

Overarching Narrative

Synopsis: The Bold North BioInnovation Cluster



With the support of EDA’s \$57M catalytic investment, MSP is poised to unlock step-change economic growth through the proposed bio-innovation cluster and become an example of radically inclusive growth for the nation.

The Bold North BioInnovation Cluster projects are located in the Minneapolis-St. Paul-Bloomington, MN-WI Metropolitan Statistical Area (MSP), a 15-county region. MSP is reckoning with longstanding racial inequities brought into the national spotlight after the recent unjust killings of George Floyd, Daunte Wright, and too many others. While the region has attracted recognition as a thriving economy, under the veneer of affluence lie some of the most severe racial disparities in the country in employment, wages, education, and wealth. In 2019 the racial wage gap for workers in the region was 32.7%, the Black poverty rate was 25.4% (more than 4x the white poverty rate), and Black unemployment in Minnesota was 5.5%, nearly twice that for whites. The coronavirus pandemic disproportionately impacted people of color in MSP, deepening these disparities further. As a region we are uniquely motivated to make transformational progress on racial equity and believe we can create a new paradigm of inclusivity in economic growth that will serve as an example for the nation.

Bio-innovation in MSP builds from our regional strengths in health and agriculture to build a resilient “economy of the future.” Bio-innovation in MSP will be a people-centered growth cluster focused on the development and deployment of the next generation of bio-based technologies and businesses. In a May 2020 report “*The Bio Revolution*,” McKinsey Global Institute identified 400 use cases for deploying existing technologies related to bioengineering and biomanufacturing that could have an economic impact of \$4 trillion annually over the next 10-20 years. Most of these use cases are in human health, food and agriculture, and advanced manufacturing. **We aim to harness advances in biological sciences to reimagine existing**

sectors of strength in our region. To do this we will invest in bio infrastructure including common pools of talent, entrepreneurship and knowledge, computing and data capabilities, and the physical spaces to enable commercialization and production of bio products.

Bio-innovation is a necessary focus for our region. Given the predominance of health and agriculture employers in our economy, we will either be leaders of the global bio-revolution and reinvent these sectors using biological advances or endure the consequences of disruption from other regions and other countries. We project the benefits of bio-innovation for our region will be up to 27,000 additional good-paying jobs and \$30B in new economic output over the next 10 years, and strengthened resiliency to outsourcing and automation. Critically, bio-innovation can be transformed from a historically inequitable economic sector into an engine of inclusion by preparing historically underrepresented populations for high-demand bio-occupations. Embedding bio-innovation in multiple sectors also creates economic resilience for workers in the event of a downturn in any one sector.

The region's strong base of bio-innovation assets, including industry leadership, talent, education and research, entrepreneurship and innovation, and infrastructure create a clear competitive advantage to kickstart growth. However, EDA's investment is necessary to 1) fill critical gaps in the innovation ecosystem that private and other public monies will not address (e.g., advancing incubators and commercialization vectors for innovations across the "valley of death" between research and commercial production) and 2) enable *equity-centered* growth. We forecast EDA's investment will serve as a catalyst for the creation of 7,000–15,000 additional jobs and \$2 billion–\$9 billion of incremental GDP growth over the 5-year funding window.

The Bold North BioInnovation Cluster coalition is diverse, dynamic, and growing. Leaders and partners engaged in the *seven component projects* include community-based organizations (Pillsbury United Communities, Summit Academy OIC, Genesys Works, American Indian OIC, Northwest Indian CDC), educational institutions (University of Minnesota, Minnesota State, Agricultural Utilization Research Institute), development partners (University of Minnesota Foundation), and entrepreneurial support organizations (University Enterprise Labs).

