

Bay Area Catalysts for Technology Innovation



Panelists

Esther Morales

Assistant Vice Chancellor, University of California, San Francisco



Robert Lanne

Vice Chancellor, University of California, Berkeley



Kelly Kline

Economic Development Director, City of Fremont



Moderator

Jay Sholl

Advisory & Transaction Services, CBRE

What Are Innovation Districts?

Innovation districts are based on the premise that collaboration and productivity result from proximity, and therefore job creation and innovation can be fostered through the intentional clustering of businesses, institutions, ideas and people.

- Over the last decade, cities have started to develop different types of clustering strategies, including dedicating certain areas as “Innovation Districts”.
- As of January 2015, it is estimated that there are approximately 80 of these Innovation Districts across the globe.

What Are Innovation Districts?

Place Making Lab: Experimentation is central to the ethos of the Innovation District. Creators want to use the space to experiment in clean energy, citizen participation, education, transportation, and social infrastructure.

Catalyst Required: Districts created by the commitment and vision of key figures in the community.

Finance and Investment: State or federal funding and/or programs, the degree to which they utilize them varies. Each district uses a variety of tax captures, seed funding, infrastructure development and grants.

Entrepreneurs: focused on individuals who are creating opportunities, products, and services.

Universities: a necessity for making the education, talent, entrepreneur connection.

Infrastructure: All should benefit from the shared infrastructure, access to public transit, internet connectivity, and multi-modal transportation; “high tech” including energy delivery, waste management, and lighting.

Promote collaboration: create a close-knit ecosystem, networking assets to build community and clustering to foster creative focused sustainable growth.

Provide public & private space + programming: establish an abundance of collaborative open spaces and organizations including incubators, accelerators, co-working spaces, schools and job training firms advancing specific skill sets for the innovation economy.

Develop a 24-hour neighborhood: build “innovation” housing, provide live-work spaces, focused creative affordable housing options, attract an innovative nightlife, build cultural institutions, support services to residents and workers in the district.

Brookings Institution Report 2014: “Rise of Innovation Districts”

Anchor Plus

Anchor-driven in midtown/downtown areas like Cambridge and Philadelphia secured by institutions like MIT and Drexel University. **(Mission Bay?)**

Urbanized Science Park

Isolated areas of innovation, outside the city core, traditional R&D suburban campuses are experiencing densification like Research Triangle Park in Raleigh Durham. **(Fremont?)**

Re-imagined Urban Area

Industrial, waterfront, or warehouse districts undergoing physical and economic transformation powered by transit access and proximity to innovative, cutting-edge anchor institutions in urban areas like Brooklyn, and Seattle. **(Richmond?)**

Where Are They?

The location of innovation districts within a metropolis varies

URBANIZED SCIENCE PARK

The urbanization science parks model tends to be located in suburban and even exurban areas

ANCHOR PLUS MODEL

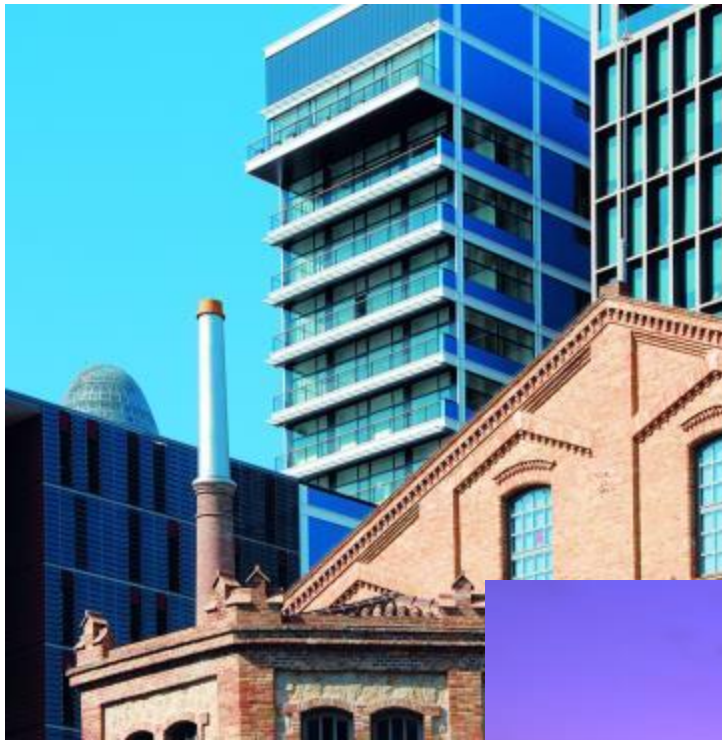
The anchor plus model tends to be located in the downtowns and midtowns of central cities.

RE-IMAGINED URBAN AREA

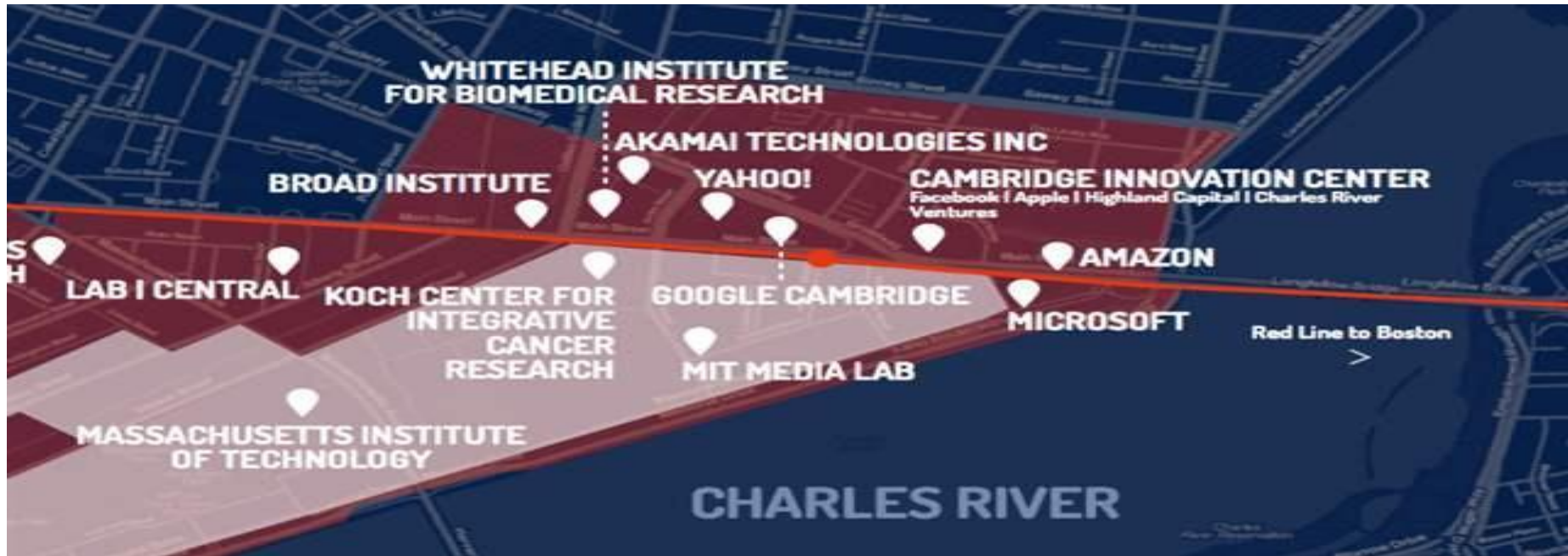
The reimaged urban areas model tends to be located in older industrial areas, often along waterfronts near downtowns



Barcelona @22 *Re-imagined Urban Area*









Why Innovation District Matter?

