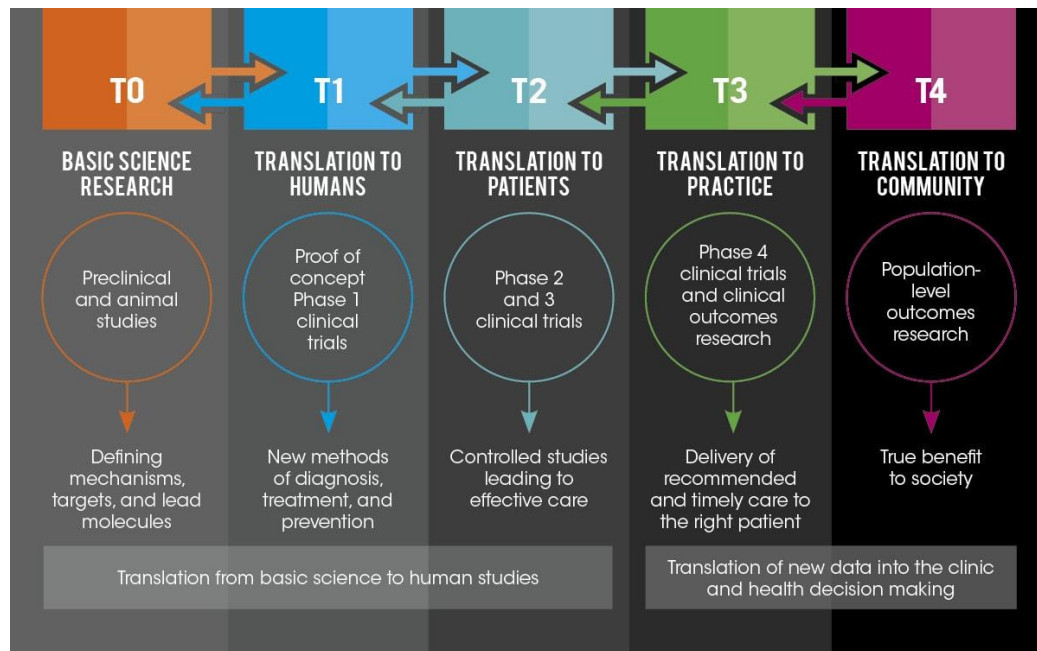


Integrated Life Sciences at Brown

Mukesh K. Jain
Dean of Medicine and Biological Sciences
SVP for Health Affairs
Brown University



Lifesciences Research & Innovation



- Foundation = discovery
- Developing a bioproduct to impact health is difficult
- Partnerships are critical
 - Academia*
 - Private sector*
 - Hospitals*
 - Government*

Brown's Distinctive Approach

The Vision

Brown has bold aspirations to develop an integrated and comprehensive biomedical ecosystem where innovations can move seamlessly from research and discovery to translated solutions that have direct, real-life impact for patients and communities.

