

Keep Innovation in Berkeley



2024 Overview of Berkeley's Innovation Economy & Recommendations for Enabling R&D Industry Growth Locally

**Presented by: Eleanor Hollander
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Office of Economic Development**

December 3, 2024



Background & Timeline

Keep Innovation In Berkeley – City Council Referral



September 2022

Referral: Keep Innovation in Berkeley (#12 RRV Rank of priority overall, and #1 for Planning & Development)

2023-2024

Stakeholder feedback, best practice research, and consultation with subject matter experts

May + July 2024

Planning Commission Discussion + Public Hearing (Keep Innovation In Berkeley Referral Response)

Goal: to encourage the growth and retention of Research & Development (R&D) businesses in Berkeley.

Berkeley's largest employers



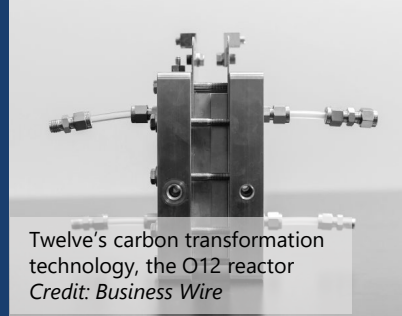
Top 25 Berkeley Employers (Not Public Sector)

ACME BREAD	private - mfg
BACKROADS, INC.	private - tour operator
BAYER CORPORATION	private - R&D/biotech mfg
BERKELEY BOWL PRODUCE, INC.	private - retail
BERKELEY CEMENT, INC.	private - construction
BERKELEY FOOD & HOUSING PROJECT (INSIGHT)	non profit
BERKELEY MARINA DOUBLETREE	private - hospitality
CARIBOU BIOSCIENCES, INC.	private - R&D/biotech
CHEZ PANISSE RESTAURANT	private - restaurant
FORESIGHT MENTAL HEALTH	private - healthcare
KAISER PERMANENTE	private - healthcare
LIFELONG MEDICAL	private - healthcare
MEYER SOUND LABORATORIES	private - R&D/ sound equip mfg
OC JONES & SONS	private - construction
PIVOT BIO, INC.	private - R&D/biotech
SAFeway, INC.	private - retail
SATELLITE AFFORDABLE HOUSING ASSOCIATION	non profit
SUTTER BAY HOSPITALS	private - healthcare
TARGET CORP	private - retail
TECHNICAL SAFETY SERVICES, INC	private - biotech
THE WRIGHT INSTITUTE	private - education
TWELVE	private - R&D/climate tech
UPSIDE FOODS	private - R&D/biotech
WHOLE FOODS MARKET CALIFORNIA INC	private - retail
YMCA OF THE CENTRAL BAY AREA	non profit

Source: State of California Employment Development Department (EDD), Q4 2023 (excluding companies no longer in Berkeley)



Pivot Bio, courtesy:
#DiscoveredinBerkeley



Twelve's carbon transformation technology, the O12 reactor
Credit: Business Wire

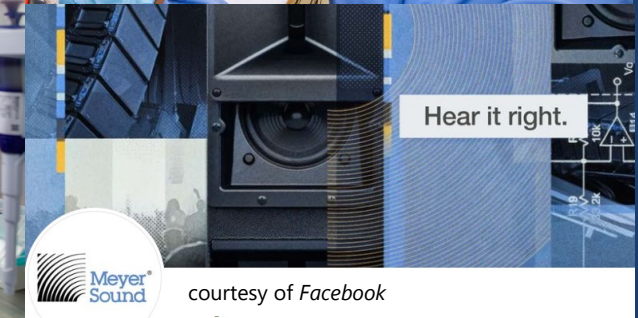
More than one fifth of Berkeley's top 25 non-public sector employers (by # of employees) are in the innovation sector.



