

Institutional Development Plan

Roux Campus

February 2022



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Introduction

Artist Interpretation



The Initiative for Digital Engineering and Life Sciences (IDEALS) is a Maine non-profit corporation tasked with locating and developing a campus for the Roux Institute at Northeastern University in Portland, Maine: a space for cutting-edge educational, research, and collaborative programs in areas including artificial intelligence, computer and data sciences, digital engineering, advanced life sciences, and medicine. IDEALS was formed in 2018 with support from David Roux, a technology entrepreneur and Lewiston native, and his wife Barbara. They sought to create a graduate institute to fill talent gaps for growing digital and life sciences companies while turbo-charging the economy of greater Portland and Maine. IDEALS recruited Northeastern University to establish and run the program, and the Roux Institute at Northeastern University launched in early 2020. The Roux Institute now offers post-graduate degrees and certifications and conducts research while partnering with private companies and government entities to spur innovation and workforce talent.

The Roux Institute is temporarily located in leased space in Portland. A permanent home for the Roux Institute is necessary to fulfill its educational and economic potential. The vision for that home - the Roux Campus - is one that allows for continued growth of the education and research programs of the Roux Institute while providing space for collaborative partnerships, with services and amenities that both support those programs and serve the community. After completing an exhaustive four-year search both on and off the Portland peninsula and its surrounding area, IDEALS entered into a purchase and sale agreement for land formerly occupied by the B & M Baked Beans facility along the Portland waterfront.

Recognizing the prominent role that major educational and healthcare institutions play in the health and well-being of the community, the City of Portland's Land Use Code allows for the creation of Institutional Overlay Zones (IOZ) to "provide a regulatory mechanism where an improved regulatory structure is

needed to facilitate a consistent, predictable, and clear growth management process." Consistent with that purpose, IDEALS seeks designation of an IOZ for the Roux Campus. IDEALS will simultaneously seek to change the underlying zone to B-5 Mixed-Use Business. The IOZ designation process requires two components: an Institutional Development Plan (IDP, this document) and a regulatory framework. The purpose of this IDP is to establish baseline institutional data for existing land uses and services while also communicating planned growth; it is the basis of the proposed regulatory framework, submitted under separate cover. The regulatory framework translates the IDP into a set of clear and specific zoning requirements, which will constitute the text and map amendment to the City's Land Use Code. Unlike other institutions for which the IDP process was established, the Roux Institute is in its early years and has not established a stand-alone campus. The IDP allows IDEALS to memorialize its long-term strategic plan in consultation with the Portland community at the very outset of development.

Creation of a new campus provides the opportunity to establish a people-oriented space right from the start. It will prioritize people over cars by creating a pedestrian-friendly landscape supported by multi-modal programs that provide incentives for alternative transportation options. The campus will improve site resilience and sustainability by replacing much of the existing pavement and rooftops with green space while improving coastal ecology and incorporating sustainable building practices.

IDEALS intends to create a dynamic, mixed-use campus that contributes to the East Deering neighborhood without encroaching on it or burdening City resources. By providing ancillary uses on site (office and lab space for institutional partners, housing for students, faculty, and employees, a hotel for visitors, retail and personal services) the Roux Campus will meet demand created by the Roux Institute at Northeastern University.

1. Establishing the Context



Our Roots

The Roux Institute at Northeastern University



The Roux Campus will be the first of its kind in the Northeast and perhaps in the United States. It will integrate graduate education in technology and science with ground-breaking research and business to spark innovation and economic development. The campus is being designed at a scale that will facilitate collaboration and research breakthroughs, encourage start-up businesses, and strengthen existing Maine businesses and institutions. Every component of the campus is directly linked to the mission of the Roux Institute, from the housing – keep students and faculty on campus to foster collaboration and reduce traffic, to the hotel – provide a convening space and accommodation for Institute guests from around the globe. The iconic waterfront location minutes from downtown Portland (by bike, bus, car or on foot) with striking architecture and a vibrant community will attract talent from around the globe, contributing to the mix of cultures locally and spreading economic advancement throughout Portland and beyond.

IDEALS will oversee the design and construction of a primary academic building on a “build to suit” basis and will lease it to the Institute. IDEALS will also seek partnerships from the private sector to construct and operate housing, parking, a hotel, and commercial office and laboratory buildings to support the primary academic uses—all of which would be on a ground lease basis. In the future, IDEALS will transfer ownership of the campus to the Roux Institute.

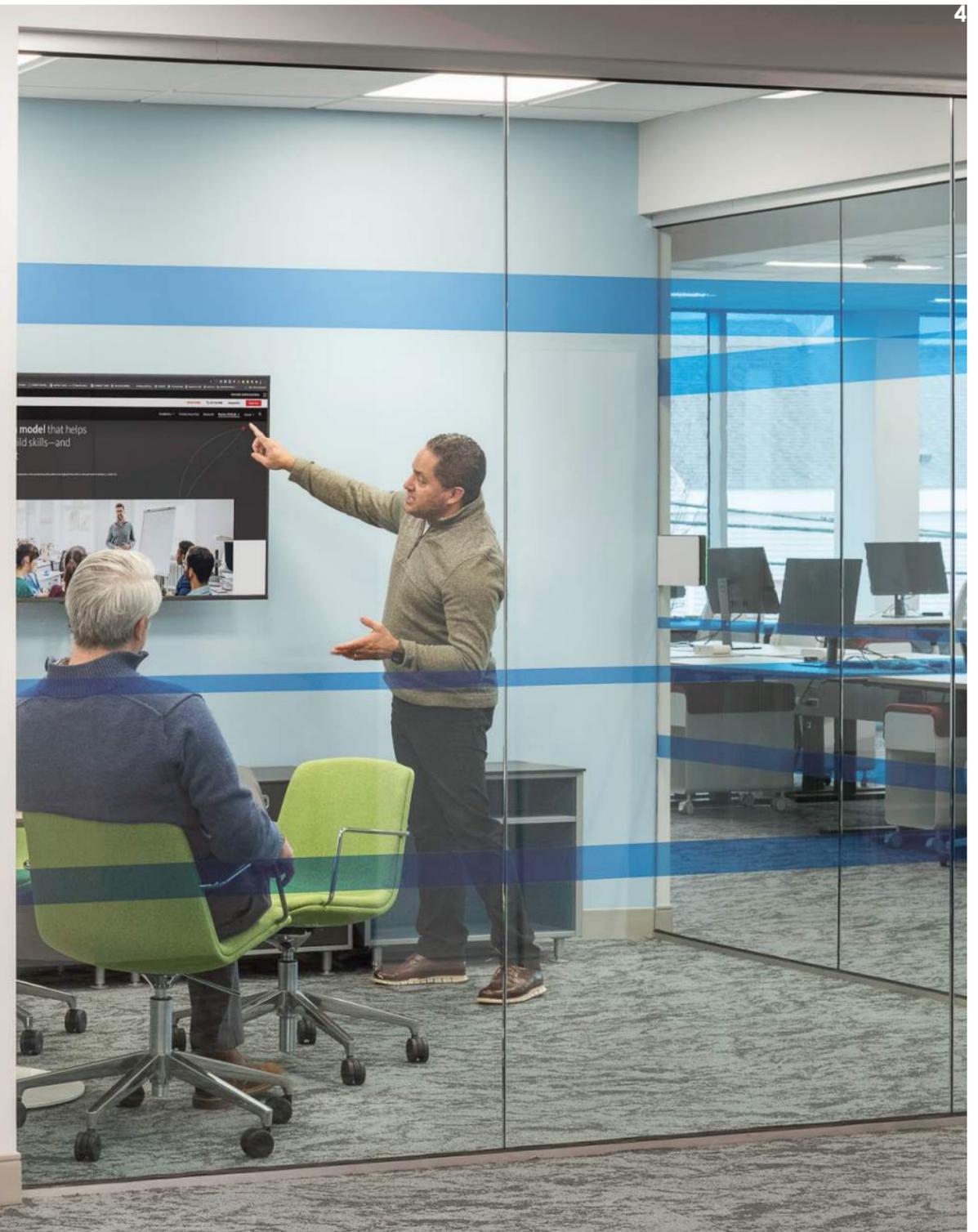


The Roux Institute at Northeastern University was established to develop talent to support and attract businesses that will thrive in the 21st century economy.