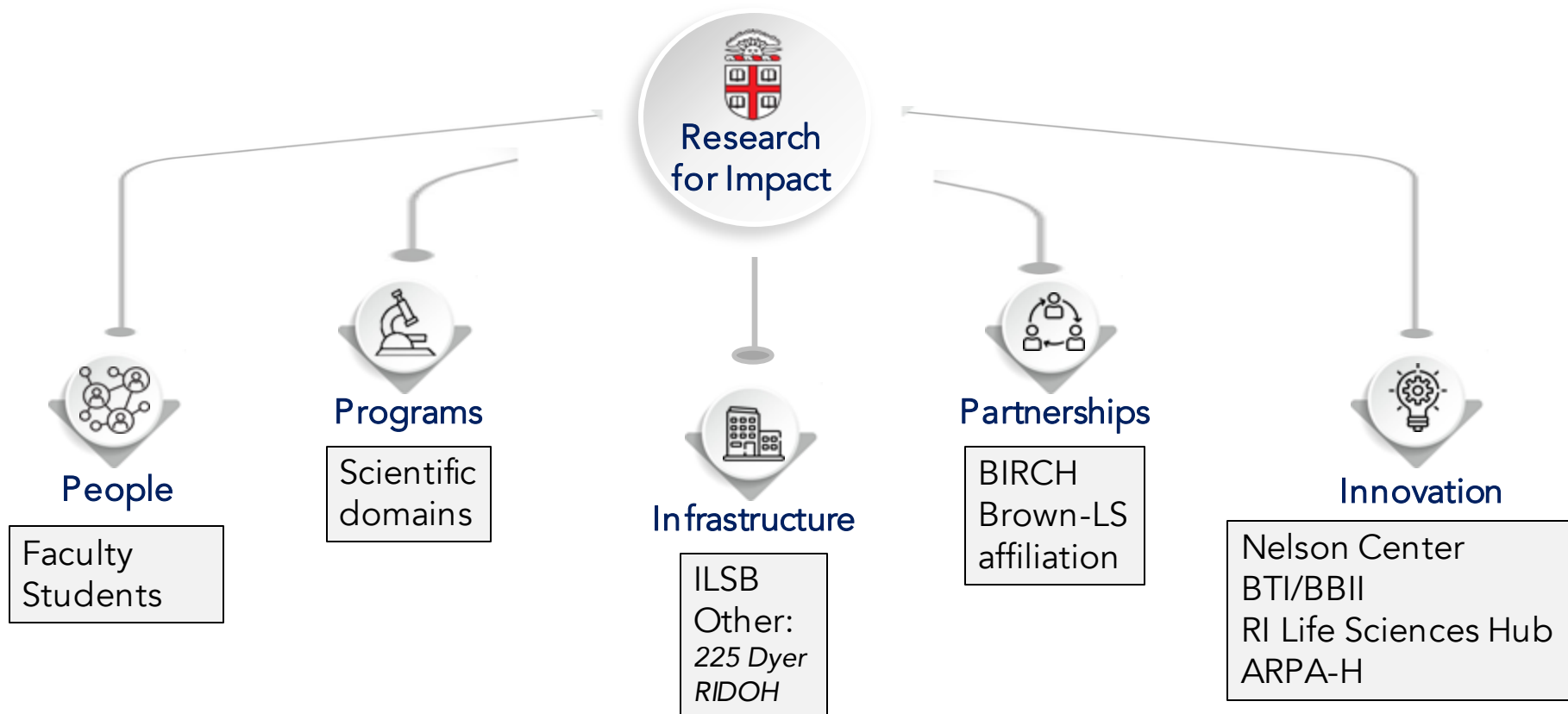
Central to this vision is a new research facility where Brown's exceptional faculty, students, and staff will work together to tackle some of the most daunting challenges facing human health globally.

Why is ILS@ Brown different?

- Tackle the big problems by leveraging Brown's ethos
- Convergence of expertise to advance science together
- Ability to move seamlessly from big questions to discovery to clinical impact
- Assess impact in a diverse regional community and scale to nation and globe