Perhaps most importantly, these districts promote inclusive growth. At a time of rising economic inequality, their mix of public/private funding, focus on education, as well as their proximity to low- and moderate-income neighborhoods could mean a significant expansion of opportunity for those still struggling to adapt to the new economy.

- Ties job growth to disruptive economic forces that leverage distinct economic positions. **(Think “Convergence Economy”)**
- Empowers Entrepreneurs as key vehicle for economic growth **(Think “Collaboration”)**
- Increases better and more accessible jobs **(Think “Shared Prosperity”)**
- Reduces carbon emissions **(Think “Sustainability”)**
- Raises revenues and repairs local municipal balance sheets **(Think “Economic Development 2.0”)**



Esther Morales

**Assistant Vice Chancellor, University of California,
San Francisco**

Mission Bay Technology and Urban Development

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

Urban Land Institute Concurrent Session
October 7, 2015

ESTHER E. MORALES

Assistant Vice Chancellor, Real Estate Assets and Development



Context:

- History of Mission Bay: from aging warehouses in 1990s to “innovation district” today
- UCSF at Mission Bay
- Life Sciences and Technology at Mission Bay



History of Mission Bay

Mission Bay (Circa 1980)





The 1998 Catellus Land Use Plan



The 1998 Catellus Plan



Mission Bay 2015



Today, Mission Bay is a global center for life sciences and technology innovation. Why?

Collaboration

- UCSF/Catellus Development Corporation/City of San Francisco for original 43 acre campus
- Goals for healthcare, biotechnology, life sciences development at Mission Bay
- Public private partnerships with life sciences and technology sector
- Community of City, Neighbors, University, and Private Industry

UCSF at Mission Bay

Background University of California San Francisco

- UCSF is the only campus in UC's ten campus system which is dedicated solely to graduate level health sciences
- Nearly 3,000 students, over 1,000 postdoctoral scholars, and 1,700 clinical residents
- 28,000 faculty and staff
- UCSF Medical Center recognized as a world leader in health care
- UCSF owns 198 acres and occupies 9.2 million square feet of space in multiple sites throughout San Francisco
- Our buildings are valued at \$7.3 billion
- UCSF has a \$3B annual operating budget, and produces a \$6 billion annual impact in the Bay Area
- UCSF maintains long-standing affiliations with the Gladstone Institutes also at Mission Bay as well as with the Veterans Affairs Medical Center, and San Francisco General Hospital

UCSF at Mission Bay

- UCSF's **original 43 acre north campus** was donated to the University in 1998 by Catellus Development Corporation and the City of San Francisco
- In 2008, UCSF acquired an additional **14 acres south** of sixteenth street, the south campus, for UCSF's medical center at mission bay
- In 2014, we purchased another **3.8 acres just east** of Third Street across the street from the hospital site. This is the east campus. This site will be developed by 2019 for consolidation of programs throughout the City from leased spaces and for programs which will benefit by being adjacent to our current activities at mission bay
- UCSF also leases another 300,000 feet space from Alexandria and China Basin in buildings adjacent to or near Mission Bay





17C – HELEN DILLER CANCER
RESEARCH BUILDING



17A/B – CARDIOVASCULAR
RESEARCH BUILDING



24A/B/C – GENENTECH HALL



19B – ROCK HALL



UCSF Mission Bay Hospital – February 2015



UCSF BENIOFF CHILDREN'S HOSPITAL
Mission Bay, San Francisco

Future UCSF Projects by 2020



Life Sciences and Technology at Mission Bay



3-4 MILLION SF OF STATE-OF-THE-ART
OFFICE AND RESEARCH SPACE

7,000+ RESIDENTIAL UNITS UNDER
CONSTRUCTION OR COMPLETED
SINCE 2010

SF GIANTS, WARRIORS, AND WORLD-
CLASS ENTERTAINMENT

49 ACRES OF PARKS AND OPEN
SPACES

NEW SUBWAY T-LINE UNDER
CONSTRUCTION

NEW MARIPOSA EXIT TO BE
COMPLETED IN 2016

NEW 4TH STREET RETAIL, 250K SF
UNDERWAY



MISSION BAY
HAS ARRIVED

KILROY REALTY | PAGE 5

SIZE

700,000 SF OFFICE

15,000 SF RETAIL

SCHEDULE

CURRENTLY UNDER CONSTRUCTION

DEC 2016 TI'S BEGIN

MID 2017 MOVE-IN

DESIGN

DESIGNED BY: RIOS CLEMENTI HALE

EXECUTED BY: FLAD ARCHITECTS

DEVELOPMENT DETAILS



Uber Mission Bay – Third Street



Long term growth demands by 2035, UCSF will:

- increase childcare spaces from 300 to 430
- increase housing from 650 to 1650
- increase its total square footage from 9M to 11.5M
- see similar growth in overall population and clinic visits
- UCSF expects continued growth in research funding, in clinical volume, and in philanthropy; all significant drivers for capital construction
- **We will see new efforts to engage in industry partnerships at unprecedented levels, including new research enterprises through the development of incubator spaces at and near Mission Bay, new research affiliations with private technology companies in areas of big data and precision medicine, and through public private project delivery models for development of new facilities**



MISSION BAY: A CONTEMPORARY DISTRICT

Connected to dynamic neighborhoods rich in craft and culture (Potrero Hill & Dogpatch), Mission Bay has been revived once again as a vibrant and influential hub of industry enhanced by deep innovative spirit.



Kelly Kline

**Economic Development Director,
City of Fremont**

Fremont's Story: Threat vs. Opportunity

FREMONT INNOVATION DISTRICT



- Closure of 5 M square foot NUMMI Factory ☹️
- Tesla Purchases NUMMI for Model S Production 😊
- Union Pacific RR purchases 160 acres surrounding the factory for a railroad storage yard. ☹️
- UP agrees to sell as adjacent BART station nears completion. 😊