Vision: The State of Maine will be home to a thriving, high-tech economy fueled by people and businesses leading in experiential artificial intelligence, life sciences and medicine, engineering, and data visualization. This new economy will attract people and businesses from around the world to the region and provide unprecedented opportunities for all Mainers in a manner that honors and enriches the Maine lifestyle and culture.

Mission: With a vision to enable the creation of a synergistic technology and life science-driven economy and workforce, the Roux Institute designs, curates and integrates learning, research, and entrepreneurial solutions in collaboration with industry, academic institutions, and community organizations to catalyze talent development and economic impact throughout Maine.

Institutional Context



The Roux Institute at Northeastern University currently has 72 full-time, Maine-based employees, 50 of whom are faculty and post-doctoral staff. The Institute taught a total of 817 learners during fiscal year 2021. Of these 817 learners, 317 are matriculating graduate students and the remainder are pursuing courses and certificates while working full time. Of Maine's 16 counties, 15 are represented in the student body. The Institute offers 16 graduate programs in computer and data science, analytics, cloud software, cybersecurity, life sciences, and project management.

These educational programs are bolstered by collaboration; the Institute has 54 industry partners, 14 academic partners, and 12 community partners. Approximately 450 of these partners' employees took courses designed by the Roux Institute in concert with their employers, and over 70% of partners provided paid, cooperative work opportunities for Institute students. Additionally, the Institute has hosted 10 accelerator companies and has 6 established companies in residence. The Roux Institute at Northeastern University currently occupies 44,000 square feet of space leased at 100 Fore

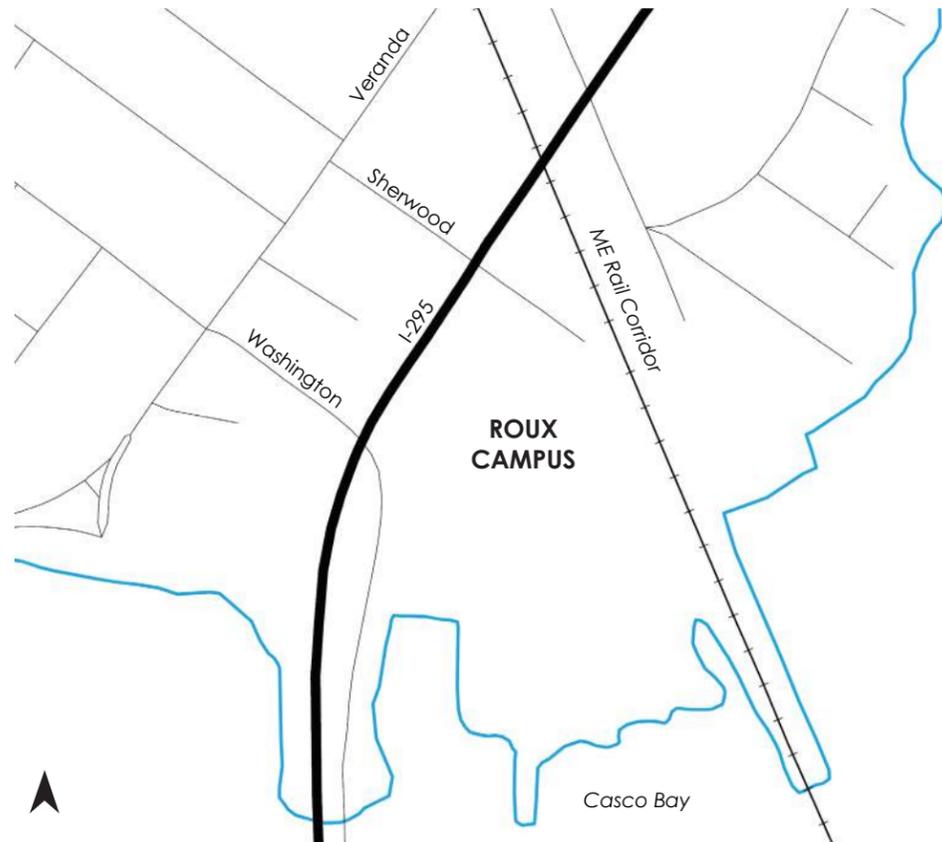
Street. This space enabled the Roux Institute to begin providing post-secondary education services in Portland, but significantly more physical space is needed to meet its Mission & Vision. In the near term (0-5 years), the Roux Institute anticipates enrollment expanding to 1,750 learners; in the medium term (10-20 years), enrollment is anticipated to grow to 2,500 students, and in the long term (20+ years) enrollment is projected to grow to 4,500 students. The Roux Institute intends to transfer all operations from 100 Fore Street to the new Roux Campus.

Neighborhood Context

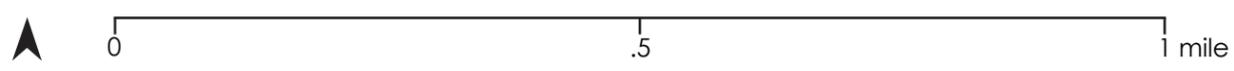
The proposed Roux Campus is located within Portland's East Deering neighborhood, near a residential area of single-family homes and a commercial node featuring restaurants, bars, mechanics, offices, and three-story apartments. While proximate to these areas, the site is remarkably buffered. I-295 to the west, state-owned vacant parcels to the north, a disused rail corridor and marine business to the east, and Casco Bay to the south collectively surround the property. Access to the site is via Sherwood Street at the intersection with Veranda Street, through a 40-foot-wide highway underpass.

This setting makes for a campus full of potential. Due to its relatively large 13+ acre size and existing buffers, the site lends itself to dense development. Taller buildings with smaller footprints will allow for additional public open space, a mix of landscaped and natural green space, and public waterfront access. The Roux Campus will connect to and enhance the surrounding East Deering neighborhood while simultaneously fostering its own identity.

Future development will acknowledge these advantages and constraints. The site must be planned responsibly to maximize community access while minimizing off-property impacts. The creation of compelling pedestrian, bicycle, and public transit connections to the Roux Campus and the waterfront will be particularly crucial.

