

EDA Tech Hubs Strategy Development Narrative

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Edit log by Al Lun incorporating Kathy's comments in Red in the Equity Section 8/11/2023 310:15 AM

I. Name of Consortium: BioRochester

II. Region: Rochester, MN Metropolitan Statistical Area (MSA)2 region in southeast Minnesota comprised of Dodge, Fillmore, Olmsted, and Wabasha counties. As of 2022, the Minnesota State Demographer's Office estimated the population of the Rochester MSA at 228,205.

III. Technology Area: Biotechnology, medical technology, genomics, and synthetic biology

IV. Partners

<i>Institutions of Higher Learning</i>	
University of Minnesota-Rochester	An agile start-up campus committed to career pathways in emerging health technologies.
Rochester Community and Technical College	Delivers degree and certificate education programs to meet the ever-changing workforce needs of our communities.
<i>Government</i>	
MN Department of Employment and Economic Development	Blurb needed...
City of Rochester	A local government that is fully committed to supporting the growth of the region's biomedical sector.
<i>Industry Groups and Firms</i>	
Mayo Clinic	A medical center that provides clinical care (1.3M patients per year), basic and translational research (\$625M annual budget), and medical education (\$416M annual budget for two medical schools, a graduate school, and healthcare workforce education). Mayo Clinic provides internal innovators and external entrepreneurs and startups throughout the health care industry with premier medical and business insights and connections.
<u>Medical Alley Association</u>	A MN-based trade association active in over 20 countries that is focused on improving technology, innovation, entrepreneurship, and access to capital in the state.
<u>Ambient Clinical Analytics</u>	A biomedical company that has a family of products that improve outcomes, reduce healthcare costs, and improve care providers' ability to work with patient data through real-time visualization of point-of-care processes.
<u>Cytotheryx</u>	A biomedical platform technology company focused on the development of primary human hepatocytes for toxicology and metabolic testing in drug development and enabling new treatments for liver failure and rare diseases.
<u>In Situ Biologics</u>	An industry firm with technology that extends the duration of action of injectable drugs by 10X, both in pain remediation and cancer therapeutics.

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Pneumeric	A medical device company leading innovation in pneumothorax decompression.
<u>RION</u>	<u>Blurb...</u>
<u>Seer Medical</u>	A medical services and technology company providing at-home diagnostic testing for epilepsy.
<u>Vyriad</u>	An industry firm developing the next generation of targeted genetic therapies by engineering viruses, viral vectors, and viral envelope glycoproteins to deliver genes directly to targeted cells.
<i>Economic Development Organizations</i>	
Destination Medical Center Economic Development Agency	A 20-year, \$5.6B public/private partnership between the State of Minnesota, Olmsted County, City of Rochester, and Mayo Clinic.
Rochester Area Economic Development, Inc.	A non-profit that leads and supports economic, community, and workforce development initiatives that retain, grow, and diversify the greater Rochester economy.
Red Wing Ignite	A non-profit that provides entrepreneurial programming, direct coaching and mentoring, and co-working spaces.
Collider Foundation	A non-profit that activates, connects and empowers entrepreneurs.
<i>Workforce Training Organizations</i>	
Workforce Development Inc.	The main provider of employment and training services in southeast MN, providing career planning, training funding, support funding, and wrap-around supports to help individuals to and through employment and into in-demand, high-wage careers.
<i>Elementary and Secondary Schools</i>	
Southeast Service Cooperative	A public, non-profit agency serving over 100 public and private school districts, cities, counties, and other organizations in the 11-county southeast region of Minnesota.
<i>Organizations that Represent the Perspectives of Underserved ,undercapitalized, underestminated Communities</i>	
Community Mobilization Resource Coalition	A community-based coalition comprising BIPOC non-profits, for-profits, and professionals to be a bridge that connects racially marginalized communities to each other and to advocate policies and offer solutions toward reducing disparity of social determinants of health.

Consortium Lead: Destination Medical Center Economic Development Agency

Regional Innovation Officer (RIO): Hiring a permanent Regional Innovation Officer hire will be the first priority upon Tech Hubs grant award. In the interim, Chris Schad will serve in the role of initial RIO. His background includes:

- Education: BS in Biology, Master of Business Administration with an emphasis in entrepreneurship. Academic appointment as an Assistant Professor of Laboratory Medicine in the Mayo Clinic Medical School.
- Experience: At Mayo Clinic, numerous bench and administrative roles in clinical and research laboratories; several leadership roles for institutional partnerships and strategic initiatives; published author of fourteen peer-reviewed scientific papers, including five as first author; and two inventions licensed to industry by Mayo Clinic. At Destination Medical

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Center Economic Development Agency, currently serving as director of business development, responsible for supporting development of the Discovery Square innovation district.