Warm Springs Area in Context



FREMONT
INNOVATION
DISTRICT



Catalytic Opportunity in Warm Springs

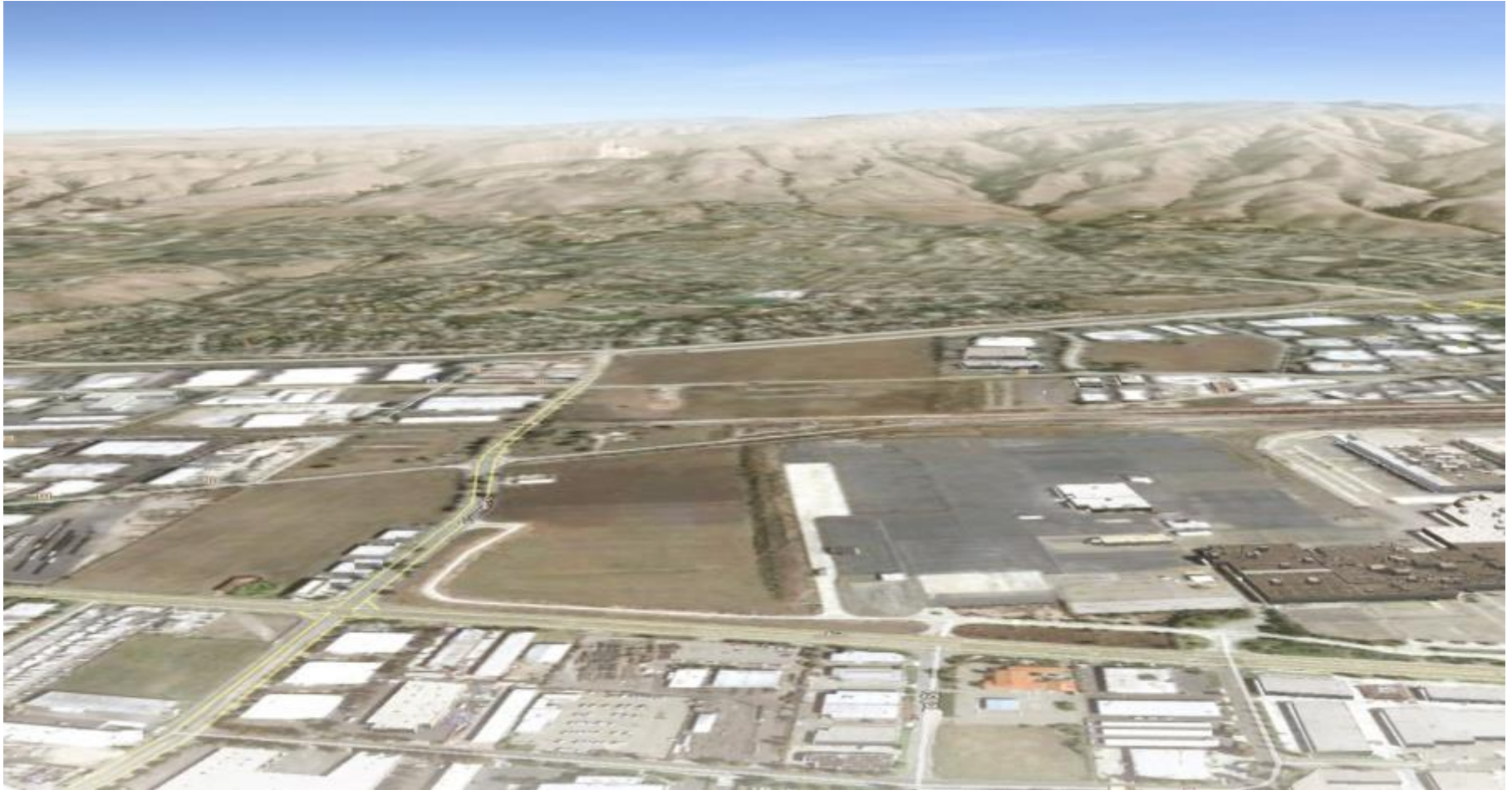


BART Arrives in early 2016



Innovation Way – BART to Fremont Boulevard

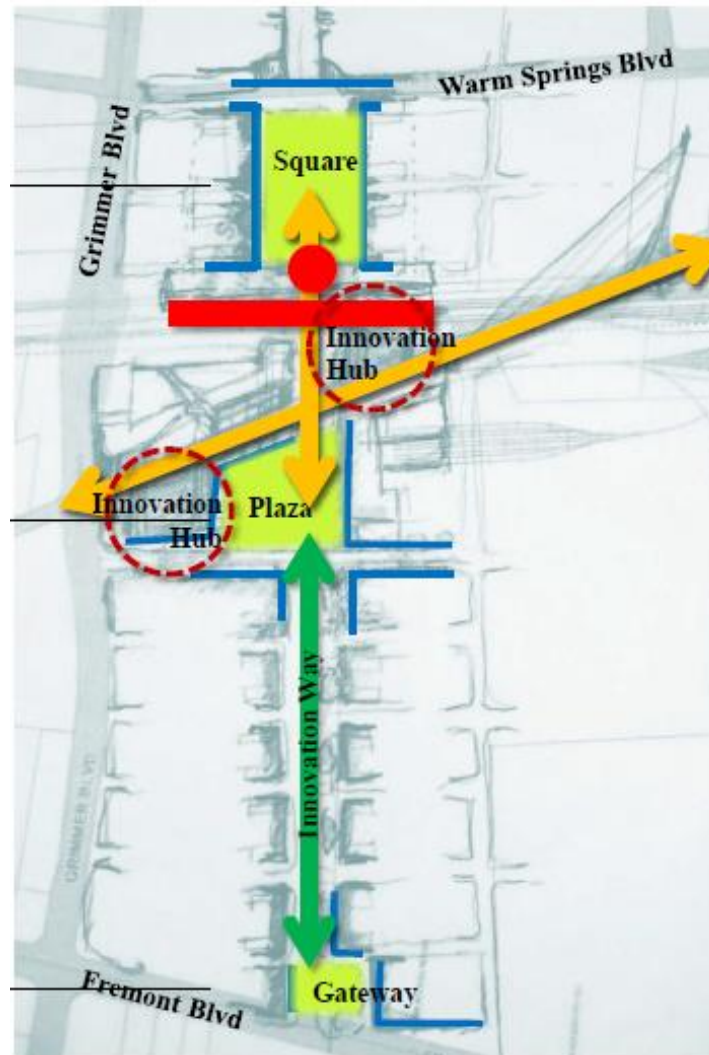
Warm Springs Existing Condition



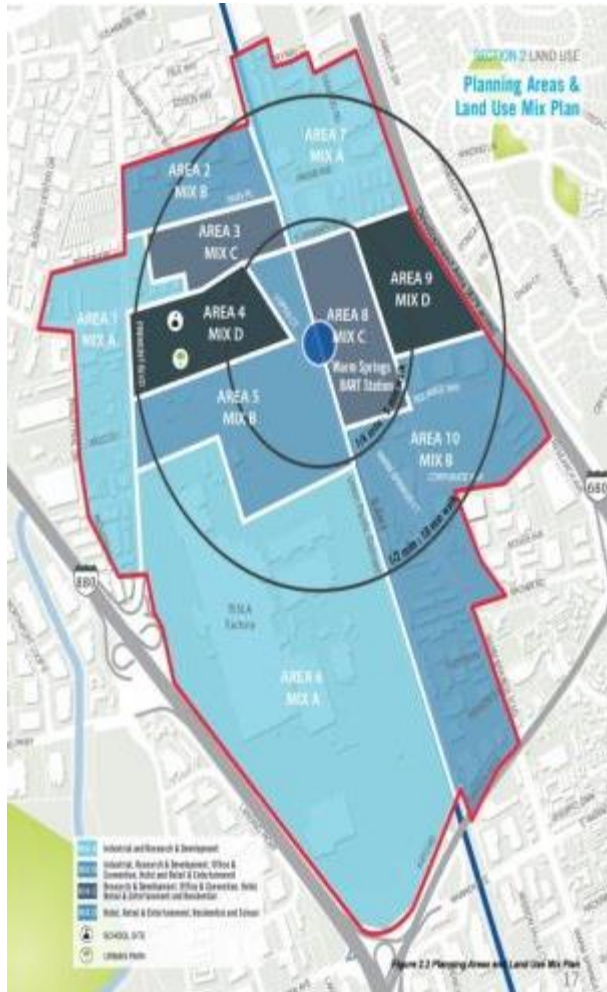
Future Vision — Parcel North of Tesla



ULI Advisory Services Panel: June '12



Warm Springs Land Use Plan



- | | |
|--------------|--|
| MIX A | Industrial and Research & Development |
| MIX B | Industrial, Research & Development, Office & Convention, Motel and Retail & Entertainment |
| MIX C | Research & Development, Office & Convention, Hotel, Retail & Entertainment and Residential |
| MIX D | Hotel, Retail & Entertainment, Residential and School |

Catalytic Opportunity:

- 20,000 jobs
- 4,000 housing units
- New BART station end of 2015

Key feature:

Performance based planning based on minimum requirements

Lessons Learned So Far...

Labeling something “innovative” does not make it so...

Minimum threshold of innovation-oriented firms, start-ups institutions, or clusters needed to create an ecosystem.

Empirically based evidence is needed to:

- understand competitive stance
- encourage collaboration across institutions, firms, and entrepreneurs
- create “place” to increase vitality, facilitate innovation, and spur growth

More Lessons

Importance of Place

To facilitate open innovation, extend hours, and create a culturally and educationally enriched environment

Importance of Intermediaries (accelerators & incubators)