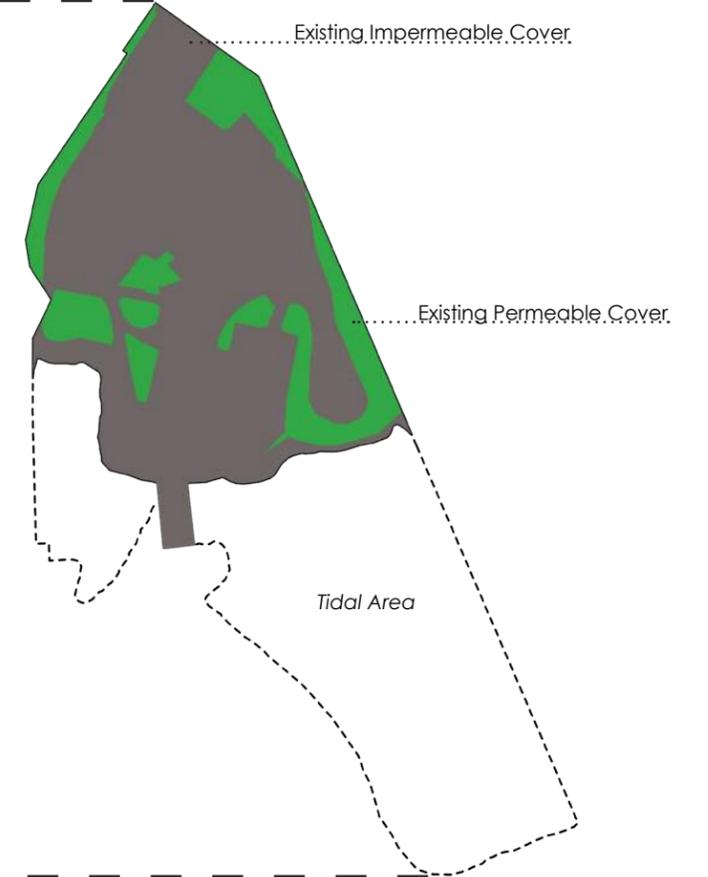
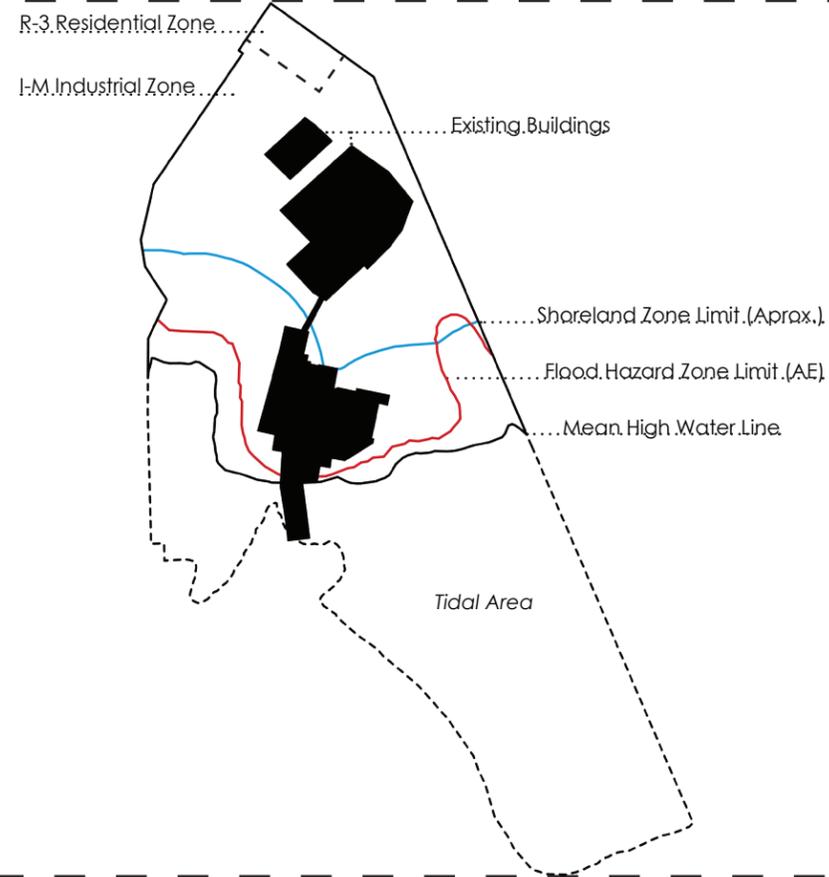


The site's current industrial use does not allow for public open space or amenities or access to considerable shoreline frontage.



- Back Cove Trail
- Bayside Trail
- Eastern Prom Trail
- Other Trails
- 15-Minute Walkshed

The site is near several of Portland's most popular bike and pedestrian trails, including Back Cove Trail, Bayside Trail, and Eastern Prom Trail. Its redevelopment can facilitate better community access to Portland's waterfront, as public open space enhancement is a key design parameter for the Roux Institute at Northeastern University.



Zoning

The majority of the site is currently zoned I-M Moderate-Impact Industrial, with the area immediately adjacent to Sherwood Street zoned R-3 Residential. Parcels adjacent to the site include I-L Low-Impact Industrial at the Maine Yacht Center to the east and R-3 Residential to the north. Parcels west of I-295 are generally zoned R-5 Residential and B-2 Mixed-Use Business.

Relationship to Water

The parcel includes approximately 13 acres above mean high water line (the site) as well as an adjacent 11 acres of submerged lands. The site has 1,000 linear feet of waterfront, with associated Flood Hazard and Shoreland Zones.

The City of Portland designates a shoreland zone within 250 feet of tidal water bodies. Within the shoreland zone, a minimum setback of 25 feet from the normal high-water level is required for structures, roads, and driveways.

Portions of the site are delineated as Special Flood Hazard Areas

according to FEMA's Flood Insurance Rate Map (FIRM). The current and effective FIRMs for Cumberland County, based upon FEMA's 1986 publication, indicate portions of the site are within the AE Zone, representing 1% annual chance of flooding. Base flood elevations range from 9 to 11 feet.

Impervious Areas

The majority of the site is developed land, with limited areas of natural vegetation. Approximately 10 acres of land above the mean high-water line are impervious (paved areas, building roofs, etc.). The remaining 2.5 acres of permeable area include lawn and approximately half an acre of vegetated, early successional non-lawn area adjacent to the rail corridor abutting the site to the east.

Not only is the site largely covered in pavement and building structures, it is also inaccessible to the public. Fencing prevents access to the waterfront and the interior of the site. This security was necessary for industrial use. However, new development can "soften" site edges and provide improved access to the waterfront.



Under current conditions, the site is inaccessible to the public.

Coastal & Natural Resources

Immediately adjacent to this highly developed site are natural resource areas including: an estuarine intertidal emergent marsh located east of the site near the rail corridor; coastal wetlands for all areas below highest annual tide; tidal waterfowl and wading bird habitat, and blue mussel habitat. Portions of the Site are delineated as Special Flood Hazard Areas according to FEMA's Flood Insurance Rate Map (FIRM).

Topography of the Site slopes downward from the north to the south, toward the water. The highest elevations are near Sherwood Street, at elevation 28 +/- . The lowest grades are near the loading dock at the B&M cannery building, at elevation 8.5 +/- . These low areas are only 1-foot above Highest Astronomical Tide.

resiliency will be key to the Roux Campus. The redevelopment will raise site grades and incorporate infrastructure improvements to create a flood resilient landscape. It will also rehabilitate this brownfield site, enhance natural resource areas, and reduce the impacts of current impervious, industrial conditions by creating habitats that foster ecological diversity and productivity at the water's edge.

In recognition of existing vulnerabilities and future sea level rise,



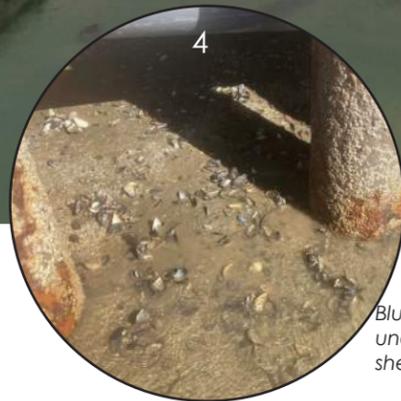
The coastal wetland includes rockweed anchored to rocks in tidal mudflat.



Stormwater outfalls drain into the wetland where a scour channel cuts across the mudflat.



The tidal flat is home to tidal waterfowl and wading bird habitat.



Blue mussels are abundant under the pier, where soft-shell clams also grow.



The tidal mudflat portion of the site stretches far into the inlet, resulting in dramatic daily change.



Outfall pipes drain to wetlands in the ravine.



The ravine's slope is vegetated with native sumac and invasive Japanese knotweed.



The estuarine system extends up a ravine along the site's eastern boundary.