Our coalition goes far beyond component project leaders and their partners: 55 additional organizations made formal commitments to invest in the BioInnovation cluster (see attached letters). This growing, cross-sector coalition includes 13 bio-innovation employers, 5 foundations and community-based organizations, 7 educational institutions and training providers, 6 land developers, 24 economic development, chamber of commerce, and business success organizations, and 6 governments and sovereign nations. ***Commitments documented in partner letters total \$2.1 billion in investment, 3,200 jobs, and 4.8 million square feet of new space for bio-innovation-related facilities***, all of which is in addition to EDA-supported component projects. At a minimum, ***EDA's investment of \$57M will be matched roughly 35:1 by these regional investors***. Partners cited this Build Back Better Challenge and the potential for significant investment from the EDA as their motivation for these commitments. **The seven component projects intentionally complement one another, have aligned equity goals, and collectively accelerate development of talent, new ventures, and markets in the Minnesota bio-innovation ecosystem. The total cost for the portfolio of projects is \$71.7M, of which 79.8% will be funded by EDA (\$57.3M) and the remaining 20.2% funded through local**

match commitments (\$14.5M). Because we are building a talent-focused cluster, three projects provide early exposure, education, and skill development opportunities in bio-innovation occupations (e.g., data scientist, biomedical engineering, lab technician): **Bio Makerspace and Training Center, Bio Talent Pipeline Development Partnership, Higher Education Bio Curricula Alignment and Development.** Our incubator and accelerator projects provide the physical and business support infrastructure to promote entrepreneurship and development of new ventures: **UMF Incubator and Accelerator Building, UEL Wet Lab Addition and Collaborative Space.** The **Agriculture Innovation Scaling & Market Development project** connects our cluster to rural communities and addresses the market gaps in sustainable protein development head-on, critical to turning research into companies. The **Bold North BioInnovation Hub** project creates organizational infrastructure and governance for the cluster, driving accountability, sustainability, and a culture that promotes equity-focused change.

Our project portfolio was designed to implement the regional CEDS and addresses nearly 70% of its 66 action items. Because equity is the cluster driver, each project is designed for inclusion, from stakeholder engagement to strategy planning and project execution. Further, each project incorporates outreach to achieve our ambitious participation goals. Each component project directly addresses EDA’s Recovery & Resilience and Equity investment priorities, and the whole portfolio addresses Workforce Development, Manufacturing, Technology-Based Economic Development, Environmentally-Sustainable Development, and Exports & FDI priorities.

Our definition of success from implementation of the proposed projects and complementary projects would be doubling the rate of job and GDP growth over the next 10 years in bio-innovation sectors, resulting in up to 27,000 additional jobs and up to \$30B in new GDP. *We will know we have attained our ambitious vision of building America’s most inclusive bio-innovation cluster when the proportion of women, Black, Indigenous, Latine, and Hmong people employed in bio-innovation sectors is representative of each community’s population profile in the region.* Each component project has a 50% (or higher) participation goal for our targeted underserved populations to drive the systems change needed to reach this equity goal. These targets ensure project outcomes and benefits are equitably distributed.

The implementation timeline for all projects is detailed in the illustration below.

Bold North BioInnovation Cluster 5-Year Timeline



Location and Region

The Bold North BioInnovation Cluster projects are centered on MSP with intentional impacts throughout Minnesota. Projects are in the Minneapolis-St. Paul-Bloomington, MN-WI Metropolitan Statistical Area, a 15-county region that includes: Anoka, Carver, Chisago, Dakota, Hennepin, Isanti, Le Sueur, Mille Lacs, Ramsey, Scott, Sherburne, Washington, Wright, Pierce, and Saint Croix counties. With substantial regional assets and stakeholder support from companies, educational institutions, nonprofits and foundations, local government and the State, the impact of the cluster will extend throughout Minnesota, including rural communities.

Minnesota has a strong base of regional assets, including industry leadership, talent, education and research, entrepreneurship and innovation, and infrastructure, which will drive the continued success of the cluster. Of the 18 Fortune 500 companies headquartered in the state, half are leaders in health or agriculture industries. Over 4,000 health and agriculture companies operate in the State and many are growing aggressively through bioscience. For example, Cargill and PURIS are leading a bio-agriculture revolution with sustainably produced plant proteins. Our health and device sector is being transformed by fast-growing biomanufacturing companies such as Bio-Techne, Kindeva and Upsher-Smith, which are investing in this region with new facilities and hiring (*see attached partner letters*).

Bio-innovators are able to scale quickly in this region through joint ventures with corporate enterprises - MN ranks 10th in business R&D as a percent of output. More than 20 new venture capital funds launched in the past decade, helping Minnesota startups raise \$6.15 billion over the past five years. The State of Minnesota's "Launch Minnesota" network connects the state's 20+ business accelerators and dozens of additional partners throughout Minnesota. Further, the MSP region has invested in critical infrastructure that will enable cluster growth, including the regional transit system (Metro Transit) and the MSP International Airport. Our growing base of bio-innovation suppliers and location at the center of the globe's most productive agricultural region will accelerate growth of the cluster.