Evolution from the traditional “research and development” model to a “search and development” -- solving innovation questions by collaborating with other firms

Importance of Inclusive Growth and Equitable Outcomes

Many established and emerging innovation districts are located in proximity to distressed communities. This proximity creates enormous opportunity for employment opportunities, tax revenues for services, and talent links to schools.

Integrating Manufacturing Into Innovation Zones



Will the new industrial city work?

At MIT symposium, promise of advanced manufacturing suggests new ways to reshape urban space.

Small-city mayors: Build your tech hardware in the US

Leaders of cities outside the typical tech metropolises – specifically cities touched by Tesla's sprawling electric-car operation in California and Nevada – want a bigger hand in tech manufacturing.

by Richard News [@richardnews](#) / October 2, 2014 7:00 AM PDT

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Creating an Innovation Ecosystem





Robert Lalanne

Vice Chancellor, University of California, Berkeley

Bay Area Catalysts for Technology Innovation & Urban Redevelopment



Bob Lalanne, Vice Chancellor Real Estate
Urban Land Institute Fall Meeting – San Francisco
October 2015

“Show me the money!”

- Local Government
- State Government
- Federal Government
- Philanthropists
- Private Investors
- Universities
- Medical Centers

Tension Between Land Value and Building Use

- Innovation Space
- Small-scale Manufacturing
- Applied Research
- Low Rise + High Ceilings = Low Density
- Low Density = Lower Building Values
- Parking
- Infrastructure

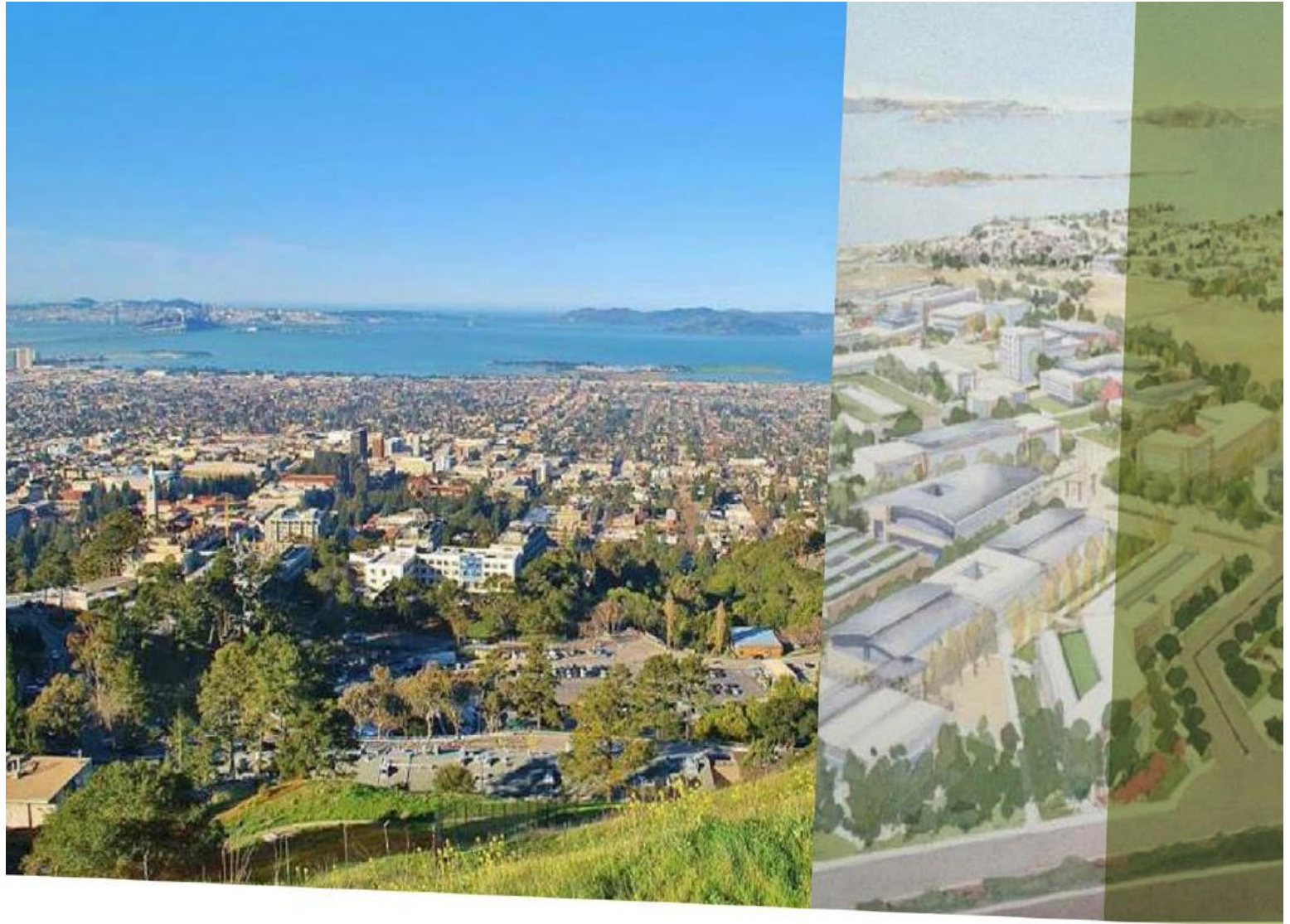
Where is the Talent Pool?