Historic Resources

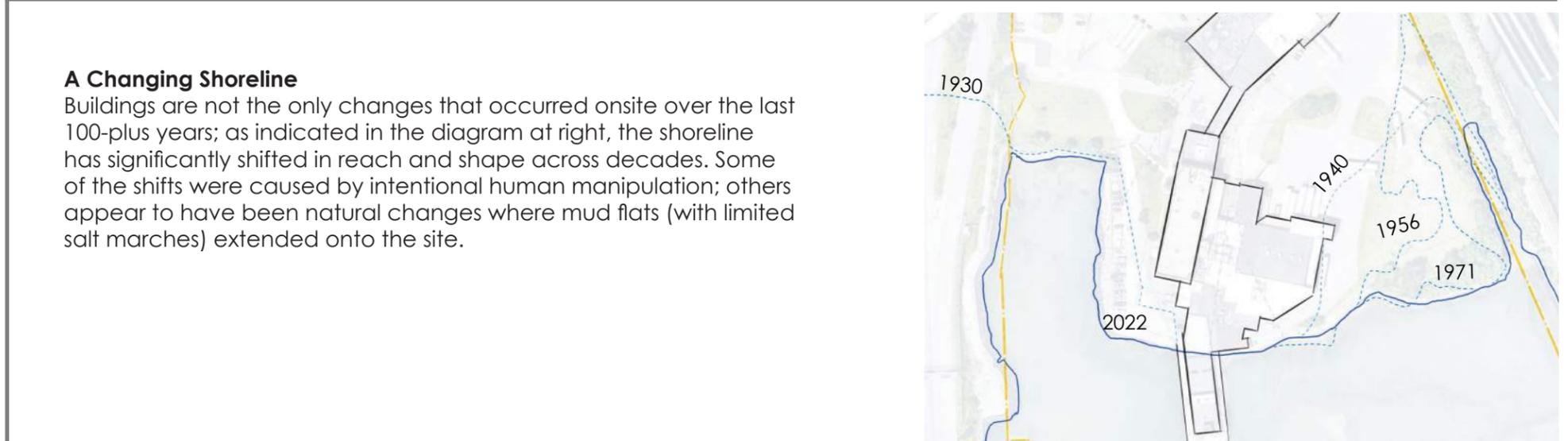
The project site was occupied by residences and a lobster cannery prior to 1913, when Burnham & Morrill (B&M) relocated its operations to the site from Franklin Street. The address of the B&M facility at that time was Water Street, which granted access from the west (and is visible on the map below) prior to construction of I-295. By 1913, the five-story B&M cannery building stood on site, as well as the cod-fish building located on the pier. In the 1920s, B&M began experimenting with brick-oven baked beans in an attempt to offset declines in other product lines (canned fish, meat, and vegetables), and in the 1920s and 1930s began selling brick-oven baked beans in cans. In 1965, B&M's address was designated as 1 Bean Pot Circle. With an appreciation for the B&M history at the site, IDEALS will be seeking City Historic Landmark status for the B&M cannery building.

Cannery Building

The cannery building is the cornerstone and flagship of the B&M food manufacturing facility. Constructed circa 1912 by Aberthaw Construction Co., Boston, MA, the building housed the baked bean manufacturing processes and the plant management offices. It is a robust five-story, reinforced-concrete building with a high live-load floor capacity. The concrete frame is exposed on the exterior of the building with brick and masonry infill walls and glass windows. The building is structurally sound with only minor structural modifications required. The main entry is on the 2nd floor level, which is at elevation 21.5', well above the 100-year flood zone elevation of 10'. This, along with the rugged structure and historic community value, make the building an ideal candidate for reuse. A permanent exhibit of artifacts and photographs is planned for the site.



Previously, another street (Water Street) extended on to the site.



A Changing Shoreline

Buildings are not the only changes that occurred onsite over the last 100-plus years; as indicated in the diagram at right, the shoreline has significantly shifted in reach and shape across decades. Some of the shifts were caused by intentional human manipulation; others appear to have been natural changes where mud flats (with limited salt marches) extended onto the site.

Municipal Plan Context

The former B&M site is ripe for renewed use and redevelopment. The proposed project includes adaptive re-use of the B&M cannery building, facilitates public interaction with the waterfront, creates a new walkable core of diverse uses, and bolsters economic opportunity in East Deering.

Portland's Plan 2030 focuses primarily on eight aspects of Portland's identity and performance: environment, waterfront, transportation, housing, recreation and open spaces, facilities, historic resources, and economy. While the facilities section generally focuses on municipal operations and the waterfront section is focused on the working western, central, and eastern waterfront areas of the peninsula, the other six sections are directly relevant to the proposed plan. Excerpts relevant to the Roux Campus are provided here.



Portland's Plan 2030, adopted in 2017, is the City's comprehensive plan.

Environment

"Adopt sustainable land use and transportation policies that support connectivity, walkable neighborhoods, and multi-modal transportation."

"Plan for the mitigation and redevelopment of brownfields to support productive uses and a healthier environment for residents."

Transportation

"Promote multi-modal accessibility, enabling residents and visitors of all ages and abilities to participate fully in the social and economic life of the community."

Housing

"Encourage additional contextually appropriate housing density in and proximate to neighborhood centers."

"Identify priority growth areas."

"Allow for a range of housing models in City codes, whether small units, co-housing, or others that may suit changing needs and demographics."

Recreation & Open Space

"Encourage physical and visual access to Portland's waterfront – Casco Bay, Back Cove, and the Stroudwater, Presumpscot, and Fore Rivers – as a "blueway" network and an extension of public space for local and regional recreation and transportation needs."

Historic Resources

"Stabilize and enhance historic areas of the city by ensuring quality investment in existing structures and compatible infill development."

"Ensure an appropriate balance of continuity and change as Portland grows and evolves."

Economy

"Support job creation and business growth through public initiatives and private, institutional, and regional partnerships."

"Develop programs that support industries with high-growth / high-value potential such as life sciences, food production, information technology, and marine-related industries."

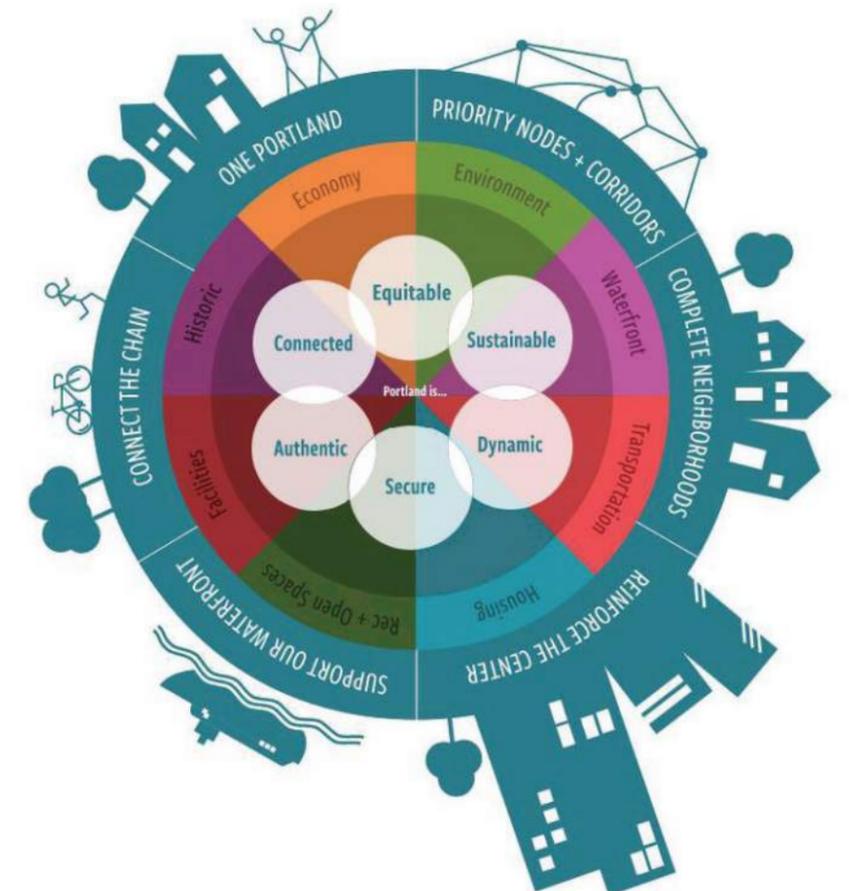
"Modify ordinances and make strategic investments to better promote business development and job creation in priority areas."

