutions like the University of California, Riverside, and CSUSB coming together to collaborate on a California Innovation Hub application. It has helped harness the energy of 87 letters of support for IEGO's Build Back Better application into implementation and action groups. And, it has helped shape how the region shows up for events like the California Economic Summit, where IEGO was featured in several panel conversations. An essential piece to this success has been and continues to be strong communication, which has been imperative to building and maintaining momentum through these partnership wins. It can take the form of written updates (such as internal newsletters or press releases) or verbal updates at regular meetings. Celebrating the successes of individuals, communities, and institutions helps connect the dots around collective progress—and potential.

Conclusion

The key to getting to inclusive outcomes through an economic development strategy is to align it with workforce development and prioritize place-based conditions that affect economic mobility. It's about ensuring that *quality* jobs are being created in the region and that residents—especially those from historically disadvantaged communities—have access to these jobs via strong and explicit educational pathways, industry-aligned training programs, and culturally competent supports to ensure their current and future success.

Developing an inclusive cluster development strategy requires a broad, networked approach that involves stakeholders from a variety of sectors and backgrounds. For example, elevating the voices of workers and communities in a region *along with* industry leaders can ensure that solutions are developed that serve the needs of the community and address industry demand for jobs. This results in greater economic parity, growth, and prosperity for all residents in a region than could be achieved through traditional economic development approaches, which often favor organizations and individuals with high levels of power and wealth.

The Inland Empire continues to learn from other cluster development efforts across the country to identify an approach that makes sense for the region. So, what's next for IEGO? The regional network continues to seek a blend of public, private, and philanthropic funding for the sustainable logistics cluster strategy, as well as other initiatives around cybersecurity, advanced manufacturing, and green technology that support inclusive economic development. As plans evolve from design to implementation, the network is moving toward tangible outcomes and further defining what its impact will look like on the ground. IEGO is forging ahead with activities that will support the region's industry partners, small businesses, workers, learners, and communities through thoughtful collaboration, strong relationships, and continued trust-building to achieve equitable and inclusive economic growth.

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