Minnesota has a highly educated populace, ranking second nationally in the percentage of residents with post-secondary degrees. The MSP region is specialized in bio-innovation occupations, such as bioengineering, biomedical engineering, and computer science and analytics disciplines. The University of Minnesota (UMN), a top-10 public research university with more than \$1B in annual research expenditures, has the research capacity to support an emerging innovation cluster and contributes key biotechnology assets and partnerships. UMN, the Minnesota State system, and private colleges including University of St. Thomas and Augsburg University will build a statewide talent pipeline.

Despite these strengths, Minnesota and MSP face economic challenges compounded by growing racial inequities and the pandemic. The racial wage gap for workers in MSP was 32.7% in 2019, with white Minnesotans earning \$17,312 more in median wages than Minnesotans of color. The Black poverty rate was 25.4%, more than 4x the white rate (5.9%) and higher than the national Black poverty rate (22%). In 2019, Black unemployment in Minnesota was 5.5% and Hispanic unemployment was 5.0%, nearly twice that for whites (3.0%).

MSP and the state experienced significant economic distress from the pandemic. MSP GDP fell 4.1% in 2020 (\$16B of lost output), a greater decline than seen nationally (3.4%). MSP unemployment surged nearly 4x to 11.2% in May of 2020. Although it has improved, there are still 100,000 fewer jobs in Minnesota than before the pandemic. Long-term unemployment is still 2x higher than in 2019 and full recovery to pre-pandemic levels of employment is expected to take 6–8 years. MSP is the economic center of Minnesota representing ~70% of the state’s GDP, but economic growth in MSP lags that of peer regions. Pre-pandemic GDP growth was less than half the U.S. average and 75% lower than that of similarly sized MSAs (0.8% in MSP compared to 2.3% nationally and 3.4% in peer MSAs). Current growth still lags that of peers and the U.S. at 4.9% in 2021 compared to 6.7% for peers and 5.7% nationally.

The pandemic disproportionately impacted Minnesotans of color, rural communities, and women, deepening existing inequities. In MSP, 40% of BIPOC workers are employed in the sectors impacted most by the pandemic (healthcare and social assistance, accommodations and food service, and retail). Unemployment insurance claims filed by BIPOC workers rose to 42% of total claims, more than any other demographic and nearly double the share of workers of color in the labor force (24%). In addition, 20% of the state’s population lives in rural communities, which face strong economic headwinds (e.g., less robust employment sectors). In 2021, Minnesota saw the second highest number of farm bankruptcies in the country, and there is a clear need to bolster economic resilience in rural communities.

Also during the pandemic, the unemployment rate for women in Minnesota rose to 1.5x the rate for men, which is of particular significance given that MSP and Minnesota have among the highest female labor participation rates in the country. Employment among women is not expected to return to pre-pandemic levels until nearly 2 years after employment among men recovers. Taken together, these facts **indicate a clear need for strategic and targeted investment to spur economic recovery** in the region and build future resilience.

Private Sector Participation

There are 57 organizations that have documented commitments to the BioInnovation cluster in this application. Organizations represent the private sector, governments and sovereign tribal nations, foundations, nonprofits, educational institutions, and economic development organizations. Through their letters of support, cluster partners indicate commitments to the vision, to participate in component projects, and to make investments in complementary projects. *To date, commitments from regional partners total \$2.1B in complementary investments, 3,200 jobs, and 4.8M ft² of new bio-innovation space.*

Documented commitments that will help realize our vision to build America’s most inclusive bio-innovation cluster include:

- Forge North will connect Black, Brown and women-led bio-innovation startups to the *\$50 million MSP Equity Fund*, a venture capital fund of funds led by Forge North and gener8tor that will attract diverse and emerging fund managers to Minnesota;
- The Shakopee Mdewakanton Sioux Community will *convene all sovereign tribes across the state* around opportunities in the bio-innovation cluster;

- The African American Leadership Forum will raise **\$100 million** to close the economic experience gap between white and Black Minnesotans;
- Master Properties will construct a **180,000 ft² bio technology hub in North Minneapolis** (the City’s largest historically Black neighborhood) to train and employ residents;
- The Minneapolis, McKnight, and Saint Paul & Minnesota Foundations will invest **millions of dollars in economic equity initiatives**; and
- This application includes commitments from multiple employers to invest in DEI, including Mayo Clinic’s **\$100 million enterprise commitment** to anti-racism initiatives.

