

East Bay Innovation Cluster Vision

The East Bay Innovation Cluster (EBiC) consists of four complementary projects that strategically position the East Bay as an innovation hub in Life Sciences, Technology, Mobility/Smart City Infrastructure and Artificial Intelligence (AI). All of the proposed projects will strategically leverage BART's infrastructure and developable land, as well as support BART's core mission as the region's premiere public transit agency.

Critical to our region's ability to achieve maximum industry-sector growth is the concurrent evolution of the built environment to meet the infrastructure, facility and workforce housing needs. EBiC programs will be housed in state-of-the-art facilities to be constructed or retrofitted at or near BART's urban-core stations. Our experienced proposal partners will leverage their regional industry strengths – in Life Sciences and Technology – that exist today - but have been predominantly absent from the marginalized communities of color found in the East Bay.

Our goal is to promote equity and inclusion as well as the acceleration of the Life Sciences and Technology that will drive our future growth. We will create career/employment, small business and wealth building opportunities through comprehensive educational, workforce development, mobility, early childcare support and other human infrastructure initiatives. We plan to bring cutting-edge mobility and life sciences innovations to market by positioning supercomputer data processing near BART's region-wide fiber optic and uninterrupted power supply network.

BART, as one of the largest landowners in the region, has proactively advanced the public-private development of its land with a goal (among others) to grow the jobs base in the East Bay. The EBiC will initially engage three privately entitled Transit-Oriented Development (TOD) sites (Mandela Station, Lake Merritt and 19th St./Eastline) to accommodate industry growth and drive equitable outcomes through immediate private sector investment. BART is currently completing an FTA-funded jobs-attraction strategy for a segment of its land further south in the East Bay that expands the reach of this cluster, ultimately connecting to Silicon Valley.

We are a coalition of doers with undisputable experience, broad community and stakeholder relationships, global business leadership and an unwavering sense of duty to rectify the absence of financial stability in underserved communities.

Key Projects To Develop the East Bay Innovation Cluster (EBiC)

Project 1 – Develop a unified life sciences incubation/acceleration program to foster innovation and emerging technologies - while integrating entrepreneur and workforce development and internship programs to advance diversity, equity and inclusion in the Life Science industry.

CLSI and QB3 will together build a new life sciences workforce development and internship program and expand on their existing incubation/accelerator programs providing opportunities to East Bay residents who have had little to no previous access to the life sciences industry.

The Mandela Station Life Sciences Workforce Development and Internship Program will be a collaboration with QB3, CLSI and the Oakland Private Industry Council (PIC), a 501(c)(3) with over 30 years of innovation in East Bay workforce development initiatives. Program leadership and operations will be led by CLSI. Their strong relationships with Bay Area regional colleges and universities are valuable resources when engaging students to join the life sciences industry. The program will build hands-on, industry-relevant training opportunities connecting their students to careers in the life sciences industry.

The initial pilot of the EBiC Life Sciences Incubator/Accelerator will be housed at the centrally located West Oakland BART Transit Oriented Development (TOD) known as Mandela Station.

The site is accessible from UC Berkeley, a source of some of the most significant scientific advances of the era, as well as UC San Francisco, the UC system's core life sciences research facility. Mandela Station will house an ecosystem to support diverse and nimble early/mid-stage life sciences companies, such as graduates of QB3's incubators and also more mature life sciences companies. The fully equipped facility will be designed to exploit the Bay Area's unique convergence of life science and digital technology - housing a unique array of high-performance computing capability.

The incubation/accelerator initiative is intended to capture companies graduating from QB3 startup facilities in Berkeley and other regional locations and provide them with transit-oriented, affordable, research and development (R&D) facilities specifically designed to facilitate biotech research. By capturing companies graduating from QB3, companies are retained inside the EBiC and contribute to the regional economic growth and intellectual property development.

Mandela Station's design will include the provision of and access to a state-of-the-art suite of tools such as supercomputing, software applications, AI and high-speed data transmission infrastructure. These facilities and technology resources will significantly increase time-to-market capabilities of early-stage entrepreneurs, as well as established life sciences companies. The intent is to tap into the wealth of intellectual property being generated by University of California, Stanford and the greater Bay Area private life sciences ecosystem. Recent growth in this industry sector has created a tremendous demand for services and space and the state's needs to maintain its leadership in life science innovation.

As later discussed in Project 4, Mandela Station plans to install a central supercomputing resource and tap into the existing fiber optic network installed throughout the BART system right(s) of way. The EBiC Life Sciences Incubator/Accelerator will establish strategic differentiation and long-term global competitiveness for the region. The project will showcase a model for transforming data from curriculums and research into a quantifiable benefit for local communities. The design, construction and ownership of the facilities will also adopt the Leadership in Engineering Equitable Participation (LEEP) initiative best practices to achieve socially responsible, equitable and inclusive development of the facility.

Mandela Station and its EBiC Incubator will have a significant impact on the overall East Bay economy. We calculate that over five years, we will house approximately 132 companies generating over 1,100 new jobs yielding direct added regional economic growth of \$258M. The workforce development component will serve 800 clients from the local community and, at an 85% placement rate in positions with a \$60,000+ starting salary (typical for the life sciences industry in the Bay Area), it will yield \$65M in salaries and benefits going directly into this severely disadvantaged demographic. The multiplier effect of these job placements will drive the total to approximately \$140M in new economic activity for West Oakland residents.

Summary of Project 1 Benefits: 1) practical workforce development training, an internship program and a biotech incubator for primarily people of color that result in high paying jobs in the Bay Area's fastest growing industry, 2) royalty revenue streams for University of California, 3) small business enterprises providing a pathway of access for entrepreneurs of color to new innovations in the markets of the future, 4) bringing life sciences cluster uses to Mandela Station and its adjacent West Oakland development sites and 5) approximately 132 companies generating over 1,100 new jobs yielding \$65M in salaries and benefits.

Matching Funds: Life sciences industry partners, California State, U.C. Office of the President, and Enhanced Infrastructure Financing District (EIFD) Funding

Project 2 – Develop an innovative mobility ecosystem that leverages BART’s infrastructure and smart city technologies to enhance the mobility connecting the Life Sciences and Tech clusters

As the lead applicant and head of this initiative, BART provides the critical infrastructure asset that physically links multiple Bay Area economic clusters together - including the emergent life sciences, academic and tech clusters in the East Bay. The EBiC will focus on incubating holistic, cutting-edge and scalable mobility solutions that complement the BART regional system.