- Medical Center
- Universities
- Private Companies

Some Key Ingredients to development and starting a project

- Capital
 - Build Facilities, Annual Operations, Funding Researchers
- Talent Pool
 - Researchers, Students, Employees, Staff
- Intellectual Sponsorship
 - University, Medical Center, Corporate
- Research Park vs. Innovation
 - Closed Walls vs. Collaboration Between Industry and Academia

Berkeley Global Campus



A Bold Vision

- A site where the world's most elite Universities and private companies work side by side in a Global Campus setting.
- A state-of-the-art, sustainable place for interdisciplinary, international and public/private collaborations working to develop solutions for 21st century challenges in energy, environment, health and the global economy.
- A living laboratory in which operating practices and infrastructure, facilities performance monitoring and sustainability goals are leveraged to engage, apply and strengthen research.

The Setting

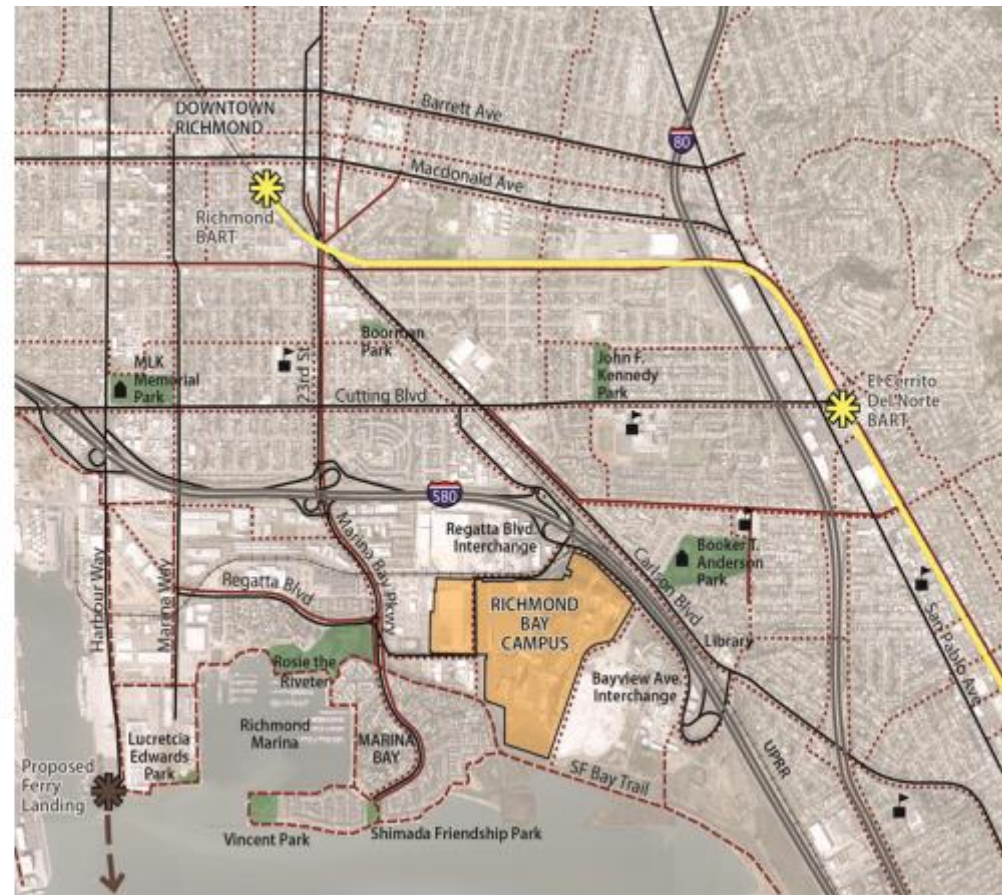


- 134 bay-front acres
- Minutes from main campus
- Ferry access to San Francisco by 2017

Transportation Options

LEGEND

-  BART Station
-  BART Rail Line
-  Proposed Ferry Landing
-  San Francisco Bay Trail (multi-use path)
-  Existing Bicycle Routes
-  Planned Bicycle Routes
-  Park
-  School
-  Community Center



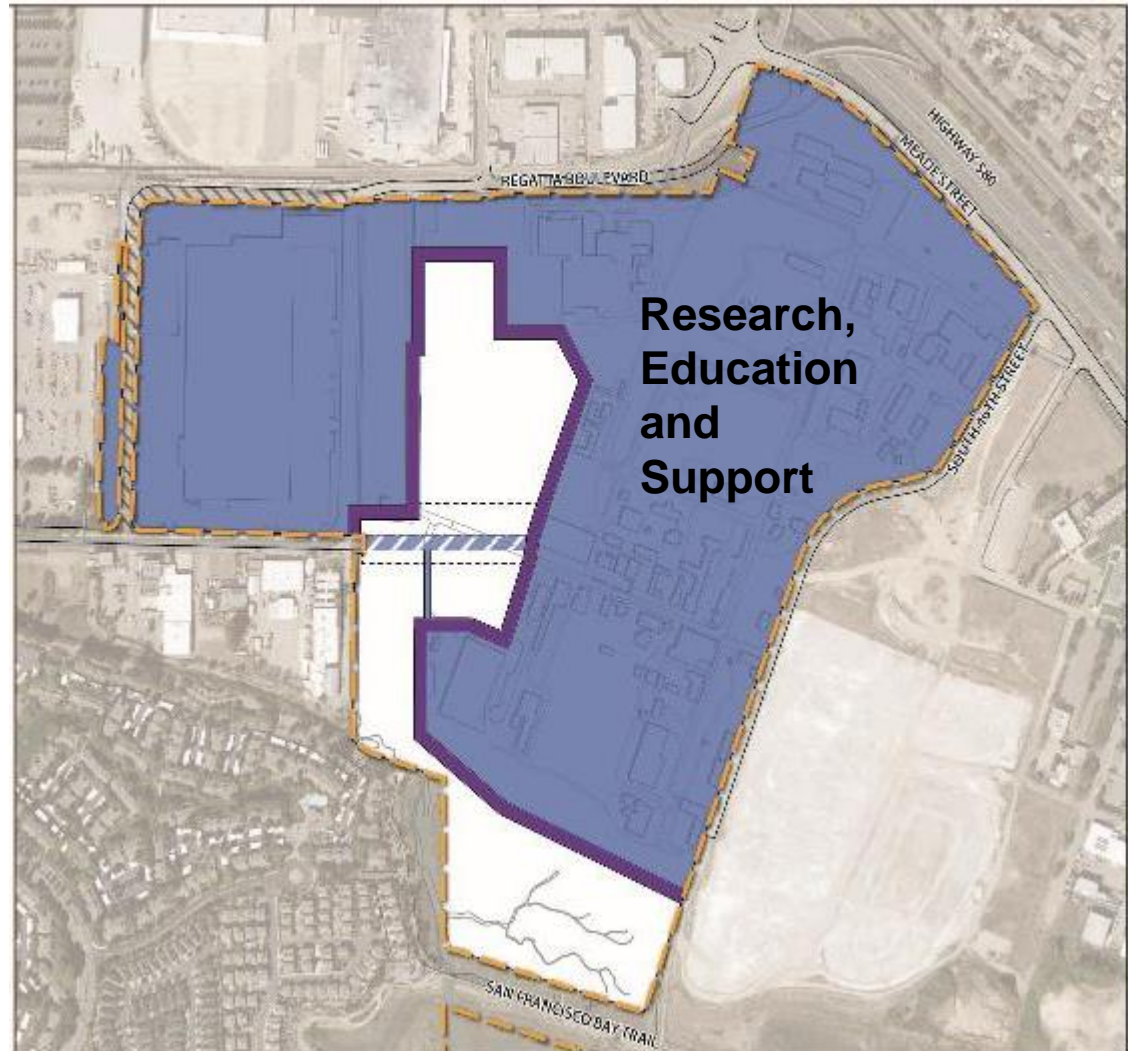
Existing Site

- Total acres: 134
- 81 existing structures
- 1.05 million GSF
- Population of 300
- Existing activities:
 - Research
 - Offices
 - Storage