Courtesy of Caribou Bio



Courtesy of Twelve

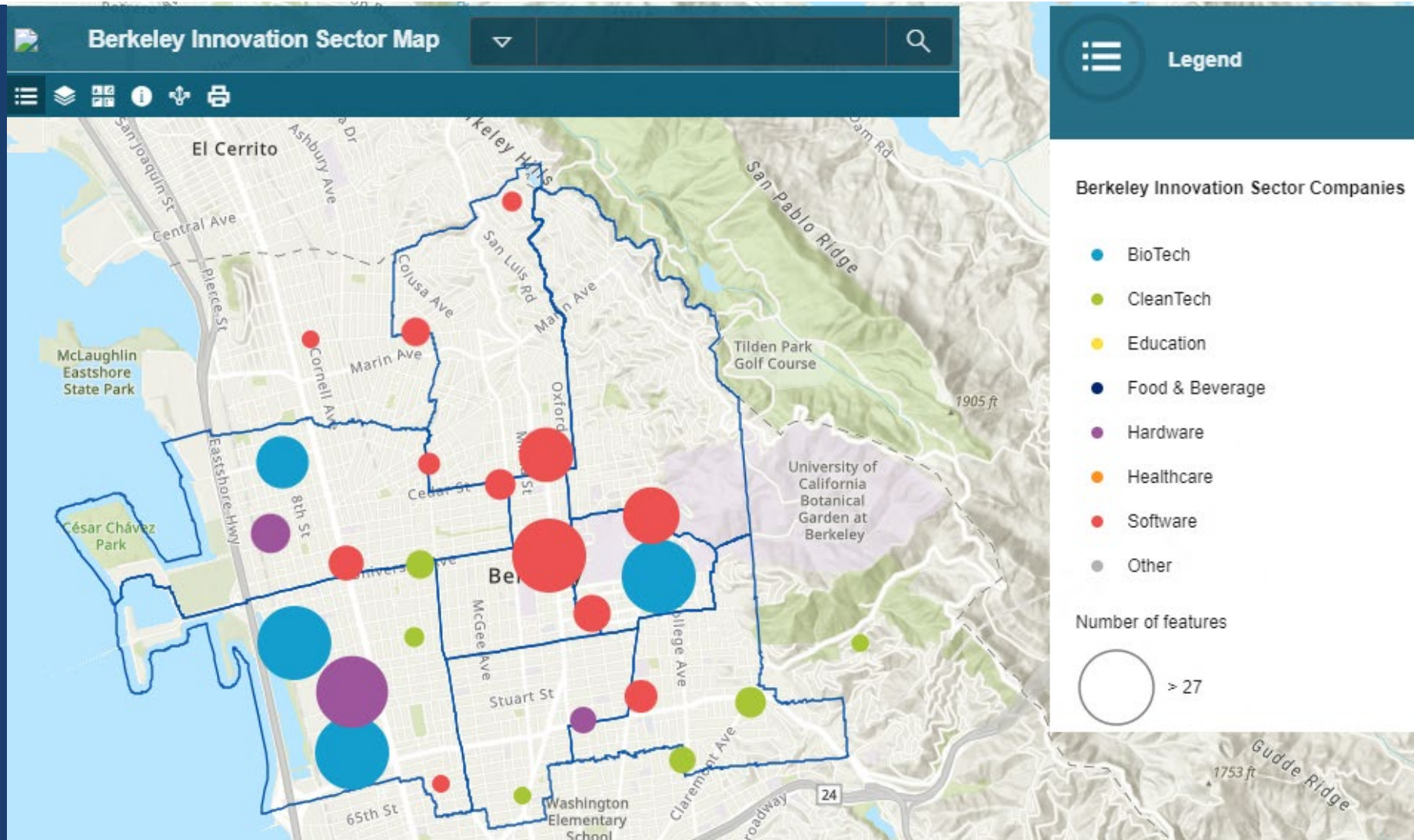


Hear it right.