For example, EBiC solutions will involve the deployment of distributed AI enabled computing systems tied to advanced sensor technologies (i.e., radar, lidar and ultrasonic) to incorporate AI enabled vehicle-to-infrastructure technologies to enhance fields-of-vision and facilitate safe adoption of autonomous vehicle technologies. Among many benefits, this automated technology will enable more robust last-mile connectivity to BART – including assisting those with disabilities. The technology also enables the future integration of multiple public transit modalities that connect to BART as well as regional automated delivery of goods and services.

These systems will also evaluate roadway, parking conditions and traffic patterns to achieve safer, and more efficient roadways. Safe driving, walking and cycling programs (already partially funded by a recent \$28M climate grant from the State to the City of Oakland) will incorporate these new mobility solutions.

Another example is the evolution of Mobility-as-a-Service (MaaS) which involves integrating various modes of public and private transport into a single mobility service accessible on demand. MaaS uses hardware and app-based data solutions to improve operational management, access efficiencies and facilitate manned and autonomous shuttle services to link neighborhoods, including specific industry clusters, with BART stations. Other Mobility/Smart City solutions include electric vehicle innovations for cars/bikes, related energy/charging infrastructure and providing community Wi-Fi Access.

This project will both catalyze private investment by removing critical barriers associated with BART’s aging infrastructure and create high paying permanent jobs in sought-after fields related to operating and servicing new mobility infrastructure. In addition to enhancements to BART’s aging transportation infrastructure to support private investment in new commercial development, a new Mobility workforce development program will be created to upskill, train and employ new workers to install, operate and oversee these new technologies.

Summary of Project 2 Benefits: 1) systems and services that leverage BART’s rail and data networks, 2) new long-term revenue generation and resilience to BART, 3) private investment in the region by enhancing and extending BART’s service area and connectivity, 4) new entrepreneurial opportunities and high paying permanent jobs in sought-after fields related to installing, operating and servicing new mobility infrastructure, 5) accelerate the safety, adoption and implementation of autonomous technologies of the future and 6) enhancement of BART’s aging system and advance goals of increasing ridership and customer satisfaction.

One challenge for the project will be the time needed to realize and measure the benefits related to changes in travel behavior and job connectivity. Also, aligning the project to community needs will be very important. Our team will initiate a thoughtful stakeholder engagement strategy to understand the community’s needs, concerns and aspirations.

Matching Funds: State of California grants, Private Capital and Enhanced Infrastructure Financing District (EIFD), Institutional Investors

Project 3 – Develop complementary technology workforce development and Early Childhood Education & Care programs that foster diversity, equity and inclusion

The Mandela Station Technology Workforce Development Program will be co-led by Generation USA, ConSol USA, the Oakland Private Industry Council (PIC) and Mills College. The four entities will launch a variety of services from within the EBiC that recruit, train, directly employ and provide early childhood education and care for individuals from the regional cluster areas to work in various technology functional areas – Cybersecurity, Data Analytics, Database Management, Application Support, Network Engineering and IT Support.

Generation USA will lead technology vocational and professional training. They are the fastest scaling and largest global employment program as measured by annual volume for training and placing learners in sustainable careers. Generation has almost 3,800 employer partners and has shown Return-On-Investment gains – 80% of its graduates are employed in first job 6 months after job start, 3-5X increase in wages post-graduation and an 81% graduation rate.

ConSol will employ and manage the workforce and also contract with private/public sector companies and organizations to deliver outsourced technology services to them. ConSol customers may be located within the EBiC, in the region or nationally, since in many instances, outsourced technology services are rendered remotely. The goal is within 5 years to employ at least 1,000 people who have traditionally not had access to in-demand technology-based jobs. As full-time employees of ConSol, trained participants work for ConSol's clients as outsourced contract technology workers. In turn, ConSol provides support for long-term upwardly mobile careers with substantial income generating potential, full benefits, continued training and further up-skilling as needed. The work starts with the Oakland PIC who will handle on-the-ground community organization and outreach, engagement, recruitment, prospect intake and readiness triage. During the pilot, Mandela Station and/or Mills College will provide needed facilities.

In support of all aspects of the EBiC projects, Mills College will be providing Early Childhood Education And Care Services (ECEC) for students and staffs associated with the entrepreneur and workforce development initiatives. The pilot program includes two satellite lab schools located in two traditionally underserved communities in Oakland, CA – West Oakland, the site of the Mandela Station and an East Oakland location (to be determined). Both locales will make available early childhood education and care using a cross subsidization financial model to neighborhood families and EBiC participants to ensure equitable and sustainable childcare access for families across the income spectrum. ECEC centers will create 101 competitively paid teaching and administrative positions to support a student population of 264 children ages 0-5. The program locations become training sites for ECEC educators/practitioners (placement for Mills students) while advancing a national model for early childhood education and care workforce development and professionalization. The availability of these schools allows program participants with access to high-quality early childhood education and care at the same time they are experiencing upskilling.

Summary of Project 3 Benefits: 1) on-site training, virtual learning, internships at Mandela Station or another cluster location, 2) employment for at least 1,000 people over the course of 5 years to work in various high paying technology functional areas, 3) early childhood education and care using a cross subsidization financial model and 4) creation of 101 competitively paid teaching and administrative positions to support a student population of 264 children ages 0-5.

Matching Funds: Technology industry clients, Philanthropic Partners, Early Head Start, EIFD Funding

Project 4: Create an AI (Artificial Intelligence) Data Center & Innovation Hub

Another really exciting component of developing our Life Sciences/Tech Hubs, Mobility Ecosystem and small business and workforce development programs is the EBiC AI Supercomputing Data Processing Centers. These centers facilitate data transfer to/from the built-environment and everyday users, process complex large data sets and perform concurrent computations to enable effective decision-making.