The successful candidate for the permanent role of RIO will have the following attributes:

- Education background: Bachelors, Masters, and/or PhD in life sciences, engineering, business administration or other technology field.
- Experience: Several years of experience in strategic planning, project management, product development and/or business development.
- Skills: Expertise in working with cross-functional teams across the public and private sectors, developing and building new relationships, creative problem solving, and a proven ability to innovate and embrace risk.

V. Climate and Environmental Responsibility

Federal investment will help the region make significant progress toward achieving its climate mitigation goals. Under the leadership of Mayor Kim Norton and the City Council, Rochester completed a [Sustainability and Resiliency Community Work Plan](#) in 2021. Social equity, environmental stewardship, fiscal responsibility, and sustainability were the foundational principles of this effort. The plan includes strategies to transition to 100% renewable electricity, improve climate resiliency, and reduce disproportionate impacts on vulnerable populations. The project consortium will promote companies that are interested in reducing their environmental impacts. Planning will also be conducted to assess how current and future weather- and climate-related risks will impact the growth of Rochester's biomedical industry.

VI. Equity

~~Census Tracts 1, 2, and 3 in Olmsted County have been identified as “disadvantaged” by the White House Council on Environmental Quality’s Climate and Economic Justice Screening Tool. These areas have significant minority populations (42.6% in Census Tract 1, 36.5% in Census Traet 2, and 27.1% in Census Traet 3). Median household incomes are 17-56% lower in these neighborhoods (\$30,075 in Census Tract 1, \$49,722 in Census Traet 2, and \$57,073 in Census Traet 3) than the national level (\$69,021). Poverty is also nearly four times as high than the United States rate (12.6%) in Census Tract 1 (45.5%).~~⁺

As a state, Minnesota has a thoughtful and intentional approach to understanding inequities in education, financial stability, and social determinants of health experienced by racial and ethnically diverse populations, which are some of the greatest in the nation with limited success and action in leveraging systems for change. Census Tracts 1, 2, and 3 in Olmsted County with significant minority populations have been identified as “disadvantaged” by the White House Council on Environmental Quality’s Climate and Economic Justice Screening Tool. Median incomes are 17- 56% lower in these neighborhoods than the national level and poverty is nearly four times as high than the United States rate (12.6%) in Census Tract 1 (45.5%).[1]

¹ U.S. Census Bureau, 2017-2021 American Community Survey

The project consortium is committed to “closing the gaps” in the region so that race does not predict one’s success. Through partnerships with coalition members, the team will have specific outreach to a diverse set of populations, including Chicano, Hispanic, Latin American, East African, Ethiopian, Somali, Sudanese, Cambodian, Indo-Chinese, Indian, and African American residents. These efforts will focus on 1) identifying growth opportunities for minority-owned technology companies; and 2) developing biomedical technology career pathways.

The project consortium is committed to “closing the gaps” in the region so that race does not predict one’s success. Through partnerships with coalition members and through the use of Co design methodologies, the team will have specific outreach to a diverse set of populations, who are represented in all roles , including Indigenous people, African Americans, slave heritage, African immigrants, Asian Americans, Asian immigrants, Indian immigrants, Latinx Americans, and Latinx immigrants as well as other racial and ethnic heritages. Across generations, these communities represent youth and early career professionals making up the workforce of the future. In terms of impact, project efforts will focus on 1) identifying growth opportunities for minority-owned technology companies; and 2) developing biomedical technology career pathways.

The project will provide for inclusive community engagement and ensure that economic benefits are shared by all through a Community Co-Design process developed and propagated by the Destination Medical Center Economic Development Agency. Initially piloted during the design phase of Discovery Walk, Community Co-Design is an approach to encourage, compensate, and prioritize the inclusion of diverse populations throughout the design and development process. Community Co-Design has become a valued and effective community-centric approach to developing equitable projects, policies, and practices in the Rochester region. The [Community Co-Design Toolkit](#) will be utilized for all engagement activities associated with this grant.

VII. Use of Strategy Development Grant

The greater Rochester MSA has all the hallmarks of an emerging biomedical technology hub. It has peerless innovation engines in Mayo Clinic (ranked as the #1 institution for commercializing new technologies as reported by Heartland Forward in 2022) and 40-plus healthcare companies across a variety of technology verticals investing in the area, an international workforce, an extraordinary 20-year investment by the State of MN for infrastructure development, numerous post-secondary options geared towards the unique healthcare-oriented workforce needs of the region, plus graduate and medical schools that attract students, residents, and physicians from around the world. Hundreds of new inventions emerge every year from the clinical and academic activities of Mayo Clinic. In 2022, that translated into 500+ invention disclosures, 400+ patent submissions, and 150+ licenses executed. The core components of a world-leading healthcare/STEM education, training, innovation, and entrepreneurship ecosystem are in place. But there is work yet to be done.