courtesy of Facebook

Berkeley's innovation economy is citywide

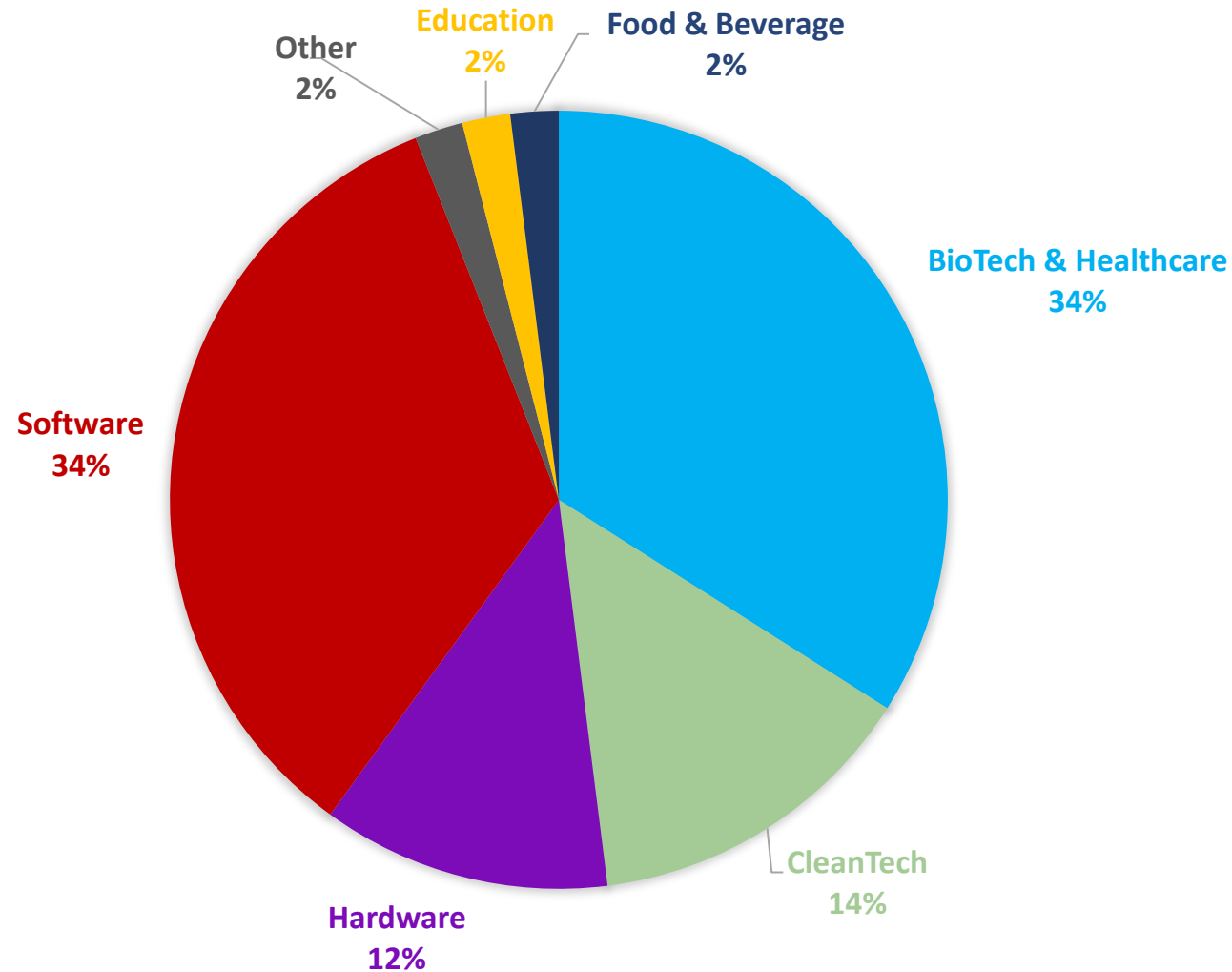


See details on the Berkeley Startup Cluster website: www.berkeleystartupcluster.com/startups