In addition to equity, substantial hiring, capital investment, and programmatic commitments have been made to grow the bio-innovation cluster, including:

- Commitments to build **4.8 million ft² of new space** across the metro to support cluster growth by multiple development partners, including Measurement Technology Laboratories (MTL)’s 440,000 ft² bio-technology center that will become a landing spot for global companies in our region;
- Commitments by bio-innovation employers to invest at least **\$600 million in new facilities** and expansions and add **at least 3,200 new jobs** over the next 10 years;
- Commitment from Fairview Health Services to redevelop a portion of the former St. Joseph’s Hospital site in a distressed area of downtown St. Paul into a biotech hub;
- Commitment from the University of Minnesota to invest **\$110 million** to build and equip a new Biomanufacturing Innovation Center, enabling technology commercialization.

In addition, **Minnesota Governor Tim Walz will work with the legislature to pass specific programs to support the proposed activities in the application.** The State of Minnesota has already committed \$500 million to match \$5.6 billion in private investment in a joint initiative in Rochester called Destination Medical Center, a partner in this coalition. Other important coalition partners making commitments in this proposal include: Medical Alley Association, Center for Economic Inclusion, Hennepin and Ramsey counties, the Cities of Minneapolis and Saint Paul, and many others.

Sustainability Plan

GREATER MSP has a plan focused on infrastructure, resources, integration and value creation to ensure the bio-innovation cluster grows and sustains beyond the grant period.

Governance is critical to long-term cluster growth and GREATER MSP brings 10 years of experience creating successful regional economic development initiatives to this proposal.

GREATER MSP has a proven model to facilitate cluster governance, active industry engagement, and long-term strategy to drive sustainable growth. This model was built and refined with GREATER MSP’s existing cross-sector collaborations, including Make It. MSP. (talent attraction and retention, 7 years), ConnexMSP (inclusive talent pipeline, 4 years), Forge North (entrepreneurial ecosystem, 5 years), MBOLD (global food and agriculture , 5 years) and others. GREATER MSP will create the *Bold North BioInnovation Hub* utilizing this model.

The Bold North BioInnovation Hub will supercharge long-term growth of the bio-innovation ecosystem. “The Hub” will develop the cluster’s organizational infrastructure and strategies to facilitate its long-term sustainability, including multi-year resource plans and fundraising strategies. It will cultivate a sense of personal ownership of the bio-innovation cluster among regional leaders by establishing infrastructure for collaboration, including a leadership council, community steering committee, and project action teams. These groups will build and implement strategies related to equity, talent, branding, site development and global investment. The shared assets that result from implementing these strategies – such as the digital BioTalent Exchange – create value for participating leaders and organizations that build long-term connection and commitment to the cluster. A professional staff will provide leadership and coordination to enable bio-innovation coalition members to engage and contribute to projects.

Community and Labor Partnerships

Equity and inclusion permeate all aspects of this proposal and its component projects, beginning with ensuring construction projects employ a diverse workforce. The cluster and its component projects are committed to achieving ambitious goals regarding local employment opportunities for women and Black, Indigenous, Latine, and Hmong communities. Construction component projects have each embedded bold goals of 35% minority and 9% female construction workforce participation. Hiring locally and paying above prevailing wages will help ensure construction-spend benefits are felt locally and mitigate risks related to finding available labor in a challenging market. Further, each project is committed to working with union, workforce development and inclusion organizations and other community leaders as part of labor and construction planning. The Bold North BioInnovation Hub project will track progress in partnership with component project teams.

To ensure these equity goals are achieved, construction project owners will partner with Summit Academy OIC, an employment assistance firm (EAF) with a proven track record of success. We recognize that traditional labor standards for equitable and inclusive hiring of construction labor do not necessarily equal access to opportunity for Black and brown residents in our region. Therefore, construction project teams will use Summit Academy OIC, an Employment Assistance Firm (EAF), to work with the project owners and general contractors, to ensure equity goals can be met. The EAF will deliver the following services: outreach and recruitment; intake and assessment of candidates to determine training need(s); placement services; and monitoring performance to ensure minority and women participation goals can be met across the project's lifecycle.