Brown's Roadmap





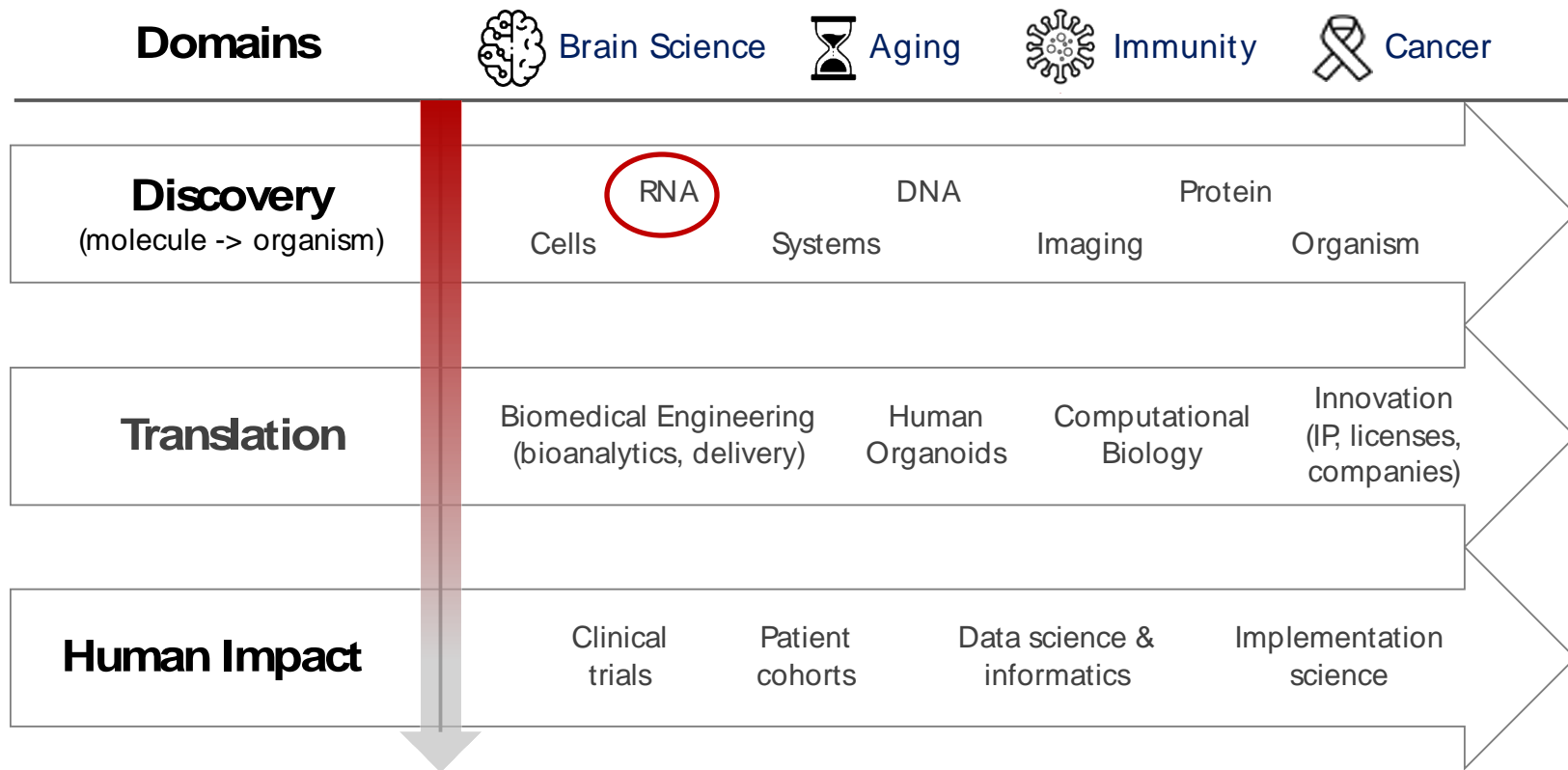
Leveraging a Distinctive Home

- State-of-the-art facility to strengthen an already cohesive community
- An environment where students, biologists, engineers, computational scientists, and entrepreneurs come together leading to translation
- Co-locating people with deep expertise, we will capitalize on the science and collaboration to better position our community to access federal funding through large scale center grants
- Unique ability to move seamlessly from discovery to clinical impact within our biomedical ecosystem

Principles underlying Scientific Focus

- Consider the potential impact through the interconnectedness of the research areas
- Aligned with our clinical strengths
- Aligned with federal and industry trends
- Identified four key areas (+ key cross-cutting technologies):
 - Aging
 - Immunity
 - Environmental oncology
 - Brain Science

Scientific Opportunity



Distinctive Opportunity

The New York Times

<https://www.nytimes.com/2024/05/29/opinion/dna-rna-modern-science.html>

GUEST ESSAY

Step Aside, DNA. RNA Has Arrived.

May 29, 2024, 5:02 a.m. ET

By Thomas Cech

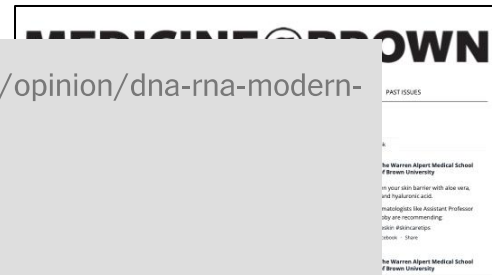
J. Alfonzo

V. Cheung

*Sponsored by Warren Alpert Foundation
and National Institute of Health*

May 8th, 2024

RNA Rev



rt Bldg.