Berkeley innovators undertake R&D to solve critical health & environmental challenges



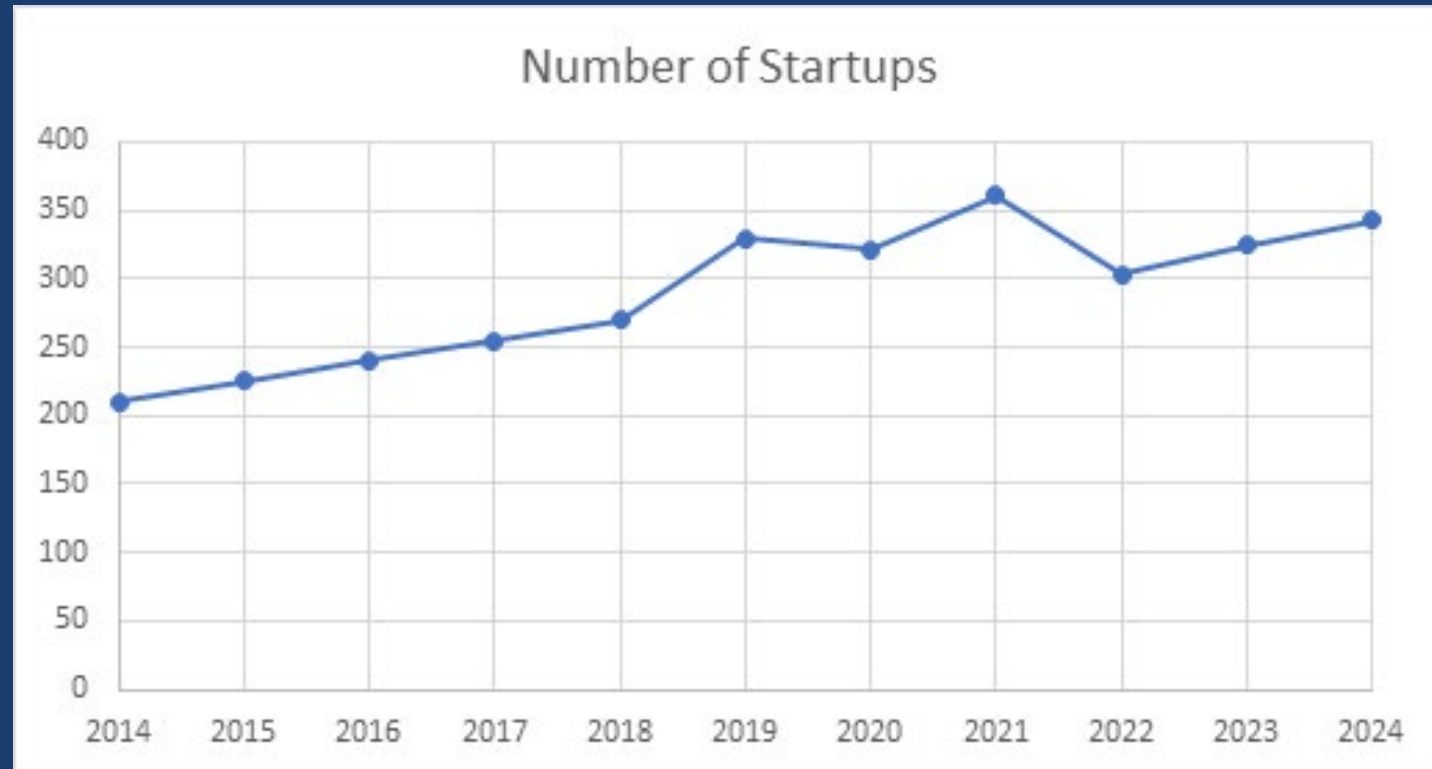
Berkeley Innovation Companies by Sector



Startups represent the vast majority of Berkeley's innovation sector



Pitchbook ranked UC Berkeley **#1** in producing venture backed startups in 2023 and 2024.