Summit Academy has successfully assisted major construction projects exceed equity goals. For example, it partnered in the construction of US Bank Stadium, a \$1.1 billion construction project completed in 2016, helping the project achieve **36%** minority representation and **9%** female participation, exceeding its initial goals (32% and 6% respectively). Summit works to identify, screen, and train workers for the industry, helping achieve representation targets while filling gaps in the local labor force. By using EDA’s funding to train and establish workers in the construction industry, Summit will help create long-term economic growth among targeted populations beyond the 5 years of construction spend.

Equity and Inclusion Plan

We have bold equity ambitions and believe inclusion defines success for our cluster. Our ambition to create America’s most inclusive bio-innovation cluster is necessary for long-term success because nearly all our future population growth will come from communities of color. Today, 27% of our region’s population is non-white. Data from the 2020 Census revealed our white population grew by 1.4% over the past decade while populations of color grew by 60%.

The equity plan for our bio-innovation cluster is focused on targeted underserved communities. Black, Indigenous, Latine and Hmong populations are the communities of color in our region where population growth is robust and representation in high-wage industries is low. Residents of rural communities and women are geographic and gender priorities since both are underrepresented in high-growth, high-skill sectors, including in bio-innovation. Our vision will be realized when the employment profile of targeted communities in our bio-innovation industries matches the region’s population profile.

Our equity plan is designed to drive long-term, systemic change to achieve our vision and is built on three core strategies: *expect equity everywhere; invest in building a culture of inclusion and create momentum for progress.*

Expect equity everywhere: In the past, many organizations and communities in our region struggled to make meaningful progress on economic equity because efforts were too often limited in scope and tangential to core strategy and mission. This effort attempts to achieve different results by making equity a priority in all aspects of the proposal, including:

Goals: all component projects will aim for 50% participation of targeted underserved communities in the benefits of the project. Each component project has specific workplans to meet this target and tailored goals to drive participation among their targeted communities.

Strategy: an overarching equity strategy will be developed by the Bold North Bio Innovation Hub, and every sub-strategy of the cluster will have equity actions and targets (e.g. site development; talent and workforce; branding and marketing; supply chain and procurement).

Geography: all *component projects* are located along public transit routes to ensure the economic opportunity created by this proposal is accessible to low-income communities of color. We are working to solve for the mismatch between the location of employment centers and concentrations of underserved residents by placing the three *construction projects* in the proposal along the light rail transit line connecting Minneapolis and Saint Paul.

Hiring & Training: all construction projects include minority hiring commitments and each education and training project will conduct recruitment campaigns for our targeted underserved communities.

Invest in building a culture of inclusion: Since the murder of George Floyd, many leaders in our region have learned that transforming culture can be slow and difficult work. Yet, we believe it is essential because culture solidifies, reinforces, and sustains behavior over the long-

term. To sustain and scale the equity outcomes of our bio-innovation cluster we will invest in efforts to create a culture of inclusion. These efforts will include:

- Co-creating an equity pledge with bio-innovation employers that details our shared vision and collective equity commitments;
- Providing participating employers tools and curriculum to assess and increase the cultural competence of their organizations, including hiring, on-boarding and promotion; and by
- Elevating and amplifying the voices of Pillsbury United Communities and Summit OIC in the cluster (along with other entities). These Black-led organizations are well-respected across our region and bring cultural credibility, access to diverse networks and critical knowledge about equity and inclusion to our bio-innovation collaboration.

Create momentum for progress: Long-term change requires near-term results that are communicated consistently and effectively. The Bold North BioInnovation Hub will rally partner organizations around a set of early wins that demonstrate the potential for bio-innovation to produce inclusive outcomes. These may include venture investments in BIPOC-led bio-innovation start-ups, professional apprenticeships for young adults of color in bio companies, collaborative events among bio-employers to retain professionals of color and community-based recruitment campaigns for bio-training programs targeting underrepresented groups.

The Bold North BioInnovation Hub, led by GREATER MSP is the mechanism that will drive shared ownership for implementing the equity strategy and hold component projects and other entities accountable for achieving goals and pledges.