These centers will meet an increasing global demand for sophisticated AI-enabled services to support bio-medical research and data/application services required for the smart city mobility initiatives (e.g., image and speech recognition, natural language processing, visual search and personalized recommendations). The initial pilot location will again be Mandela Station (which is currently under development by EBiC partner Strategic Urban Development Alliance, LLC), with other future data centers to be strategically implemented at or near BART TOD locations as deemed feasible and appropriate. The EBiC supercomputing systems, services and suite of software applications will provide life science tenants at Mandela Station the ability to process and transform complex data sets into new products and capabilities. These efficiencies materialize into economic benefit. This is a key advantage for smaller labs to ultimately become more competitive in the Biotech industry. The systems will also be tied to BART's regional fiber optic network and uninterrupted power supply to maximize the capabilities of system users. The supercomputer will also be made available to all life sciences and mobility partners to create AI hubs in other underserved communities that facilitate enhanced education and research.

We will use the data centers to facilitate the data services required to support the Smart City Mobility platforms and initiatives as described in Project 2 by allowing the coordination of transit solutions and connectivity throughout BART's 50 stations and its 131.4 miles of track. Additionally, the centers will give the education, small business and workforce development tenants as outlined in Project 3 a powerful high-performance computing, research and educational cyberinfrastructure. All this will take place in underserved communities of color.

This effort will also be sponsored by NVIDIA, a pioneer in accelerated computing who has the task of creating the pilot data center and expanding its successful NVIDIA Inception program to the EBiC. NVIDIA Inception is an incubation/acceleration platform for AI, data science and high-performance computing startups, providing critical go-to-market support, expertise and technology to over 400 AI start-ups. EBiC will likely be among the nation's first comprehensive incubator/accelerator to make AI a ubiquitous part of its economic development enterprise.

Summary of Project 4 Benefits: 1) support the incubation of bio-medical research and computational technologies as described in Project 1 above, 2) facilitate the data services as described in Project 2 needed to support the Smart City Mobility platforms and initiatives, 3) support education, small business and workforce development objectives as outlined in Project 3 and 4) provide supercomputer and AI data services to potential users throughout the region and particularly in underserved communities.

Matching Funds: Life Sciences and Technology industry partners

Appendix

Regional Assets

<p>Bay Area Rapid Transit District (“BART”)</p>	<p>The San Francisco Bay Area Rapid Transit District (BART) is a heavy-rail public transit system that connects the San Francisco Peninsula with communities in the East Bay and South Bay. For more than 45 years BART has provided fast, reliable transportation to downtown offices, shopping centers, tourist attractions, entertainment venues, universities and other destinations for Bay Area residents and visitors alike. It comprises of over 131 miles of track covering 50 stations and a fleet of 916 train cars.</p> <p>BART is the EBiC’s lead applicant and is co-leading the Mobility, Infrastructure Improvement and Smart City Technology project.</p>
<p>California Institute for Quantitative Biosciences (QB3)</p>	<p>QB3 is the leading state institute dedicated to supporting the California innovation bio-economy with operations at the UC campuses at Berkeley, San Francisco, and Santa Cruz. The institute supports UC researchers and empowers Bay Area entrepreneurs to launch startup companies and partner with industry. Over its almost eighteen year of existence QB3 has brought in billions in external funding into the Bay Area economy and helped many hundreds of companies get started. With its affiliates, it has started three venture funds and run several incubators. Three of the companies it has funded or housed in its incubators (Zymergen, 4D Therapeutics, Caribou) are located in the East Bay and have had successful IPOs in the last year alone.</p> <p>QB3 will co-lead the development of the new combined life sciences workforce development/internship/incubation/accelerator program.</p>
<p>California Life Sciences Institute (CLSI)</p>	<p>CLSI is a non-profit (501(c)(3)) dedicated to the support of entrepreneurship, education, and workforce development in the life sciences. CLSI is the nonprofit arm of California Life Sciences, the state’s most influential and impactful life sciences membership organization (with over 400 member firms), advocating for the sector and its diverse innovation pipeline. For the last eight years, CLSI’s core advisory program has graduated 85 companies that have collectively raised over \$1.9B and have added almost 600 new life sciences jobs to the economy.</p> <p>CLSI will co-lead the development of the new combined life sciences workforce development/internship/incubation/accelerator program.</p>
<p>Mills College</p>	<p>Founded in 1852 and located in East Oakland, Mills College is the first women's college west of the Rockies and the oldest undergraduate college for women in the West. It proudly serves a diverse student body composed of 66% undergraduate students of color and 44% first-generation undergraduate students.</p> <p>As an institution of higher learning, Mills sponsors The Center for Transformative Action at Mills College. The Center for Transformative Action brings together students, thought and practice leaders, policy makers, and others to share ideas for building profitable, sustainable</p>

	<p>organizations and effective nonprofits to address social, environmental, and policy problems. The center hosts a high-profile annual conference in partnership with the Lokey School of Business and Public Policy chapter of Net Impact, an international organization of MBA students and professionals who are working for a sustainable future. The EBiC will work with The Center for Transformative Action to bring together and connect people and organizations to build a strong social enterprise ecosystem in the East Bay and greater San Francisco Bay Area.</p> <p>As one of the eligible applicants in this Phase 1 NOFO application, Mills will create the early childhood education and care centers in the EBiC to help support the workforce development programs in Life Sciences and Technology.</p>
<p>Peralta Community College District</p>	<p>Founded in 1964, the Peralta Community College District (PCCD) is a collaborative community of colleges comprised of Berkeley City College, College of Alameda, and Laney and Merritt colleges in Oakland, CA. The Peralta Colleges provide a dynamic multicultural learning environment offering accessible, high-quality educational programs and services, including two-year degrees, certificates and university transfer programs, to more than 30,000 students.</p> <p>The Peralta Colleges will work with all EBiC projects across internships, workforce development and early childhood education and care initiatives. Peralta strongly supports the EBiC’s NOFO application but, unfortunately, a Letter of Support was not available before the NOFO application submission deadline.</p>
<p>University of San Francisco School of Management</p>	<p>Professor William (Billy) Riggs, PhD, AICP, LEED AP is a global expert and thought leader in the areas of autonomy and smart transportation, housing, economics and urban development. He has over 100 publications in these areas and has held additional academic appointments in city planning and transportation engineering from Cal Poly San Luis Obispo, UC Berkeley, San Jose State University, and the University of Louisville. In addition to his academic roles, Riggs also has almost two decades of experience working as an urban planner, policy maker, economist, and engineer. Riggs currently sits on the City of Palo Alto’s Planning and Transportation Commission, is a member of the Transportation Research Board (TRB) Committee on Transportation Economics and provides strategy and consulting to multiple companies on smart mobility and urban development.</p>
<p>Oakland Unified School District (OUSD)</p>	<p>Local school district comprised of over 2,300 teachers and ~1,800 school staff responsible for ~52,000 students ranging from TK to 12th Grade that span across 124 schools and represent ~89% students of color.</p> <p>OUSD’s students will benefit from the internship, educational and potential workforce development programs being offered through the EBiC. OUSD teachers and staff may benefit from the early childhood education and care services being offered by the EBiC.</p>