Source: City of Berkeley Office of Economic Development (OED), UC Berkeley IPIRA Pitchbook data

Stakeholder & Best Practices Feedback



OED has consulted more than **100 stakeholders** on this topic through policy specific feedback sessions, working group meetings, and direct conversations. Stakeholder types include:

- Architects, designers, project managers
- Berkeley Startup Cluster Advisors
- Business and commercial districts
- Industry groups
- Property owners/ developers
- Real estate brokers
- Regulatory agencies
- Startup leaders
- UC Berkeley Innovation & Entrepreneurship champions
- Other neighboring cities



Photo: Berkeley Startup Cluster Advisor meeting, March 2024

Overview of Referral Recommendations



The 2022 referral had 5 sections:

1. Naming R&D as an allowed land use in key commercial districts.
2. Updating the “District Purpose” sections of M districts to specifically embrace R&D.
3. Amending R&D parking requirements.
4. Making Biosafety Level (BSL) language in the zoning code clear and consistent with regulations in other cities.
5. Providing additional recommendations to encourage R&D in Berkeley.

Life-saving robots are 3D printed in an office



A UC Berkeley robotics spinout is 3D printing parts to make sensors paired with drones to assess risk in hazmat situations before humans risk their lives on the scene.



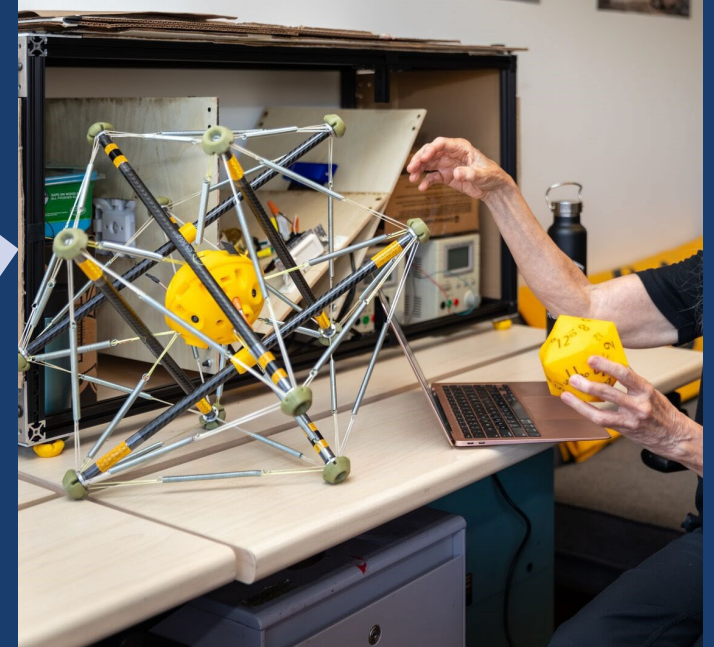
went through the Berkeley SkyDeck startup accelerator in Downtown Berkeley

started at

Berkeley Mechanical Engineering

-their West Berkeley office is a "light use lab space"

-has meetings on campus in the professor's office, which is easier for UC interns to access



Revise zoning ordinance regulation of Biosafety Level (BSL) class organisms



23.206.080 MU-LI Mixed Use-Light Industrial District.

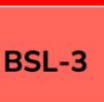
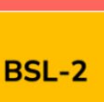
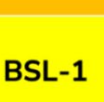


- B. 5. *Commercial Physical or Biological Laboratories.* Commercial physical or biological laboratories using Class 3 organisms are not permitted the MU-LI district. Use of Class 2 organisms are permitted only in locations at least 500 feet from a Residential District or a MU-R district.

- BSL classes are defined by the Centers for Disease Control (CDC) and the National Institute of Health (NIH), depending on level of risk.
- BSL regulations govern the overall design of facilities, as well as the types of required on-site safety equipment.