Measurable Goals and Impacts

EDA’s \$57M investment in the Bold North BioInnovation Cluster will be a catalyst for substantial, long-term economic growth in the Greater MSP region. As of 2021, industries in the Bold North BioInnovation Cluster represented approximately 60,000 jobs and \$20B GDP, growing at 3% and 6% respectively. The cluster will create 5,000–11,000 additional jobs within the EDA award period (by 2028) and 11,000–27,000 jobs over the next decade. In addition, GDP growth of \$2–9B can be achieved by 2028 and \$4–30B in 10 years. EDA’s investment will be critical to achieving this growth, but the sustained investment from public and private sources it will stimulate—\$2.1B of which has already been identified from complementary projects through 2030—will drive the majority of the expected long-term impact. This substantial investment will change the growth trajectory of the cluster and MSP’s economy.

The EDA-funded projects will generate significant direct economic growth within the region and Minnesota by 2028, including ~500 direct and 1,500 total jobs and ~\$100M direct and ~\$200M total GDP growth (inclusive of indirect and induced growth). **The jobs created will benefit the local economy and communities.** The cluster will leverage industry relations and input to support higher paying jobs, offering extensive training, placement, and educational supports; attracting and cultivating top talent; and providing training for 3,000 students and creating 1,050 healthcare, food science, and technology placements for members of underserved populations within 5 years.

Progress Since Phase I and Changes to the Vision

Our overall vision to create the nation's most inclusive bio-innovation cluster has remained consistent since Phase 1. Our commitment to equity, our focus on ensuring the long-term sustainability of the cluster through governance, and our determination to expand our coalition and develop meaningful relationships with a broader group of stakeholders have grown stronger.

We engaged with community stakeholders to establish ambitious equity goals and associated actions. We translated our equity vision into concrete actions in the application. For example: 1) collaborating with Summit Academy OIC, an Employment Assistance Firm, to set goals for diverse representation on construction projects; 2) engaging with the Shakopee Mdewakanton Sioux Community, which will work with GREATER MSP as a convening partner to create opportunities for all tribes across the state to explore engagement in the bio-innovation cluster; 3) building linkages to existing efforts that will enable action and achieve results in year 1, including the Forge North *MSP Equity Fund* to provide entrepreneurial support; *Business Bridge*, to facilitate corporate procurement from BIPOC and rural businesses; and *ConnexMSP* to recruit young adults of color into bio-innovation-related higher education programs and internships, and create personal connections with hiring managers for full-time roles.

We doubled down on governance to ensure the cluster is sustainable. The Bold North BioInnovation Hub will be the center of gravity for the cluster. Since Phase 1, the Hub has moved from early concept to detailed plan.

We expanded our coalition and ran a connected and transparent process. We invested significant time and resources into outreach efforts, including webinars, a partner survey on the narrative, industry roundtables, and weekly email updates to build community enthusiasm for the cluster and deepen partner commitment. We encouraged connectivity among the cluster's component projects with a regular meeting cadence, by collecting guidance from stakeholders, and by facilitating project refinement with U.S. EDA. Project structure and eligibility was examined for each component project through an open and collaborative process. Many of our projects adjusted their approach to work within the bounds of the grant opportunity.

We secured meaningful commitments from partners and engaged industry and government stakeholders. We are cultivating formal partnerships that could make transformative contributions to the bio-innovation cluster, including: 1) The State of Minnesota; 2) BioMADE, the Department of Defense-funded national Bio-Manufacturing Innovation Institute headquartered in Saint Paul; and 3) Mayo Clinic, Ecolab, Cargill, Land O'Lakes, Medtronic, General Mills, and other global corporations headquartered in Minnesota.

We identified a growing number of complementary bio-innovation projects in Minnesota that would significantly accelerate and scale our bio-innovation cluster. Since Phase 1, multiple organizations approached us with major investment projects they would like to be recognized as part of the broader BioInnovation cluster. We conducted work sessions and tours with: Rochester's Destination Medical Center; MTL's global bio development; Master Properties North Minneapolis development; the University of St. Thomas STEAM building; a United Properties development; and the Malcom Yards innovation district development. **These projects constitute billions of private investment into our region and state's bio-innovation sector.**