"Ensure that the growth of Portland's educational, medical, and cultural institutions is integrated into Portland's urban fabric through the use of high-quality design, management of impacts, community partnerships, and innovative planning."



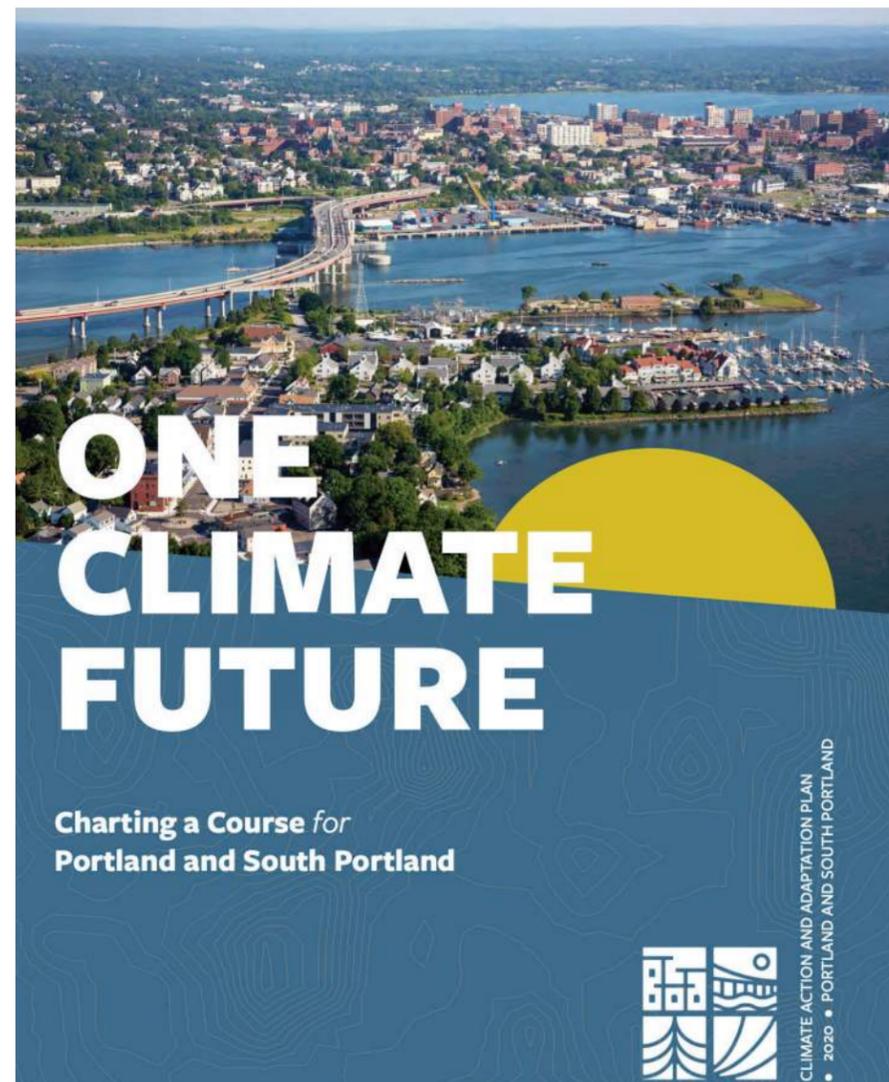
Nodes & Priority Corridors

Portland's Plan 2030 emphasizes potential evolutions in land use. Washington Avenue is identified as a priority corridor, which can provide "additional mixed-use, higher density growth to take advantage of the transit benefits and services that well-designed, diverse corridors can offer." The Washington Avenue / Veranda Street / Tukey's Bridge area is called out for evaluation: such areas "should be assessed for their ability to address neighborhood needs and serve as centers for complete neighborhoods."



The Roux Campus is an opportunity to showcase sustainable and resilient buildings, reinforcing and fostering a resilient community across East Deering and the Portland region. Its waterfront location demands proactive planning for extreme weather and storm surge events. Its location on a developed, industrial piece of land with a single point of access/egress, means that the campus development must take advantage of existing infrastructure within the East Deering neighborhood, facilitating trips by active alternative, multimodal and mass-transit options.

In 2020, the Cities of Portland and South Portland both adopted a collaborative sustainability and resilience plan: One Climate Future. The plan addresses many challenges, priorities, and strategies for responsible climate stewardship and mitigation of climate-related public health threats. It includes great specificity and is summarized by six general action items. Following are One Climate Future's "six big moves" and discussion of their relevance to the Roux Campus.



1. Build better buildings.

A new campus of higher education, research, and development deserves thoughtful design; it represents an opportunity to implement best practices for energy efficiency, healthy communities, human comfort, and interaction with the surrounding environment. Aside from the iconic B&M cannery building, existing on-site buildings are not suitable for adaptive reuse. Much of the site will be redeveloped with new construction. In order to attract and respect climate-conscious students and corporate partners, these new buildings will be created with sustainability and resilience top-of-mind. As described in the Design Guidelines within this Plan, IDEALS is committed to high-performance buildings and at the same time setting a standard for design through signature architecture.

2. Connect people to places, to opportunity.

Graduate education, research, and development exist in order to provide opportunity. At their best, they do this in a collaborative and social setting. The Roux Institute at Northeastern University will achieve both. By siting within the existing neighborhood of East Deering as depicted in a 15-minute walkshed within this Plan, the campus expands this opportunity outward to the nearby community, where on-site resources become community resources. Finally, by establishing itself within and supporting existing public transportation networks, the Roux Campus will be accessible to all Portlanders as well as those in the broader greater Portland region, and beyond.

3. Power everything* with clean renewable electricity.

Electrification allows for appliances, buildings, and systems to support the shift to renewable energy in our power grid, without cementing a need for fossil fuels moving forward. This entails moving away from carbon intensive heating and energy sources, so that as more energy is produced by clean energy renewable sources like solar and wind. IDEALS will evaluate power purchase agreements for renewal energy sourcing, incorporate passive solar and photovoltaics, consider the use of geothermal heating and cooling for buildings, and encourage EV usage through on-site charging capacity.

4. Grow a circular economy.

Fostering technology knowledge and life-science research in Portland will diversify its economy and help prepare for the future. Yet workers in these fields will still rely on other, existing aspects of the regional economy. Food producers and preparers, makers and artists, essential workers and support staff, all make the City of Portland a compelling and delightful place to live. On a small-scale, the Roux Campus will facilitate a circular economy through mixed-use, neighborhood-scaled urbanism that creates a place to live, learn, work and play. On a broader scale, it will strengthen the region and support other initiatives and opportunities through education and research, an investment in people and collaboration with Corporate Partners that are (and will be) fueling progress through innovation.

5. Nourish ecosystems, which nourish us.

The Roux Campus' tidal waterfront location will allow it to meaningfully contribute to ecological health by designing with nature in mind, to provide optimum plant and marine habitats. While B&M has been a steward of their property, this project will result in a significant reduction in impervious surfaces, and yield a healthier site that protects and enhances the local ecosystem, which has been diminished through the historically industrial development of the property.

6. Build collaborative capacity to create this future.

The Roux Campus will develop technology and life science talent, and position Mainers, new-Mainers, and international students for financially stable and personally rewarding careers. The campus will proactively weave budding talent with existing Corporate Partners, and thus create opportunity for fresh thinking and an innovative future. The Roux Institute at Northeastern University will shape tech talent and innovation in Portland.



Portland and South Portland both adopted the One Climate Future plan in 2020.

The Roux Campus will contribute to meaningful stewardship of resources, limit energy consumption with building technologies, and help Portland prepare for climate and economic stressors.