Engineering to deliver RNA therapeutics

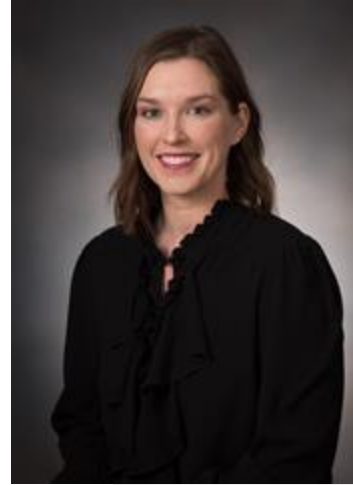
Theresa Raimondo '11, PhD
Brown RNA Center
Assistant Professor of Engineering



Basic research to clinical trials

Meghan Riddle, MD
Assistant Professor of Psychiatry and
Human Behavior

John Sedivy, PhD
Hermon C. Bumpus Professor of
Biology, Director of the Center for the
Biology of Aging



ALZHEIMER'S ASSOCIATION

Phase I clinical trial:
ClinicalTrials.gov number
is NCT04500847

Why is ILS@ Brown different?

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Integrated Life Sciences @Brown Brown University

195 Commission Presentation
June 11, 2024



TenBerke ballinger



Vision

The Integrated Life Sciences Building (ILSB) will support collaborative interdisciplinary research with lasting impact on the most important challenges facing human health.