<p>East Bay Economic Development Alliance (EDA)</p>	<p>Founded in 1990, the East Bay EDA is a 150+ member organization that serves as the regional voice and networking resource for strengthening the economy, building the workforce and enhancing the quality of life in the East Bay.</p> <p>The East Bay EDA is a contractor to BART and will serve as the Regional Economic Competitiveness Officer.</p>
<p>Association of Bay Area Governments (ABAG)</p>	<p>ABAG is part regional planning agency and part local government service provider that provides research and analysis, education and outreach, and regional coalition coordination. ABAG’s membership consists of all 9 Bay Area counties and associated cities. ABAG co-sponsored the Comprehensive Economic Development Strategy for the San Francisco Bay Area.</p> <p>ABAG strongly supports the EBiC’s NOFO application and will help to build awareness and consensus across its East Bay constituencies.</p>
<p>Building and Construction Trades Council of Alameda County (BTCA)</p>	<p>The Building and Construction Trades Council of Alameda County is a coalition of 28 affiliated unions representing workers in various construction trades.</p> <p>The BTCA realizes the transformational value of the EBiC and its impact on labor union jobs.</p>
<p>Cypress Mandela</p>	<p>Cypress Mandela Training Center has provided high quality construction industry employment training, job preparation and job placement services in Alameda and Contra Costa Counties for more than 30 years.</p> <p>Cypress Mandela will facilitate and actively support the workforce development initiative related to the Mobility Ecosystem initiative.</p>

Industry Leadership

Project 1 – Life Sciences Innovation Hub

<p>Sutro BioPharma</p>	<p>Member company of California Life Sciences. Committed to hiring BIPOC students who finish the EBiC workforce development training program, make Sutro’s employees available to participate in EBiC’s workforce development program, provide mentoring support for life science innovators in the EBiC incubator to translate their innovation into real-world products and create learning opportunities for future biotech professionals through education and internship programs.</p>
<p>nkarta Therapeutics</p>	<p>Member company of California Life Sciences. Committed to hiring BIPOC students who finish the EBiC workforce development training program, make Nkarta employees available to participate in EBiC’s workforce development program, provide mentoring support for life science innovators in the EBiC incubator to translate their innovation into real-world products and create learning opportunities for future biotech professionals through education and internship programs.</p>

<p>CytomX Therapeutics</p>	<p>Member company of California Life Sciences. Committed to hiring BIPOC students who finish the EBiC workforce development training program, make CytomX employees available to participate in EBiC’s workforce development program, provide mentoring support for life science innovators in the EBiC incubator to translate their innovation into real-world products and create learning opportunities for future biotech professionals through education and internship programs.</p>
<p>Global Blood Therapeutics (“GBT”)</p>	<p>Member company of California Life Sciences. Committed to hiring BIPOC students who finish the EBiC workforce development training program, make Global Blood Therapeutics employees available to participate in EBiC’s workforce development program, provide mentoring support for life science innovators in the EBiC incubator to translate their innovation into real-world products and create learning opportunities for future biotech professionals through education and internship programs.</p>
<p>Strategic Urban Development Alliance (“SUDA”)</p>	<p>Based in Oakland, Strategic Urban Development Alliance, LLC, (“SUDA”) is a boutique real estate development firm specializing in large-scale, innovative, public agency projects and mixed-use development. SUDA, has been involved in some of Oakland’s signature projects, starting from the Thomas Berkely Building (the current home of the Social Services Agency) to the Eastline project (a 2.4M SF urban Transit Oriented Development in Downtown Oakland), and the West Oakland BART Station redevelopment (Mandela Station), also a Transit Oriented Development with ~1 million SF of office space, 550 housing units and ~100K SF of retail space.</p>
<p>Beacon Rose Partners</p>	<p>San Francisco-based Beacon Rose Partners is a real estate investment and advisory firm focused on developing and repositioning urban properties across geographies. Beacon Rose is currently working with SUDA in the development of the Life Sciences building at Mandela Station. Beacon Rose assisted in developing the Phase 1 NOFO application and coordinated activities with the various stakeholders. Beacon Rose plans to support the development of the Phase 2 EBiC application, provide access to its investor group to provide capital to the Life Sciences Innovation Hub and Mobility Ecosystem projects and provide technical support and program coordination and advisory services to the EBiC coalition members and industry partners.</p>
<p>SF Bay Area CEDS Alignment – Goal 1: Objectives 1.1, 1.2, 1.3, 1.4; Goal 2: Objectives 2.1, 2.2, 2.3, 2.4; Goal 3: Objectives 3.1; Goal 4: Objectives 4.2</p>	