2. Imagining the Future



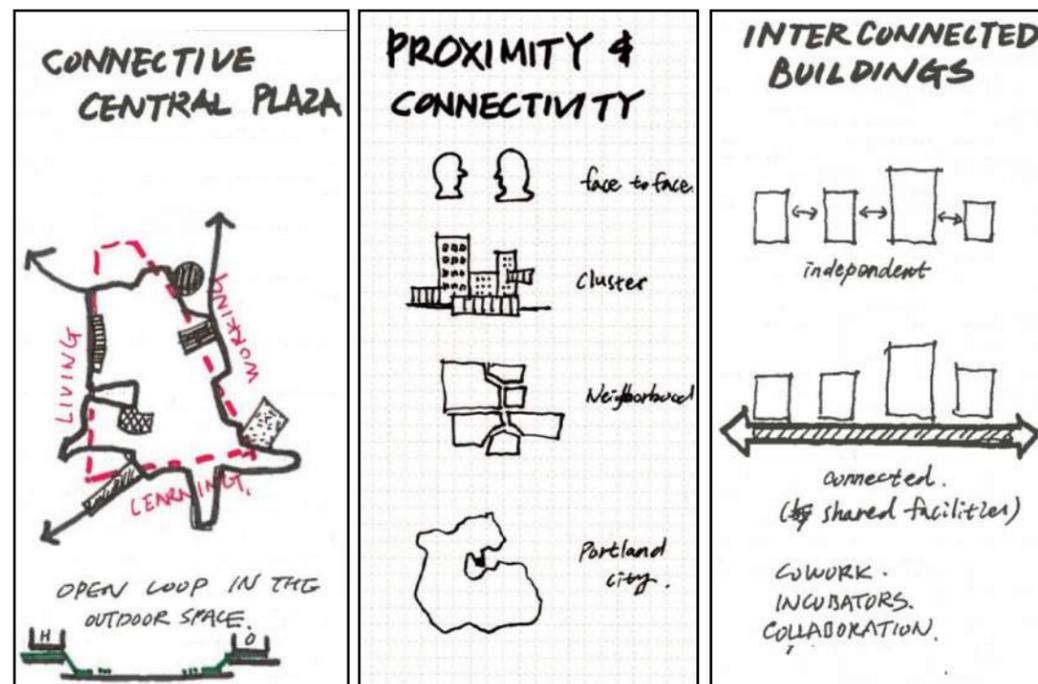
Campus Programming

The Roux Campus will encompass mixed uses regularly associated with graduate education and research: classrooms and laboratories, faculty offices, dining areas, convening spaces, fitness centers, retail facilities, and housing. The campus will support collaboration with private industry, other institutions, and community organizations. This collaboration is essential to the Roux Institute at Northeastern University's approach to learning through integrated research, student work opportunities, and entrepreneurial endeavors. Light manufacturing, research and design facilities, and other industry-oriented spaces will allow start-up businesses and established companies to contribute employment opportunities, foot traffic, and dynamism to the area. Hotel rooms will cater to prospective students, visiting lecturers, specialists, business travelers, parents of students, and others.

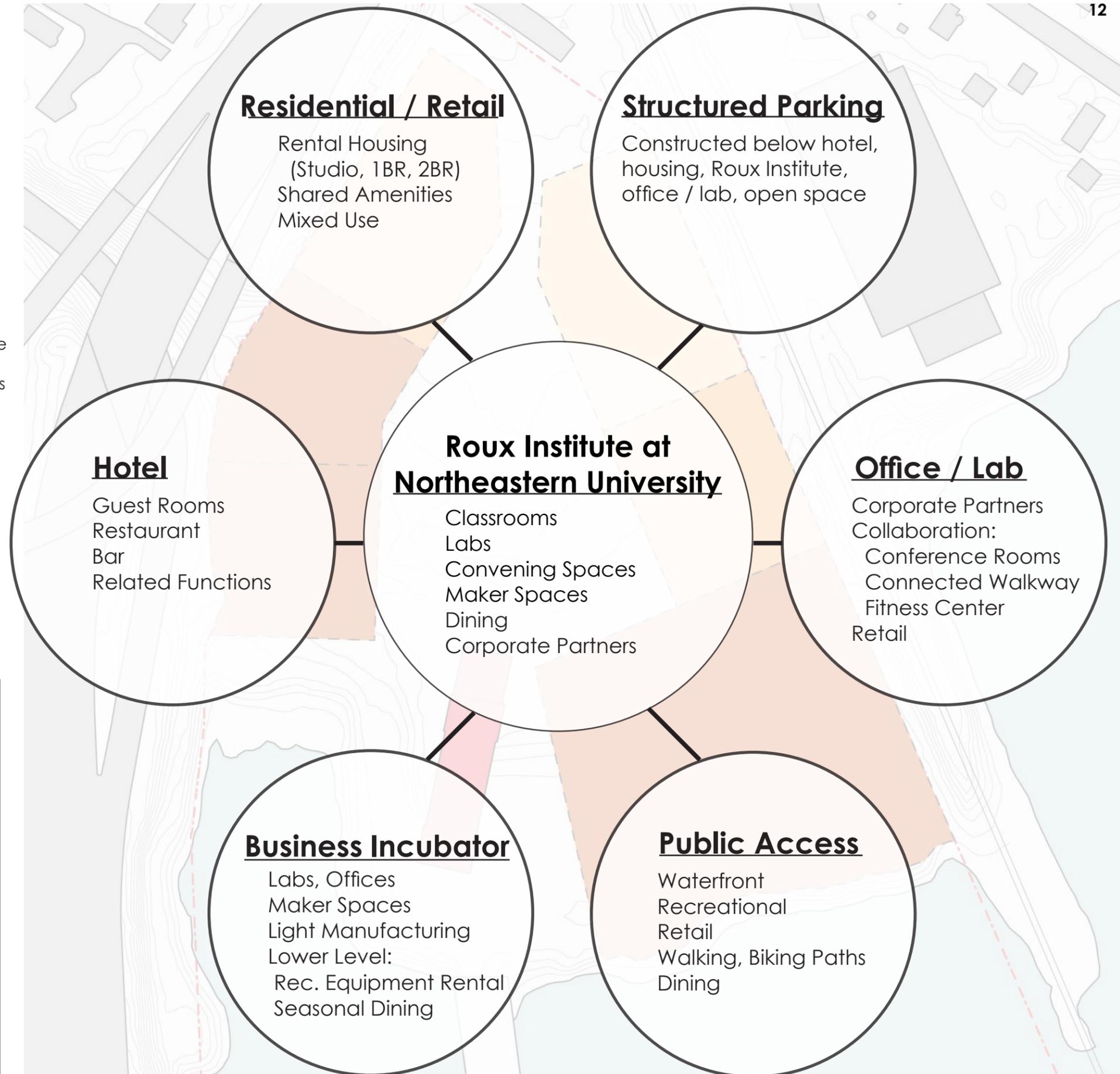
A range of rental housing options will foster community and provide on-site opportunities for students, faculty, staff, and their families. These units will ease some of the housing pressure that might otherwise result from new residents attracted to Portland by the Institute. Housing units not occupied by residents affiliated with the Roux Institute may be made available to the public.

Public open space, including waterfront access and recreational uses, will foster connection to the East Deering neighborhood. Restaurant, grocery, and/or other retail options will provide another means for welcoming the community while reducing dependence on automobiles. IDEALS and the Roux Institute will incentivize transportation options including buses, bikes, pedestrian access, and water shuttle or taxi connections.

IDEALS' long-term vision for the site is to maximize green space and public access to the shoreline. That vision includes a potential bike and pedestrian path under Tukey's Bridge and bicycle and pedestrian connections at Veranda Street and beyond. These would link to the Back Cove, Eastern Promenade, Bayside, Martin's Point Bridge, and future trail systems.



Concept sketches by the architect, Tsoi Kobus Design, display the intent to build dynamic, community-rooted space.