Research, Education and Support Uses

- 109 acres
- Lab, classroom, office, admin. buildings
- Support infrastructure
- Community space
- Dining, visitor accommodation, retail
- Recreation
- Transportation infrastructure
- Open space (plazas, courtyards)

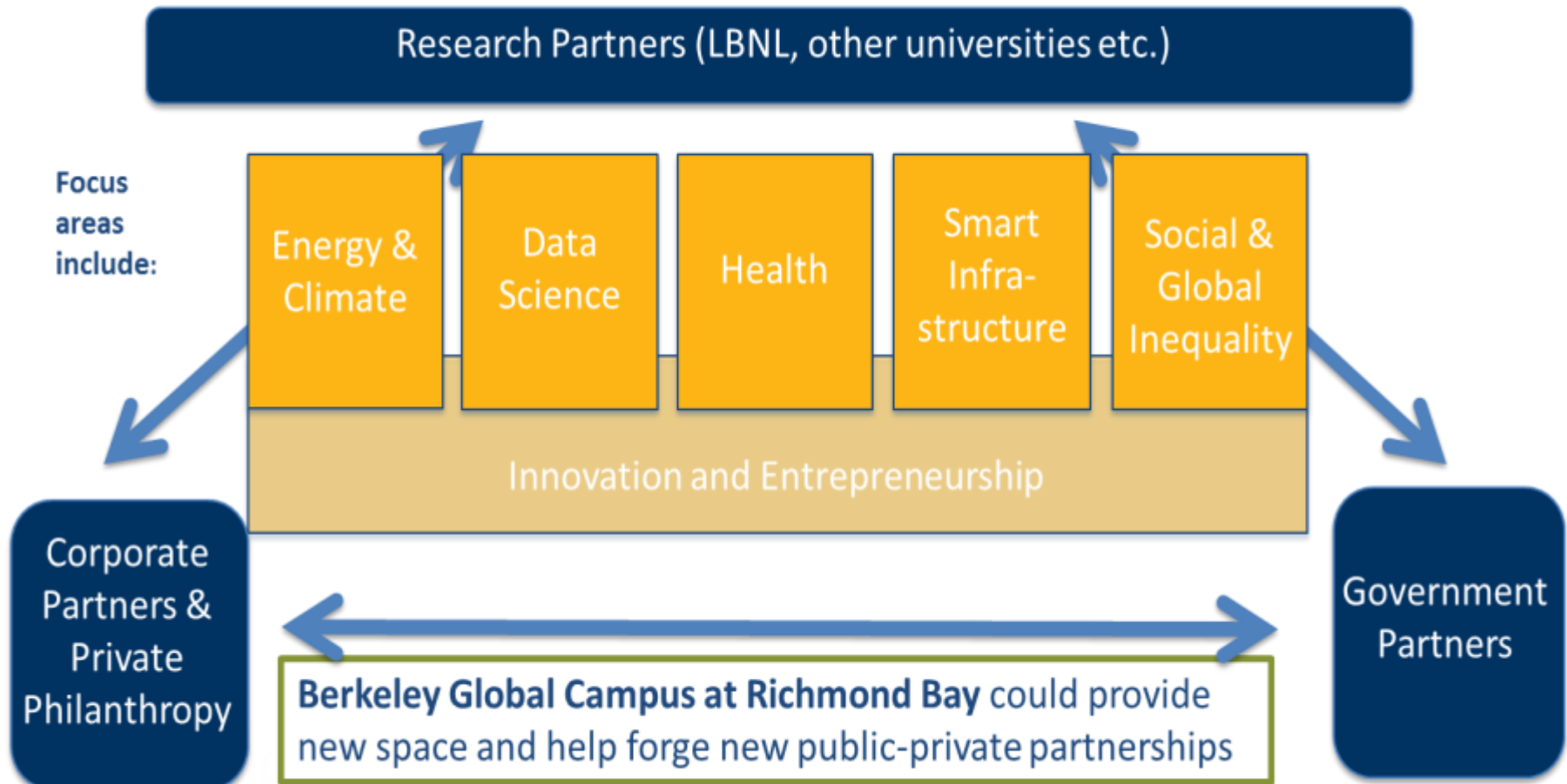


Illustrative Master Plan

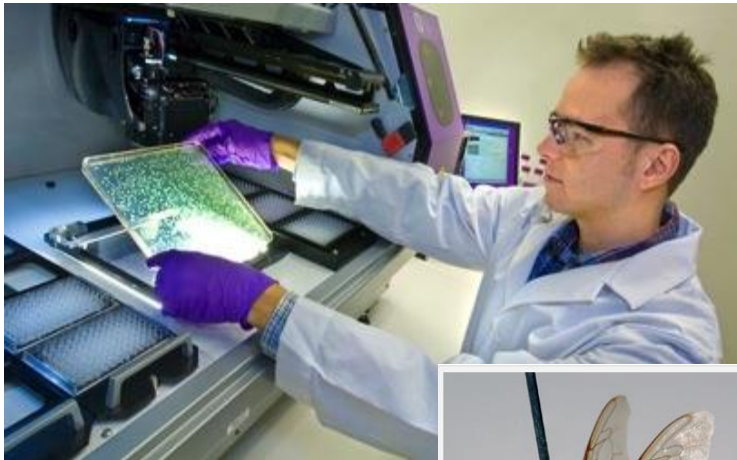
- 5.4 million sq ft
- Distinct walkable neighborhoods
- Deflects wind; creates sheltered spaces
- East-west solar building orientation
- Diversity of open edges and public access points
- Multi-modal grid connected to surrounding streets



Leveraging Research Excellence to Address Global Challenges



Selected Highlights: Energy & Climate



- **Kavli Energy NanoScience Institute**
latest advances in nanoscience to capture and channel energy at the molecular or nanoscale for human use
- **Global Change Biology**
how organisms and ecological systems respond and adapt to global environmental change
- **Joint Bioenergy Institute (JBEI)**
synthetic biology to transform biomass sugars into energy-rich fuels
- **Energy Biosciences Institute (EBI)**
largest public-private partnership of its kind \$500M investment from BP for bioenergy development