Project 2 – Mobility Ecosystem

<p>TESIAC Corp.,</p>	<p>TESIAC will co-lead the Mobility Ecosystem project and has helped to define the project’s scope, approach and deliverables. Based in Boston, TESIAC is an Economic Development and Managed Services Platform Company which aggregates mobility, energy, technology, and private capital to deliver integrated and interoperable infrastructure to accelerate</p>
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	and ensure sustainability goals are met. TESIAC brings an experienced and interdisciplinary team and partners together with new and innovative technologies. TESIAC’s integrated solution approach helps communities and corporate participants achieve their goals – Climate, Social Equity, Job Creation and Sustainable Development.
Star America Fund II GP, LLC/ Tikehau Capital	Star America is a wholly-owned subsidiary of Tikehau Capital SCA, a publicly listed entity on the regulated market Euronext Paris. Tikehau Capital SCA has €30.9 billion of assets under management (as of June 30, 2021) including €10.9 billion in its growing Real Assets platform (as of June 30, 2021). Star America’s Fund II is providing an Equity Letter of Support to TESIAC Corp. as it pertains to matching share investment in the proposed infrastructure project related to mobility, energy, and smart city technology for the East Bay Innovation Cluster (“EBiC”).
Loop Capital	Loop Capital is a full-service investment bank, brokerage and advisory firm that provides creative capital solutions for corporate, governmental and institutional entities across the globe. Loop Capital was founded in 1997 and is now one of the largest privately-held investment banks in the U.S. and the largest minority or women-owned investment banking firm in the world. Loop Capital is a strategic infrastructure capital partner for the development of the East Bay Innovation Cluster.
Acumen Building Enterprise	Acumen has participated in early brainstorming sessions. Headquartered and grown in Oakland, Acumen has been working in the transportation, mobility, and infrastructure space across the nation for more than 25 years. Acumen has gained experience, delivered, and been involved in transportation and infrastructure projects BART, Alameda County Transportation Commission (implementation of highway projects) and the City of Oakland (street improvement projects). Acumen will co-lead the Mobility initiative with BART, TESIAC and SUDA. Acumen has committed to interface with Oakland Unified School District and the Peralta Community College District to create job opportunities and mentoring and coaching programs.
SparkCharge	SparkCharge was founded in 2017 with the goal to build the world's largest mobile electric vehicle charging network through hardware, software, and partnerships. It's Roadie Charging System is a portable modular charging solution that makes charging accessible regardless of infrastructure. SparkCharge has committed to work with other EBiC industry partners to bring good-paying cleantech jobs to the EBiC.
AEKO Consulting	AEKO Consulting has participated in early brainstorming sessions. Oakland-based solutions integration firm specializing in the development, implementation, and maintenance of secure communication, mobility and renewable energy technology infrastructure. AEKO will provide program management and technology implementation services. Committed to hiring local talent as part of this initiative.

Beam Global	Beam Global is part of the TESIAC consortium. Based in San Diego, Beam produces sustainable Made in America patented products for electric vehicle charging, energy security and outdoor media. Beam is publicly traded on Nasdaq under the ticker BEEM. Beam Global is prepared to advance economic development within the region through local job creation, resilient infrastructure investment, and job access to disadvantage and underserved communities. TESIAC is one of the co-leads for the Mobility Ecosystem initiative and has helped to define the project’s scope, approach and deliverables.
Arcimoto	Arcimoto is part of the TESIAC consortium and has agreed to provide their products and expertise to develop a cohesive mobility ecosystem strategy for the EBiC. Arcimoto (NASDAQ: FUV) develops and manufactures ultra-efficient and affordable electric vehicles to help the world shift to a sustainable transportation system. Arcimoto’s flagship vehicle, the Arcimoto FUV®, is purpose-built for everyday driving and transforms ordinary trips into pure-electric joyrides.
OODA	OODA is part of the TESIAC consortium and has agreed to provide their products and expertise to develop a cohesive mobility ecosystem strategy for the EBiC. OODA is a global strategic advisory firm with deep DNA in global security, technology, and intelligence issues. OODA is comprised of a unique team of international experts lead by co-founders Matt Devost and Bob Gourley. Matt and Bob have been collaborating for two decades on advanced technology, intelligence, and security issues.
Via Mobility	Via is part of the TESIAC consortium and has agreed to provide their products and expertise to develop a cohesive mobility ecosystem strategy for the EBiC. Via Mobility is a pioneer in the TransitTech industry. Via’s software provides an end-to-end solution to plan, optimize, and operate efficient and equitable transit systems - unlocking opportunity for all, and building resilient cities for the future. With over 500 transit partners, Via Mobility is present in 5 continents and its powerful digital infrastructure is responsible for over 90 million transit rides. Via Mobility’s technology enables partners to create end-to-end transit systems: from planning better networks and streets to operating efficient public transit and student transportation.
Dannar	Dannar is part of the TESIAC consortium and has agreed to provide their products and expertise to develop a cohesive mobility ecosystem strategy for the EBiC. DANNAR is an Original Equipment Manufacturer (OEM) of the first-ever mobile, off-road energy platform, providing off-grid export power for planned daily and seasonal needs and unexpected emergency response. Headquartered in Indiana, DANNAR is changing the way we work, build, repair and use electricity.
Juicebar EV	Juicebar is part of the TESIAC consortium and has agreed to provide their products and expertise to develop a cohesive mobility ecosystem strategy for the EBiC. JuiceBar is a pioneer in EV Charging stations and has been committed to building a global EV charging infrastructure since 2009.

	<p>JuiceBar chargers are manufactured and assembled in America and can be found in hundreds of cities throughout North America. Their latest 300 Series ‘Gen 3’ chargers offer charge times that are 60-250% faster than the industry's standard Level 2 charger, offer unique safety features, and are network agnostic.</p>
<p>SF Bay Area CEDS Alignment – Goal 1: Objectives 1.2, 1.3, 1.4; Goal 2: Objectives 2.1, 2.2, 2.3, 2.4; Goal 3: Objectives 3.1; Goal 4: Objectives 4.1, 4.2, 4.4, 4.5</p>	

Project 3 – Technology Workforce Development

<p>Consol USA</p>	<p>ConSol will co-lead the Tech Workforce Development project and has helped to define the project’s scope, approach and deliverables. Based in Oakland, Consol is a minority-founded, owned, and led for-profit social enterprise that operates nationally, and is focused on providing outsourced technology services and staff augmentation to major corporations in the U.S. with talent drawn from underserved diverse populations. ConSol and Generation (the eligible applicant and co-lead) have entered into a national partnership to develop outsourced services in the rapidly growing technology sector that provides robust upward career mobility, economic opportunity, and wealth creation for people irrespective of gender, socio-economic background, or ethnicity. ConSol has committed to training and hiring the graduates of the Tech Workforce Development project.</p>
<p>SF Bay Area CEDS Alignment – Goal 1: Objectives 1.1, 1.2, 1.3, 1.4; Goal 2: Objectives 2.1, 2.2, 2.3, 2.4; Goal 3: Objectives 3.1; Goal 4: Objectives 4.2</p>	