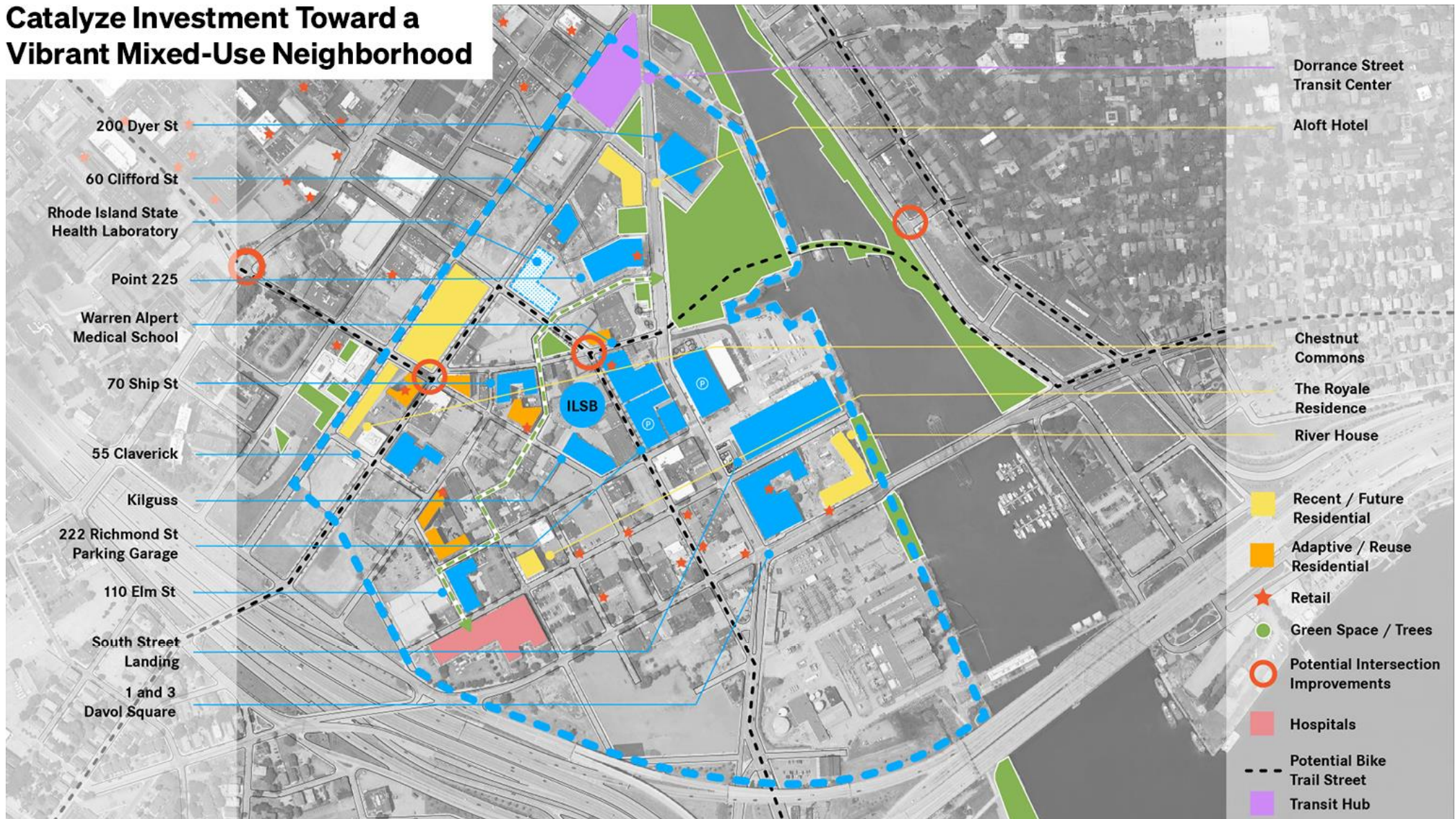
Key Goals

- Establish a world-class research enterprise
- Stimulate the exchange of ideas
- Attract and cultivate future generations of scientists
- Promote an active public realm
- Create an enduring sense of place
- Catalyze investment toward a vibrant mixed-use neighborhood