Selected Highlights: Data Science

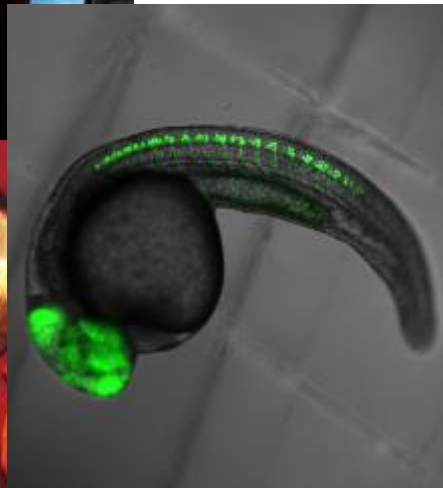
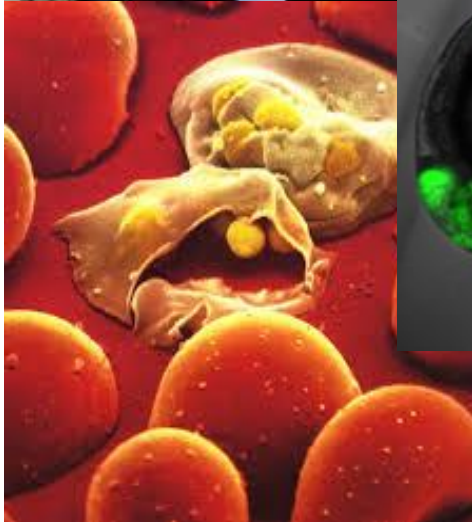


Nearly every field of discovery is transitioning from “data poor” to “data rich.”

- **Berkeley Institute for Data Science**
enabling scientific breakthroughs through interdisciplinary, data-driven discovery
- **Simons Institute for the Theory of Computing**
providing the underpinnings for modern computer science and data approaches
- **D-Lab**
supporting data intensive social science
- **Algorithms, Machines & People (AMP Lab)**
creating new analytics tools
- **Center for Long-Term Cybersecurity**
assessing the future of cybersecurity

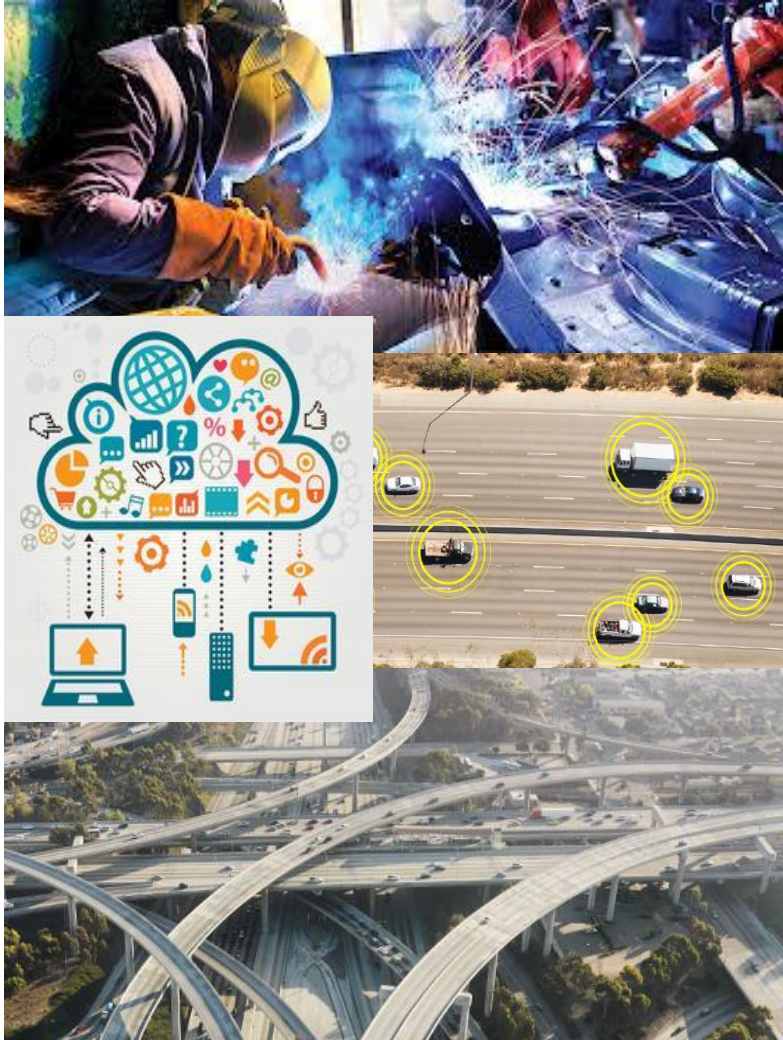


Selected Highlights: Health



- **Precision Medicine**
developing targeted treatments to enable breakthrough diagnostic tools and therapies
- **Innovative Genomics Initiative (IGI)**
revolutionary DNA editing technology for new therapies for disease
- **Neuroscience**
understanding the human brain to develop new approaches to address neurological disorders and trauma
- **Global Health**
bringing health care solutions to communities around the world