Figure 1: Biosafety Levels

Biosafety Level (BSL)	Characteristics	Pathogens/Disease
 BSL-4	Infectious aerosol transmission that may cause serious or lethal infections with no treatment available	Ebola virus, Variola virus (smallpox), Marburg virus
 BSL-3	Infectious aerosol transmission that may cause serious or lethal infections	Coronavirus, Mycobacterium tuberculosis, Yersinia pestis (plague), malaria
 BSL-2	Infectious agents of moderate risk with ingestion or mucous membrane transmission	Influenza, Lyme disease, salmonella, measles, mumps
 BSL-1	Low-risk agents that are not known to cause human disease	E. coli

Source: Adapted from the United States Center for Disease Control and Prevention.

Comparison to other cities



Berkeley's zoning rules regarding BSL activities are currently more restrictive than other Bay Area jurisdictions

	Berkeley	Emeryville	San Leandro	Alameda	Oakland	South San Francisco	Hayward	Palo Alto	Santa Clara	Mountain View
Prohibits BSL-2 within 500 feet of R & M-UR	×									
Prohibits BSL-4					×			×		
No BSL reference		×	×	×		×	×		×	×

BSL language introduces unnecessary uncertainty



is developing new medicines for vision-threatening diseases

Fears regarding a new lab space's proximity to a M-UR district introduced uncertainty for the leadership team when the company's co-founder and Chief Scientific Officer, Dr. Wes Jackson, sought to occupy a vacant space in a West Berkeley building when the company needed a larger facility.



Photo: Berkeley High School students visiting Valitor's offices for a STEM CareerX tour

KEEP INNOVATION IN BERKELEY

BMC Changes

Justin Horner
Planning & Development

- 1. Revise permit requirements for R&D**
- 2. Add R&D to district purpose statements**
- 3. Revise parking requirements for R&D uses**
- 4. Revise the regulation of BSL Class organisms**
- 5. Revise the definition of Laboratory**

1. Revise Permit Requirements for R&D Uses (C-W, C-T, C-C, C-DMU, C-U and C-NS)



	Current	Proposed
R&D Under 20,000 sq. ft.	AUP with findings	ZC
R&D 20,000 sq. ft. or over		AUP

AUP and UP(PH) requirements for new *buildings* and new *floor area* remain unchanged.

2. Add R&D to District Purpose Statements



23.206.070(A) – Mixed Manufacturing (MM) District Purpose

3. Encourage development of a manufacturing district targeted to manufacturing and industrial uses including research and development, so that manufacturers and industrial businesses will not be interfered with by incompatible uses;

5. Provide an appropriate location for the development of compatible industries which can provide high quality employment for people at all educational levels, and add significantly to the tax base, such as the biotechnology industry and other research and development uses;

23.206.080(A) – Mixed Use-Light Industrial (MU-LI) District Purpose

7. Provide the opportunity for laboratory development and research and development facilities in appropriate locations;

3. Revise Parking Requirements



	Current	Proposed
R&D (Commercial and Manufacturing Districts)	2 spaces/1,000 sq. ft.	1 space/1,000 sq. ft.

Note: No minimum parking requirements for most commercial uses located within 1/2 mile of public transit, per State law.

4. Revise BSL Regulations



1. **Remove prohibition of BSL-2 within 500 feet of residential uses in the MU-LI.**
2. **Add prohibition of BSL-3 and BSL-4 in all zoning districts.**

5. Revise Definition of Laboratory



(a) Commercial Physical or Biological Testing. A facility that provides controlled conditions in which scientific or technological testing research, experiments, and measurements may be performed. Any facility established as a Commercial Physical or Biological Laboratory to conduct scientific or technological research, experiments and measurements prior to [effective date of ordinance] shall be considered a conforming Commercial Physical or Biological Testing use.

Recommendation



- 1) Conduct a public hearing**
- 2) Adopt first reading of the proposed BMC amendments**

Q&A and Discussion

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