Phasing

Before shifts in transportation and distribution networks, the site offered a competitive location for food processing and manufacturing in the 20th century. Now, the site's many compelling attributes enable the pursuit of science, education, and entrepreneurship for the 21st century and beyond. The Roux Campus is envisioned as a hotbed of collaboration, innovation, and inspiration that contributes to Maine's economy and enriches the lives of Portlanders through the resources it offers.

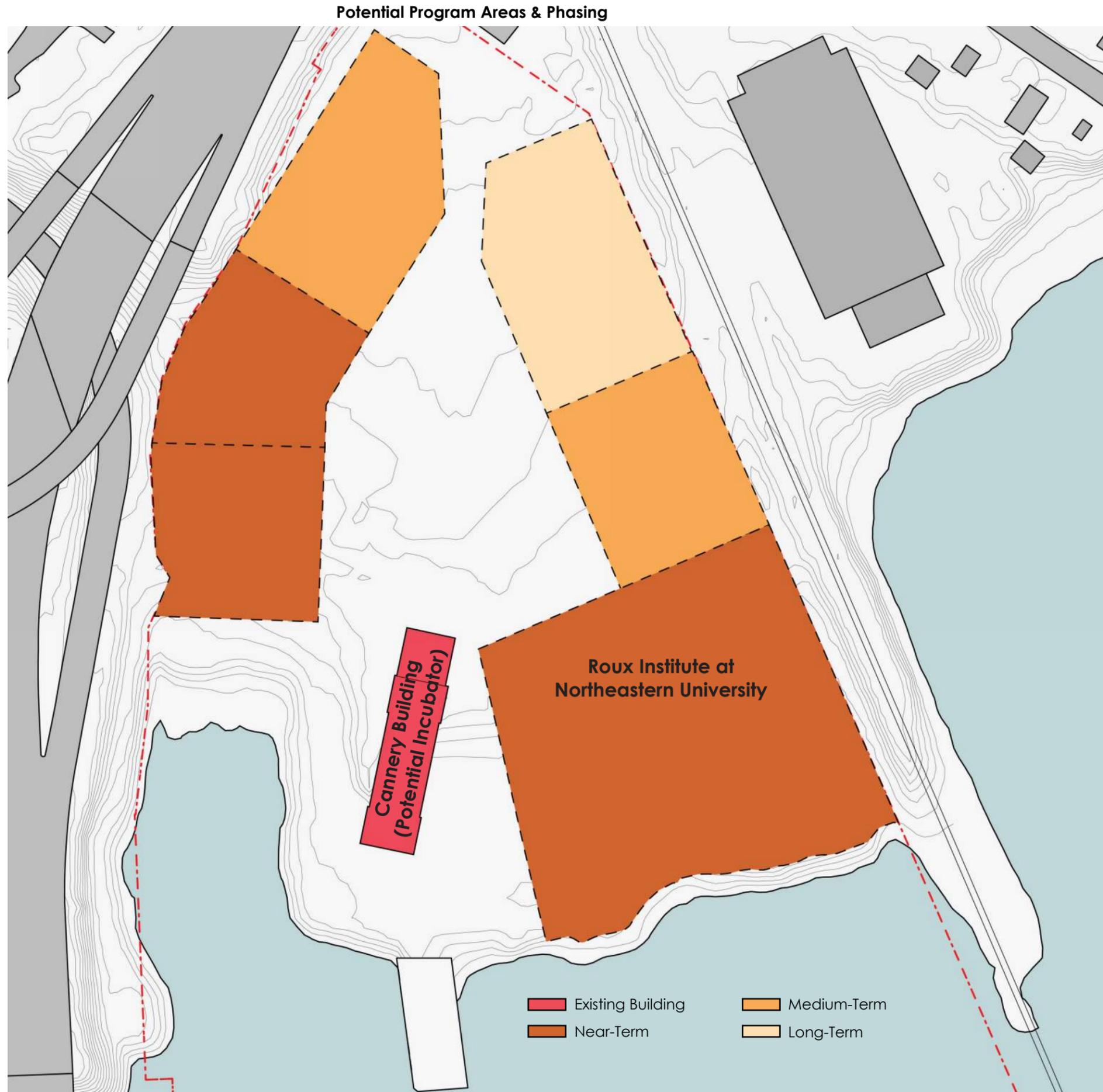
While the proposed vision represents an ambitious undertaking, the entire endeavor is based on simple tenets of urbanism: provide a mix of uses, allow for creativity and entrepreneurship, and encourage recreation. This vision takes time to grow and develop. Understanding that institutional uses have multiple planning horizons, this IDP considers near, medium, and long-term growth plans. The resulting phasing of the development is represented in the figure to the right.

Fortunately, the nature of the Roux Institute at Northeastern University lends itself well to phasing strategies. Corporate partnerships are a core part of the Institute's identity, meaning that office and laboratory partners will sit comfortably within the primary academic building during its first years, before extending outward in the medium term. As the site develops and builds its reputation, more and more students, faculty, and employees will be drawn to live and work on site. As the population of students, residents, and employees grow, so will demand for retail and restaurants.

The proposed vision offers a realistic framework for flexible growth. As the Roux Campus evolves, and the world changes, new opportunities and needs may present themselves. Neighborhood feedback will also inform future growth. A core presence of educational, research, incubator, and corporate space will provide the Campus with a strong start, around which additional community needs and services can thrive over time.

Anticipated Phasing (Cumulative Totals)

Building Program	Near Term (0-5 Years)	Medium Term (10 Years)	Long Term (20 Years +)
Roux Institute at Northeastern University	1,750 Students 250,000 sf.	2,500 Students 350,000 sf.	4,500 Students 350,000 sf.
Office / Lab Partners	Included in the Roux Institute	250,000 sf.	500,000 sf.
Business Incubation	50,000 sf.	50,000 sf.	50,000 sf.
Residential	175 - 250 Units 150,000 - 225,000 sf.	300 - 400 Units 250,000 - 350,000 sf.	500 - 800 Units 425,000 - 700,000 sf.
Commercial (Retail, Dining, Hotel)	125,000 sf.	140,000 sf.	155,000 sf.



Design Principles

The Roux Campus can be a paradigm for 21st-century urban, sustainable, and resilient design. All parts are conceived in relation to the broader whole; all buildings are organized around the central green space. This is a generational opportunity for place-making.

Key principles of the design approach to this campus include:

A Landmark on the Waterfront

- Engage the waterfront area at the west, east, and south edges.
- Promote visual and physical connectivity.
- Encourage connections to the waterfront through diverse spaces.
- Improve the built environment.
- Restore and repurpose the cannery building.
- Make a striking visual statement.