- Cultivate a sustainable environment



Dusk view at Ship and Richmond

Catalyze Investment Toward a Vibrant Mixed-Use Neighborhood

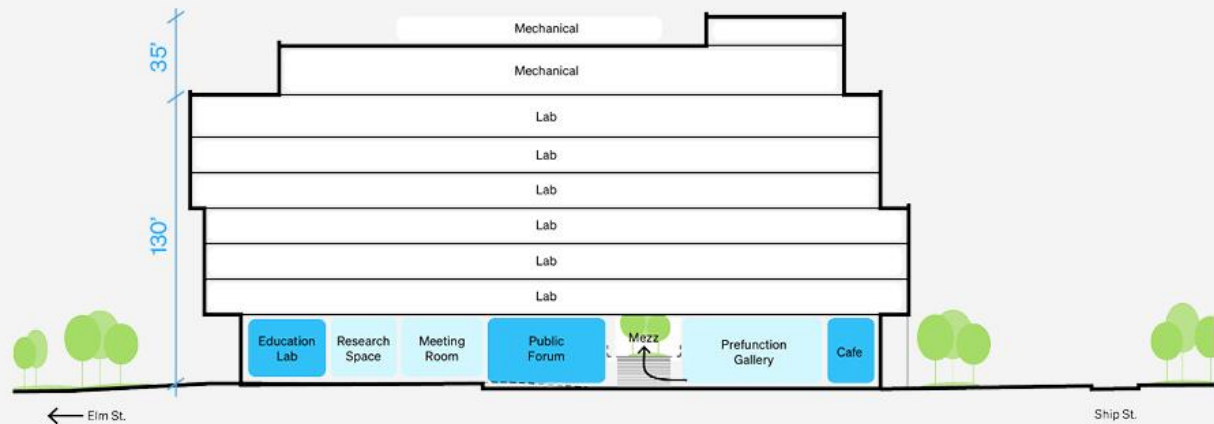
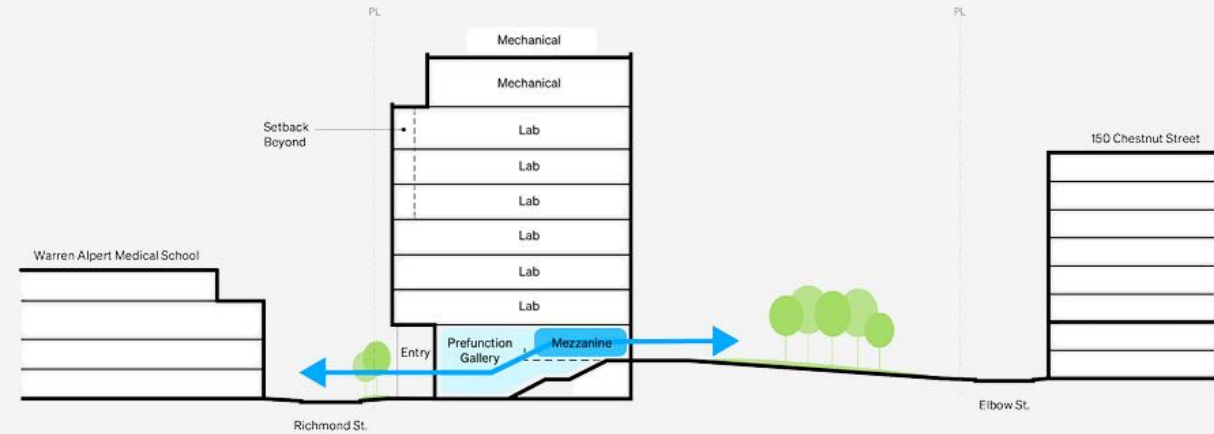
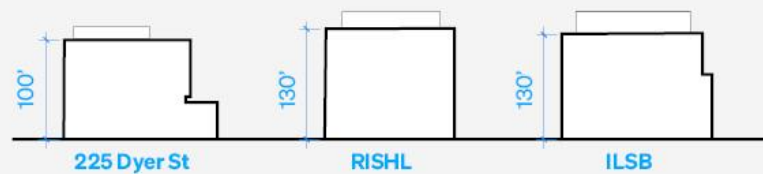