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With Tech Hubs support, the project consortium seeks to establish a regional technology hub in Rochester that will foster innovation, revolutionize healthcare education, and drive collaborative initiatives to address global health challenges. The aim of this grant application is to develop a comprehensive strategy to grow a world-class entrepreneurial ecosystem that supports the world-class technology from the region. As informed by a data-driven perception and awareness study, as well as a follow-on market demand study, strategy development will focus on three key activities: 1) Building the Technology Infrastructure; 2) Building Awareness; and 3) Building the Ecosystem.

Building the Technology Infrastructure

The [Destination Medical Center initiative](#) is the largest infrastructure economic development program ever undertaken in Minnesota. It is a 20-year, \$5.6B public/private partnership between the State of Minnesota, Olmsted County, the City of Rochester, and Mayo Clinic that includes \$585M of public funding for infrastructure development. Launched in 2015, the Destination Medical Center Economic Development Agency is tasked with transforming the core downtown Rochester business district.

The Destination Medical Center Master Plan includes a cornerstone “economic engine” called [Discovery Square](#). This 16-block innovation district is a live-work-play technology hub where businesses, inventors, entrepreneurs, investors, talented staff, and supportive programming are coming into the sphere of Mayo Clinic and the University of Minnesota-Rochester. Anchored by the One and Two Discovery Square buildings, Rochester is now home to 40+ healthcare technology companies.

With Tech Hubs support, the project consortium will develop strategies to build technology infrastructure and assets in Rochester that will help to create a landing spot for the brightest technologies in the global economy.

Building Awareness

In late 2022, DMC conducted a comprehensive survey of high-growth life science company executives (n=168) and corporate site selection advisors from the finance, accounting, and real estate industries (n=153). In total, more than 300 individuals that represented growing organizations from around the globe took the “DMC Awareness & Perception” study and provided valuable feedback on their general level of awareness of Rochester as a business destination, their likelihood to invest (or recommend an investment) in Rochester, and perceptions and misperceptions of the region as a business destination. In total, just 31% of respondents were familiar with Rochester as a business investment destination. Additionally, despite 82% of company executives having contemplated investment location decisions recently, only 7% of them considered Rochester as part of their evaluation. A full 75% of the target audience (high-growth life science company executives contemplating an investment decision) did not consider Rochester for their investment.

In response, the project consortium proposes to develop an aggressive strategy of awareness building in partnership with the Minnesota Department of Employment and Economic Development and other organizations throughout Minnesota. The team will accomplish this goal by working with industry leaders that can magnify the message, reaching out directly to high-value targets with the Rochester value proposition, educating and empowering local ecosystem members to carry the message when they are doing business, and increasing the frequency and scale of outbound marketing.

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Building the Ecosystem

While the region has extraordinary sources of technology innovation and is uniquely positioned to build awareness and infrastructure through the historic State of Minnesota investment in the Destination Medical Center initiative, building the ecosystem is the soft spot in the project consortium's 3-pronged strategy. With Tech Hubs funding, the team will pursue the following ecosystem activities:

- Hire a permanent RIO to lead this effort.
- Initial planning: Regional partners will be convened to develop a roadmap for development of a comprehensive ecosystem strategy. This will include the formation of separate task forces that will focus on three key ecosystem components: 1) Mentoring and Programming, 2) Supply Chain and Service Providers, and 3) Workforce Development.
- Ecosystem membership: A comprehensive assessment of the Rochester regional ecosystem will be developed to curate a list of technology companies, talent, service providers, suppliers, innovators, and entrepreneurs.
- Needs assessment: EDA funding will support a needs analysis designed to identify what is needed to develop a supportive ecosystem in each of the three focus areas.
- Strategy development: Utilizing the Community Co-Design toolkit and based on input from the needs assessment, the project will develop a comprehensive strategy that enables the consortium to build the necessary supportive ecosystem, including key performance indicators and success metrics.

This consortium has been crafted to provide subject matter experts from industry and non-profits in the public and private sectors. Once convened, the team will develop an Expertise Matrix to articulate the role of each consortium member in the ecosystem strategy development.

VIII. Geographic Constraints

Federal investment in the Rochester MSA (estimate population 228,205) aligns with EDA goals to benefit a small, rural communities under 250,000.