Selected Highlights: Smart Infrastructure



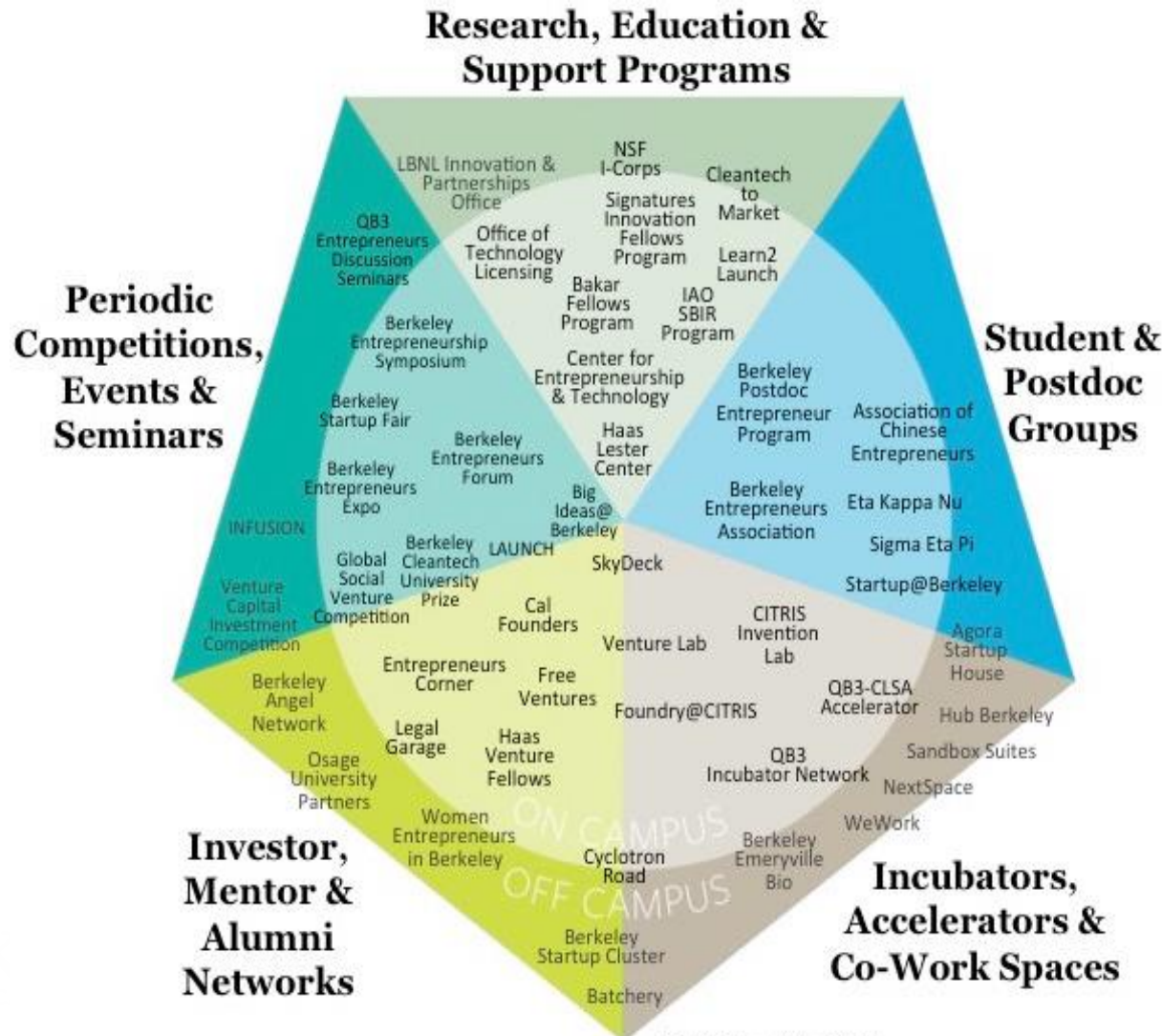
- **Institute for Transportation Studies**
leading state-of-the-art transportation planning, infrastructure management, logistics and traffic operations
- **City and Regional Planning**
planning sustainable cities and regions around the world
- **Laboratory for Manufacturing and Sustainability (LMAS)**
creating technologies and tools to innovate manufacturing products, processes and systems (e.g. precision and green manufacturing)

Selected Highlights: Social and Global Inequality



- **Blum Center for Developing Economies**
understanding and acting on global poverty and inequality
- **Center for the Effective Global Action**
conducting rigorous evaluations of development programs, policies, and technologies around the world
- **Center for Equitable Growth**
achieving economic growth that is fairly distributed
- **Haas Institute for a Fair and Inclusive Society**
eliminating barriers to an inclusive, just, and sustainable society

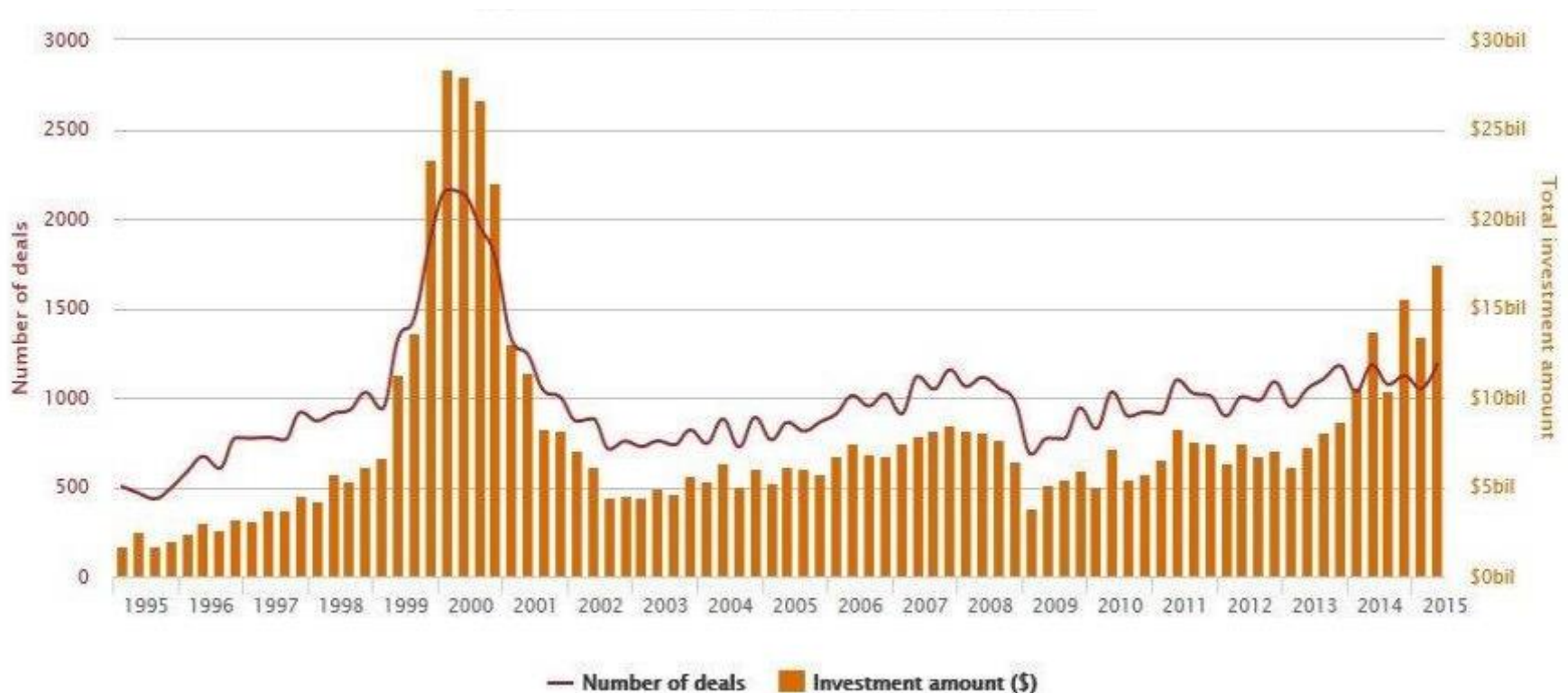
UC Berkeley's Entrepreneurship Ecosystem



Are we in a bubble? (Abundant Capital)

- “There isn’t a company out there that can not raise capital on Wall Street today”
- Housing – Apartments & Single-family prices
- Stock Market
- Will Innovation/”Start-ups” Funding and Risk Investment Slow Down If There Is A Correction?
- Plan Accordingly!

Historical Trend Data



Berkeley

Real Estate



Thank You

Questions?

According to Enrico Moretti, author of “The New Geography of Jobs”, innovative individuals in the U.S. tend to multiply work for so many non-innovators seeking to serve their myriad needs; think service jobs like lawyers, plumbers, masseuses, stockbrokers, etc. What are you specifically doing to attract tech workers/innovation companies to your project?

Anchor institutions including innovative companies, advanced education facilities and research institutions have moved their facilities as a means of generating greater innovation output and reducing costs. How concerned are you about the continuing rising costs of living and housing in the Bay Area?



Gracias. Thank You. 謝謝. Obrigado. شكرا
Спасибо. ขอบพระคุณ. Danke. ありがとう. Merci.

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