Massing Concept

Key Considerations

- The building massing uses setbacks and shaping at the ground floor and at the sky to break down its sense of scale within the existing context
- Massing provides direct relationship to the surrounding landscape and streetscape with ample indoor-outdoor connections
- Building articulation provides opportunities for light, shade, and gathering

Overall Building Height



Promote an Active Public Realm Publicly Accessible Open Spaces

The North Link:

- The primary community arrival space with inviting places to sit, opportunities for mixing and chance encounters, integrated performative landscapes, and multi-modal accommodations

The South Link:

- An immersive performative stormwater landscape with places to sit and accessible connections to the north and west

The Patio:

- Well-scaled outdoor seating and gathering area for flexible programming



Promote an Active Public Realm

Site Plan

Key Considerations

- Enhance the public realm
- Universally accessible circulation
- Varied places to sit, hang-out, and enjoy the outdoors
- Strengthen connections to the neighborhood
- Well-considered loading, service, utilities, and access
- Meet DDRC height-bonus requirements
- Cultivate a sustainable environment

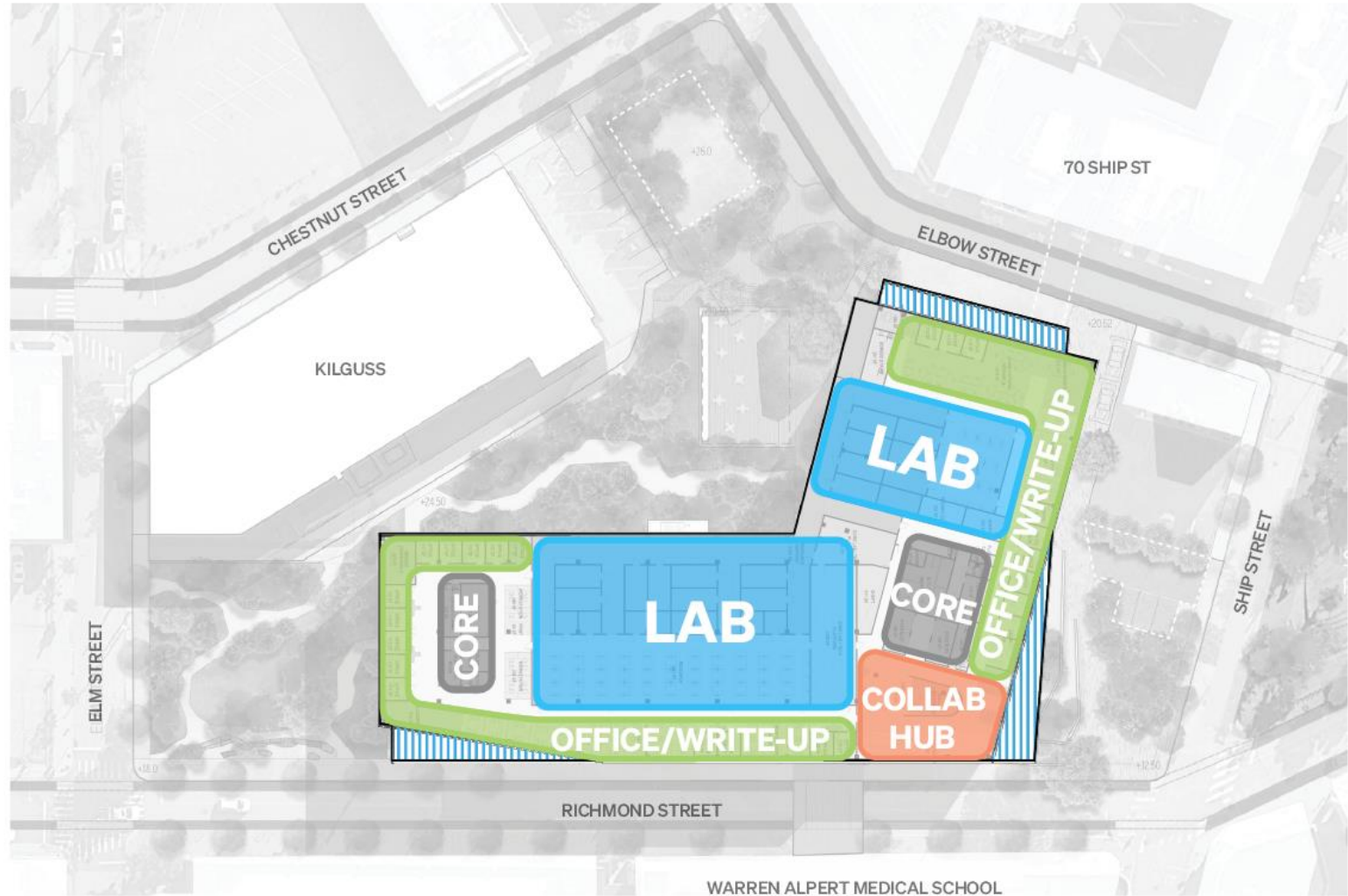


Establish a World-Class Research Enterprise

Typical Lab Floor Plan

Key Considerations

- Flexible, adaptable research lab spaces with access to natural light and a high-degree of visibility
- Open, well-scaled write-up and office locations at the perimeter
- A central collaborative hub that encourages the exchange of ideas and empowers team science
- Flexible and well-considered lab support to enable cutting-edge life science research
- Calibrated window-to-wall ratio that balances day lighting, views, storage space, and energy performance



Promote an Active Public Realm

Exterior Views

Key Considerations

- A well-proportioned grid inspired by the historic context; variation and depth; the play of light and shadow
- Balance of transparent and opaque wall calibrated to the research program, solar orientation, and overall energy performance
- Primary materials: locally-sourced stone and masonry base, painted metal and glass, and interior wood accents
- Warm undertones of the facade connect to the Warren Alpert and 70 Ship Street buildings while adding something new
- A connective, accessible, and inviting ground floor



View at Ship and Richmond



View to the main entry on Richmond with the café and terrace at the right



View of entry and gallery from Richmond



View from Elm and Richmond to the South Link and the Education Lab

Stimulate the Exchange of Ideas

Additional Views

Key Considerations

- Visible and connected ground floor spaces that help promote an active public realm and stimulate the exchange of ideas
- 250-Seat Capacity Flat Floor Auditorium
- A bridge to 70 Ship Street encourages interdisciplinary connection
- Flexible, adaptable research lab spaces with access to natural light and a high-degree of visibility