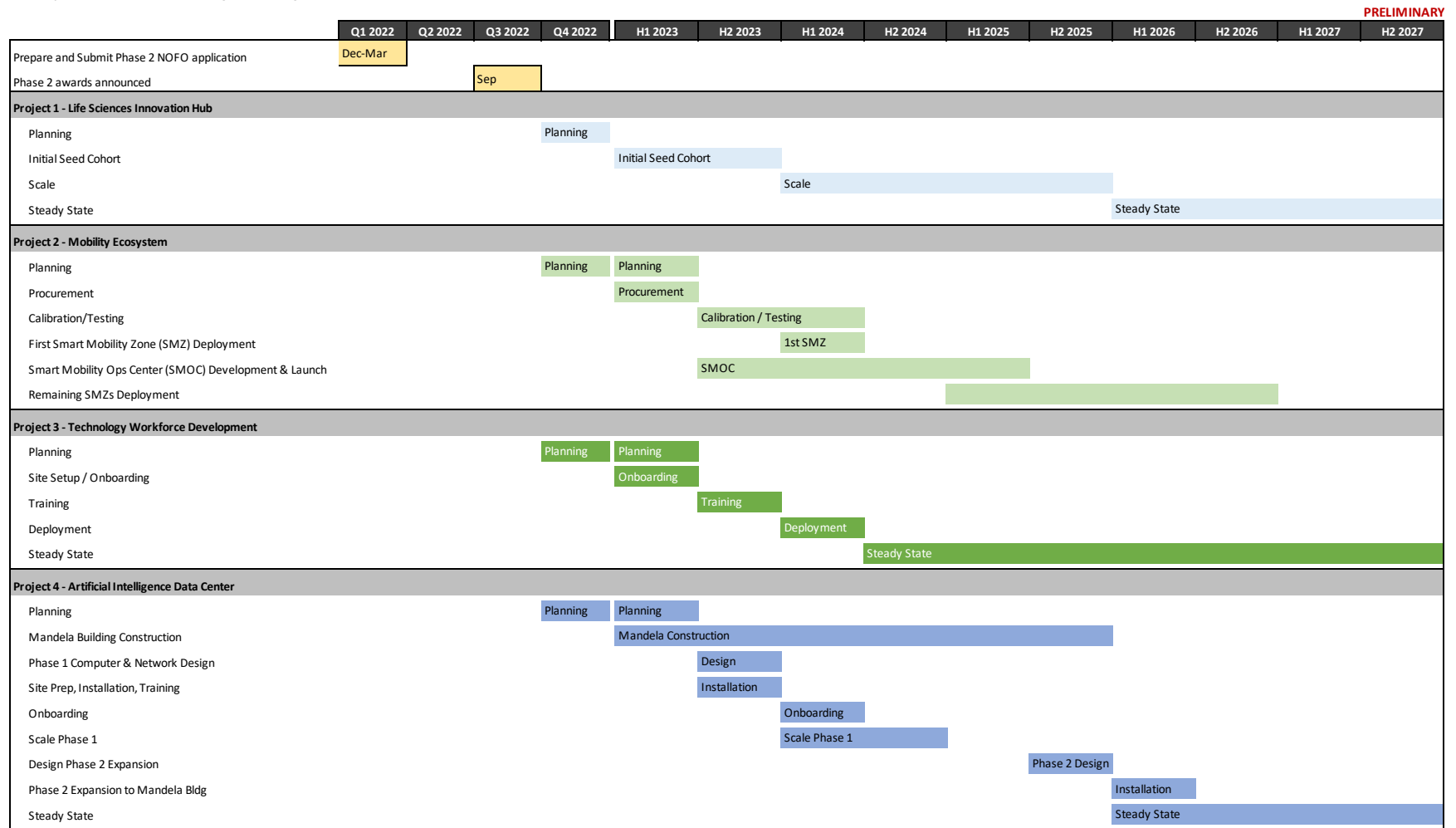
Project 4 – Artificial Intelligence Data Center

<p>NVIDIA</p>	<p>NVIDIA (NASDAQ: NVDA) has created platforms for scientific computing, artificial intelligence, data science, autonomous vehicles, robotics, and augmented and virtual reality. In the life sciences and healthcare industries, NVIDIA is powering healthcare solutions across drug discovery, genomics, medical imaging and smart hospitals and medical instruments. NVIDIA’s Metropolis platform maintains and improves city infrastructure, parking spaces, buildings, and public services via intelligent traffic systems, access controls, public transit and smart buildings. NVIDIA will be installing an Artificial Intelligence (AI) data center at Mandela Station and provide additional support services via its NVIDIA Inception program to help spur AI innovations in life sciences and smart city technologies. NVIDIA will collaborate on developing Tech workforce development initiatives that help bridge the access gap and create a more inclusive workforce and help to identify potential partners in industry and educational institutions to provide exposure to education and research innovation.</p>
<p>SF Bay Area CEDS Alignment – Goal 1: Objectives 1.1, 1.2, 1.3, 1.4, 1.5; Goal 2: Objectives 2.1, 2.2, 2.3, 2.4; Goal 3: Objectives 3.1; Goal 4: Objectives 4.2, 4.5</p>	

Indicative Program Timeline

The EBiC coalition and private sector industry partners submit this high level indicative timeline to form an initial view into the overall timing of the program’s workstreams and phases.

East Bay Innovation Cluster (EBiC) High Level Program Timeline



EBiC Private Sector Engagement Approach

The EBiC plans to cast a large net to include the participation of all its coalition members, private industry partners, government agencies and capital partners to engage the private sector:

- East Bay EDA will be contracted by BART to take on the Regional Economic Competitiveness Officer role for the East Bay Innovation Cluster. The East Bay EDA is a 150+ member organization that serves as the regional voice and networking resource for strengthening the economy, building the workforce and enhancing the quality of life in the East Bay. As the central economic development organization in the East Bay, the East Bay EDA is well positioned to help the EBiC engage the private industry sector. Through its membership, East Bay EDA understands the needs of major employers in the region and is aware of key projects and strategic initiatives being contemplated by the private sector.
- From a life sciences perspective, by virtue of their organization's roles in the life sciences ecosystem in the state, California Life Sciences and QB3 have tremendous industry reach that will benefit the EBiC. California Life Sciences is the largest state and regional life sciences advocacy group in the country, with more than 797 members across biotechnology, pharmaceutical, medical device, and diagnostics companies, research universities and institutes, investors, and service providers. QB3 is the University of California's life sciences incubator and has pioneered incubators and venture investing in biotech startups, fulfilling its mission of laying the foundations of entrepreneurship, community building and scientific discovery and innovation. QB3 is responsible for supporting 500+ early-stage companies and currently has six incubator sites in the greater Bay Area.
- From a technology perspective, the EBiC plans to call upon its broad network of relationships at leading technology providers and professional services firms – NVIDIA, Google, Intel, VMWare, World Wide Technology, Accenture, PwC, Oliver Wyman to name a few.
- As one of the oldest workforce development organizations in the East Bay, the Oakland Private Industry Council has built a wide network of employers interested to hire employees from under-represented communities.
- From a real estate perspective, the EBiC is supported by a number of seasoned and accomplished real estate development firms, professional service providers (e.g., architects, engineers, consultants, attorneys, brokers, etc.), construction companies and capital providers (e.g., banks, family offices, pension funds and high net worth investors).
- Lastly, the EBiC will closely work and collaborate with the City of Oakland's Economic & Workforce Development Department to help support Oakland businesses, train the workforce, reduce employment barriers, and create jobs by attracting new investment and capital sources.