View from main entrance to public stair and mezzanine



View from forum towards the lobby gallery



View of the bridge connection to 70 Ship Street

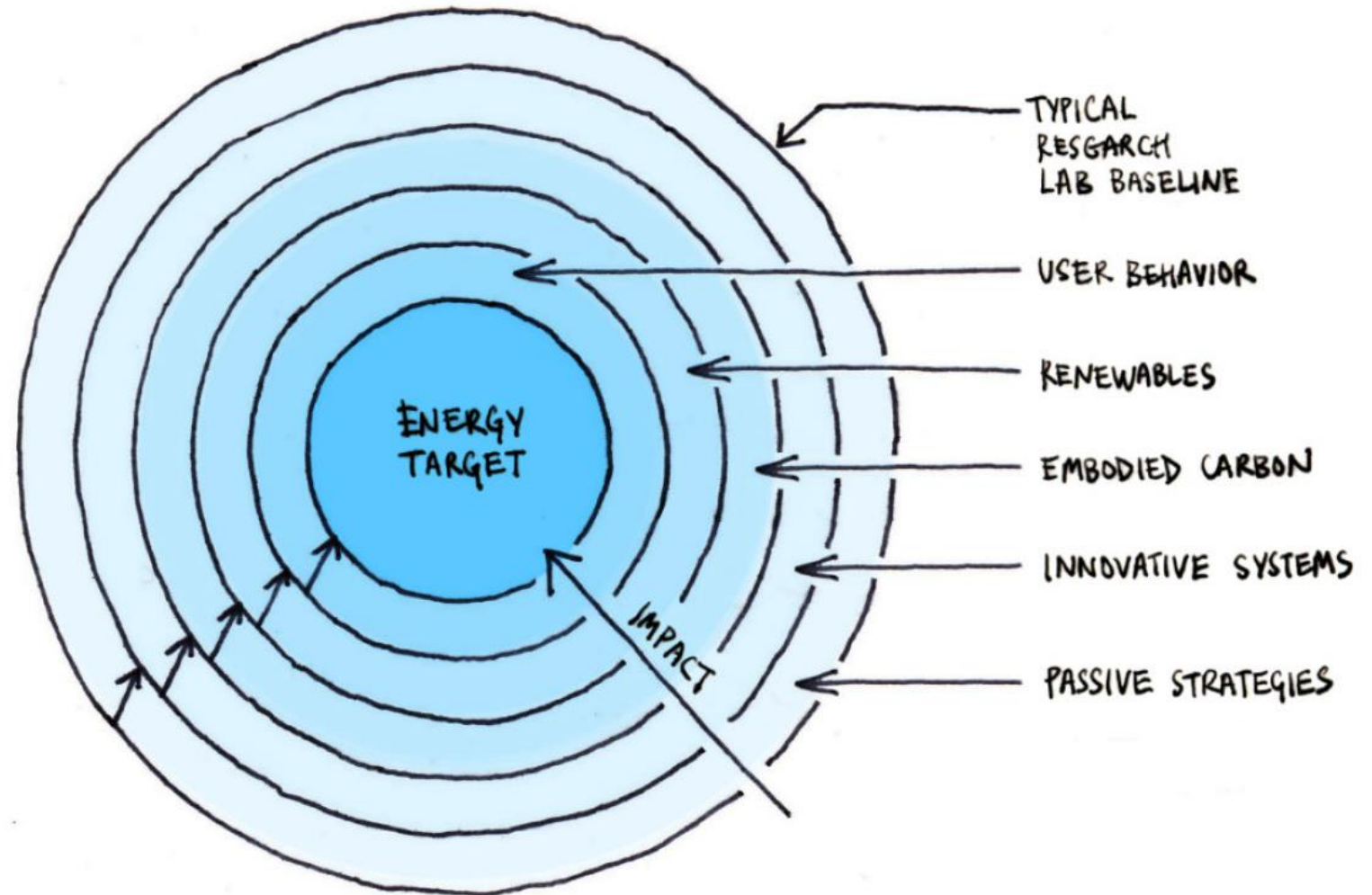


View of a typical research lab

Cultivate a Sustainable Environment

Key Considerations

- Electrification:
100% renewable electricity
with resilient back-up, chilled
beams, exhaust-source heat
pumps, and high-performance
energy recovery systems
- District hydraulic energy loop
- High-performance envelope
including bird-friendly glass
- Increased Bio-Habitat and
Carbon Sequestration
- Integrated Landscape
Stormwater Management
- Embodied Carbon Life-Cycle
Analysis
- Healthy Materials Initiative



TenBerke

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