Sustainability of the EBiC

After the first five years, the programs will be mature enough to continue well beyond the ARPA awards period. To assure sustainability, EBiC is preparing to improve the cluster's economic growth. For example, the QB3 and California Life Sciences will leverage their industry sector relationships to provide funding for the incubation, accelerator and workforce development program. Prospective life sciences employers will also financially support the workforce development initiative to ensure long-term financial sustainability. Also, for the Early Childhood Education & Care, Mills College will work with California Head Start and major philanthropies to explore funding sources to reduce or eliminate costs for qualifying families. Additionally, as part of the integrated workforce development initiatives, we are exploring cross-subsidization strategies across the EBiC to help bridge funding gaps for early childhood education and care. Our sustainability plan includes an overall capital strategy for Mandela Station with the creation of an Enhanced Infrastructure Financial District to help fund infrastructure costs and economic development related expenses.

Other key elements of the steady-state economic resilience plans are:

Affordable Housing – Poverty and housing go hand in hand. A roof over the family becomes a pressing concern when there is a decrease in salary/hours or a lost job. Covid-19 only exacerbated the problem. However, the Mandela Station project was predicated upon building sustainable and affordable housing to mitigate poverty - 240 affordable housing units with one-third dedicated to those previously homeless. EBiC connects housing, expanded employment and early childhood education – a recipe for long term success and the foundation to sustaining EBiC's vision for economic growth.

Expanded funding and policies emerging from the state, county and cities will support sustainability. Mandela Station received the 2020 CA Affordable Sustainable Housing Grant of \$29.6M – nearby Fruitvale Station also received this grant. In 2016, Oakland voters approved Bond Measure KK- \$600,000M for affordable housing and the city launched its affordable housing impact fee. In 2021, California Comeback Plan's \$22 billion housing and homelessness investment will fund 84,000 new housing units. The Newsom administration recently advanced \$800 million to build affordable infrastructure and housing. Funding opportunities like these and private sources will continue to be resources for affordable housing. When coupled with the occupants' wage growth, affordable housing sustainability can definitely be realized.

Transportation – EBiC has at its core the ability to maximize housing near transit and improve transportation options. As a TOD we are well suited to continue the viability of the four proposed projects. EBiC projects are primarily housed at Mandela Station, the regional hub serving all BART lines with AC Transit bus operations for connections and nearby Amtrak where 30 trains operate daily between Sacramento and San Jose. Adding driverless and other automated options as technology develops and matures, increase mobility choices for East Bay residents helping to foster project longevity and increased asset utilization and ridership levels. Non-auto transportation modes along with walking and biking will remain available for participant training, placement and nonvirtual work assignments. BART, as the lead applicant, provides EBiC economic development practitioners as a transportation resource. Also, EBiC tech transportation innovator, TESIAC, secured an Equity Letter of Support from Star America, an infrastructure investment fund sponsored by Tikehau Capital, a European asset manager with €30.9 billion of assets under management. They have agreed to provide matching funds for the Phase 2 Build Back Better Regional Challenge application - see attached Equity Letter of Support. Additionally,

the Public-Private Partnerships established with the city of Oakland and local transit agencies yield private investment capital to fund the Mobility Ecosystem initiative. Finally, revenue opportunities exist when BART monetizes their fiber optic and uninterrupted power supply.

BART Policies – BART owns over 250 acres of developable land at 27 stations in four counties, largely parking lots for BART riders. BART engaged in comprehensive planning efforts involving extensive engagement with the communities surrounding BART stations, local government agencies and land use advocacy organizations such as Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC) to define and implement a collective vision for resilience. BART board adopted Affordable Housing Policy (2016), TOD Policy (2019), Development Principles Assembly Bill 2993 (2020) and Sustainability Principles in (2020). BART’s TOD projects will conform to locally adopted goals and objectives for TOD identified in local specific plans or other efforts, so long as zoning of BART property allows for densities and heights that are the highest possible under local economic and funding conditions and are consistent with Plan Bay Area 2050 and the Regional Housing Needs Allocation. Having BART on the EBiC team is critical to maximizing resources to for project sustainability.

Private developers with BART owned sites (West Oakland Mandela Station, Lake Merritt Station and Eastline at 19th St Station) are approved by the City of Oakland for 3 million square of commercial space and 1,310 homes aligning with BART’s current TOD policy goals. These projects can be built without displacement for they utilize BART real estate formally reserved for station parking. Like Mandela Station all are comprised of expanded mixed-use and affordable housing criteria including density. The build-out will aid EBiC in sustaining the regional cluster reach. Further, BART’s TOD Program creates and sustains jobs in California: Every housing unit constructed on BART’s property generates 4.5 direct and indirect jobs in California. Every 1,000 square feet of commercial space generates 4.3 direct and indirect jobs in California. BART’s TOD program could generate 85,000 direct and indirect jobs in California between 2020 and 2030. Also, 62% of these jobs are “middle skill” jobs – requiring on the job training rather than a college degree but offering a living wage (BART TOD Work Plan- 2020).

Work Force Expansion & Integration – The Oakland Private Industry Council (OPIC) provides funding for vocational training, employment services and supportive services offered under the Workforce Innovation and Opportunity Act Program (WIOA). It is a source of ongoing workforce public funding and “boots on the ground” with one-stop employment services in local East Bay communities. Industry partner California Institute of Quantitative Biosciences (QB3) will establish a life sciences incubation and accelerator program to develop entrepreneurs in Bioscience at the Mandela Station TOD and The California Life Sciences (CLSI) will provide programs in STEM education, entrepreneurship and workforce development. This public- private partnership is an investment in the economic future of California’s life sciences industry and will assure the sustainability of the programs to improve the cluster’s economic growth and shared prosperity. To address the lack of diversity and inclusion in Biotech Industry, California Life Sciences Institute’s Racial & Social Equity Initiative is a unified effort to do more for the historically excluded Black, Indigenous and other People of Color (BIPOC) populations in California. Coalition partners will focus on small businesses’ growth to drive industry growth which in turn expands the market to place our trainees/participants by outsource staff augmentation using ConSol’s national partnerships model. ConSol’s goal is to train and employ at least 1,000 people within life sciences over the course of 5 years creating an ecosystem to yield on exponential impact of sustainability and shared prosperity.

Ensuring Equity in the EBiC

The regional cluster for EBiC is found within the San Francisco Bay Area, known globally as an economic powerhouse. We know it to be a study in economic contrasts. In 2018, the San Francisco and Silicon Valley life science clusters enjoyed a 5.7% expansion of the labor force while the East Bay clusters experienced a contraction of 0.7% in employment¹.

Clearly the Bay Area’s economic prosperity has come at a cost. The Bay Area is ranked third nationally in economic inequality. High-income families earn 11x more than families on the lower end of the income scale. Despite the regional economic boom, income inequality is on the rise with African American and Latinx families overrepresented among the lowest-earning households². The poverty rate for African Americans is more than double the regional poverty rate. This is exacerbated when adjusted for high housing costs. Rents continue to rise while wages have stagnated, deepening inequality.

Our ambitious innovation program, the East Bay Innovation Cluster (EBiC) will leverage our key strengths – Life Sciences and Technology – that exist today in the Bay Area but have been predominantly absent from the community of color found in the East Bay. Our goal is to promote an equitable and inclusive growth strategy in the East Bay, engaging marginalized communities and creating opportunities through comprehensive educational, workforce development, mobility and human infrastructure initiatives. We will do so by implementing the principles of “Leadership in Enhancing Equitable Participation” (LEEP).

LEEP engages in practices that engineer equity from the ground up. The goal of LEEP is to “help foster a more equitable and socially responsible real estate development landscape; one where local communities can benefit from and shape how their regions feel. Creating a trusted standard of practice and certification platform will allow all to *do good while doing well.*”

While targeted for the real estate industry, key Members of the EBiC coalition are in the early stages of developing the LEEP initiative. The official LEEP nonprofit organization has been recently formed and we intend for the EBiC to serve as a pilot – and an early example of the benefits of adopting state-of-the-art equity practices. We will measure and document the results of the pilot.

LEEP will help ensure that equitable-development outcomes are attainable and accessible to underserved communities of color. To facilitate this objective, the program will offer project partners a variety of (currently available and to be developed) tools and resources across the broad spectrum of development activities. Over the next several years, the program is generally intended to establish:

- A. A comprehensive, and curated, set of guidelines and best practices (i.e., the means and methods) for achieving equitable development outcomes; and
- B. A nationally recognized **Rating and Certification** process that **effectively communicates a project’s implementation of socially responsible development practices** (e.g., Bronze, Gold, Silver, Platinum, etc.).

The key areas of focus of LEEP certification will include:

- a) Employment and Career Development for under-represented populations;
- b) Small Business Utilization;

¹ PwC CLSA 2020 California Life Sciences Sector Report

²Mendiola, Ángel and Treuhaft, Ross and Sarah. *Who is Low-Income and Very Low Income in the Bay Area?*, Bay Area Equity Atlas, September 21, 2020

- c) Ownership of businesses and/or real estate assets (with a focus on achieving greater intergenerational wealth creation and transfer)
- d) Workforce Housing & Affordability
- e) Environmental Sustainability
- f) Mental & Physical Health and Well-Being,

LEEP PROGRAMATIC MEANS AND METHODOLOGY:

1. **Early Community Outreach:** LEEP project organizers will adopt and contribute resources for undertaking early and ongoing community outreach through every stage of a project. The outreach process will solicit early community feedback which is taken into consideration as development strategies and project designs are formulated. The outreach process will also serve to; a) clearly articulate the LEEP projects’ social equity goals, b) familiarize the community with the project’s design/engineering/financial specifications; c) advise of business and career opportunities associated with the project, and d) solicit feedback on, and support for, the planned strategies for meeting the social equity goals.
2. **Training and Education:** LEEP project participants leverage their respective, and combined, large-scale project opportunities to provide diverse communities with access to educational resources for vocational/professional training. Equity recipients will have the best chance to take full advantage of life-changing opportunities to meet and exceed their personal and business goals.
3. **Funding Support:** Successful implementation of the Engineering Equity initiative requires both identifying and securing funding resources. However, adoption of LEEP initiative practices will also serve as a “lightning rod” to attract community-building social-equity capital such as, grants, New Markets Tax Credits, Opportunity Zone Tax Credits, Cap & Trade Funding, Enhanced Infrastructure Finance District (EIFD), etc. LEEP project sponsors will develop plans, and provide resources, to identify and analyze available funding sources.
4. **Transactional Structuring:** The success and sustainability of a LEEP initiative requires the thoughtful consideration and inclusion of community-oriented objectives while structuring the various contractual and financing transactions associated with the project enterprise. When intentionally conceived, creatively structured, and properly implemented, community-oriented equity participation policies and objectives do not financially burden projects, but indeed – become tools that generate enhanced financial value and equitable participation.
5. **Technology Deployment:** Developing large-scale, state-of-the-art facilities involves the utilization (and often pilot- deployment) of cutting-edge technology during the building design, construction, and operational cycle. The deployment of these technologies on, and within, large-scale development projects provide numerous gateway career/employment opportunities for local residents and historically underutilized small businesses. LEEP projects will ultimately incentivize specific measures to support making cutting-edge technologies accessible to underutilized workers and businesses.

The EBiC team believes the LEEP approach is a tool for reaching populations who are historically excluded from the economic success so prevalent in the Bay Area. Our vision is uniquely positioned to create the connectivity and conditions for long term economic benefits emerging from high paying positions found in existing and emerging technologies. We will use this opportunity to leapfrog other cities and establish the East Bay as a leading innovation growth cluster and an equity attainment national model for others to follow.