Places to Convene

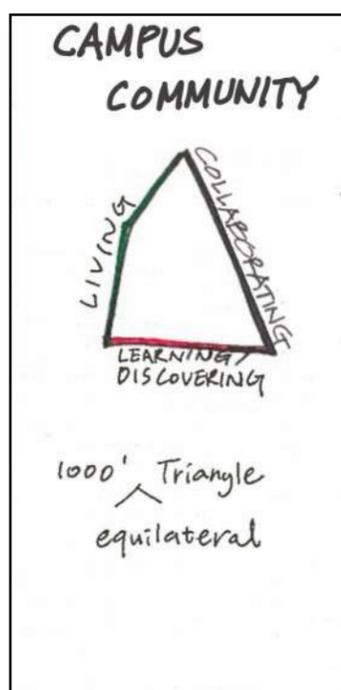
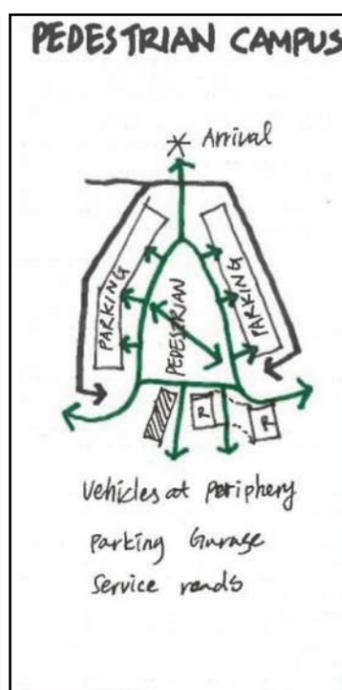
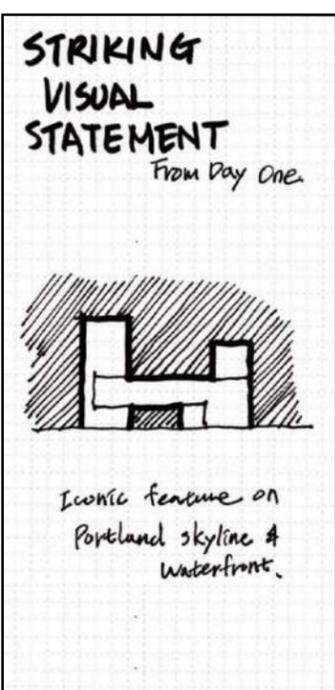
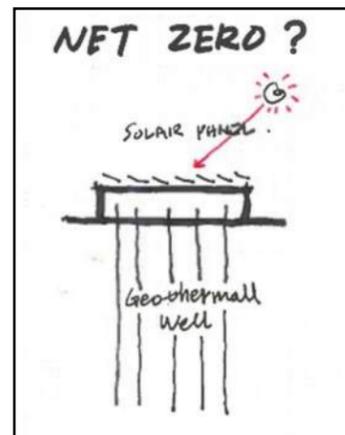
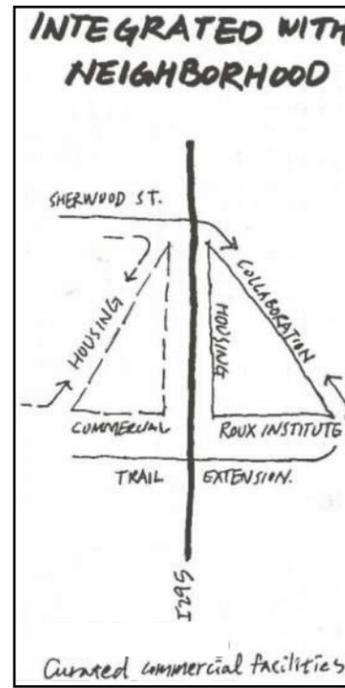
- Welcome the neighborhood in.
- Foster community with shared spaces and interaction.
- Build a strong association with the City of Portland.
- Reach a critical mass for desirable connections to occur regularly.
- Provide public open space.
- Attract and engage world-class thought leaders.

A Sustainable & Resilient Campus

- Incorporate state-of-the-art features and techniques; be an example.
- Reduce energy consumption wherever possible.
- Build for flooding, extreme weather events, and climate change.
- Maximize green space through building height.

Integrated Landscape

- Enhance access through TDM and multi-modal support.
- Contribute to Portland's open space network.



Above: Concept sketches by Tsoi Kobus Design

A Landmark on the Waterfront

Artist Interpretation



Development of a new landmark campus, with focus toward the community and the waterfront, will enhance the East Deering neighborhood. New, forward-looking campus buildings adjacent to the restored and repurposed cannery building will update and respect its legacy. The waterfront will integrate with the entire campus through ecologically-focused design. Omnipresent water views from the ground and buildings will emphasize the site's uniqueness and become an integral part of the campus identity. Pedestrian / bicycle trail connections and water shuttle or taxi service will let the waterfront serve as an entrance to the campus.

Places to Convene

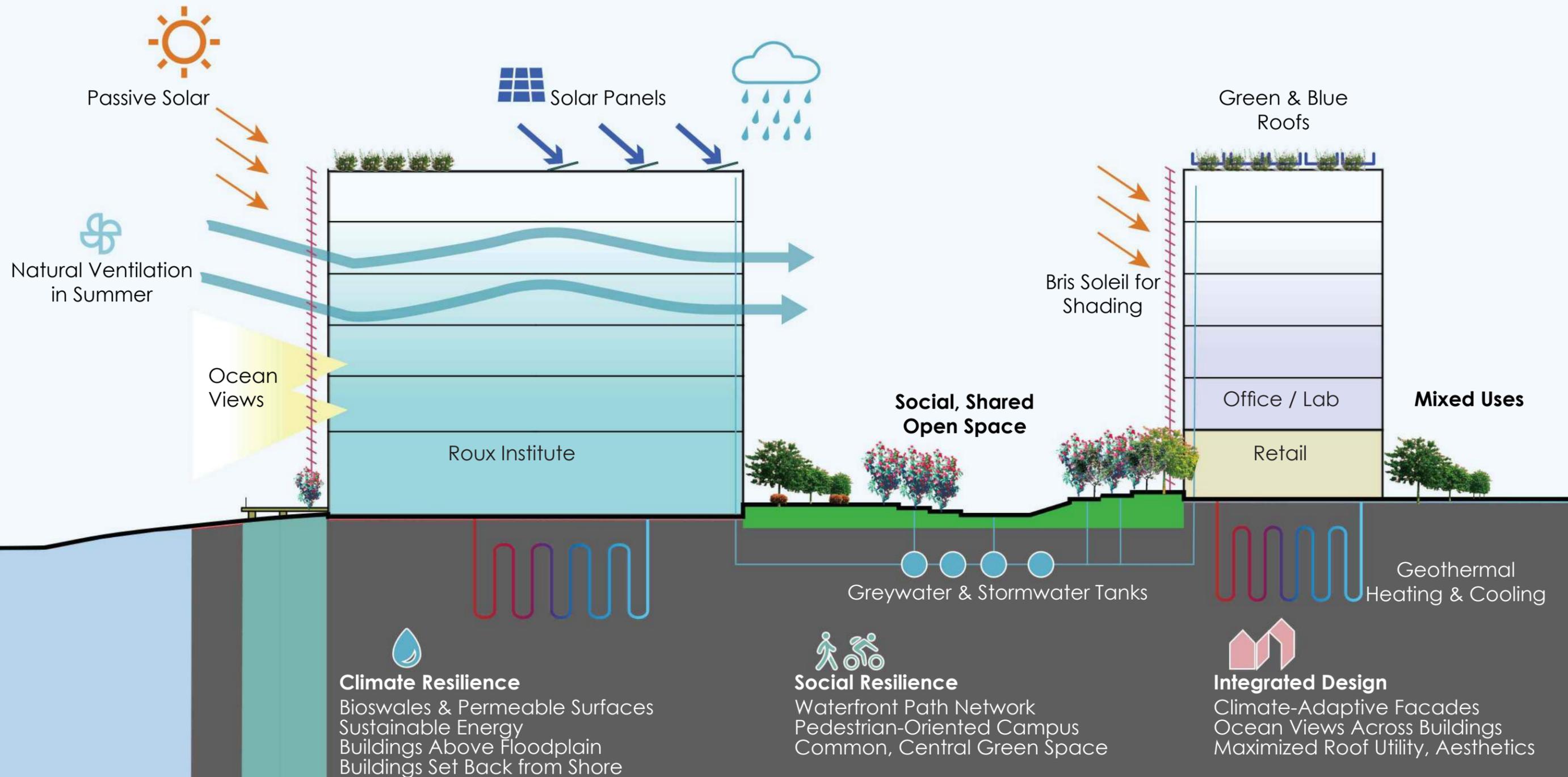
Artist Interpretation



All new buildings will connect through linking landscaped terraces with a central, pedestrian-oriented green space. The campus will maximize publicly accessible open space through building height and density. This plan will foster a mixed-use environment encouraging interaction and innovation. Internal connections are echoed by external circulation and access points (pedestrian, bicycle, public transit, potential water taxi, automobile) that further strengthen the connection with neighboring communities and the city of Portland.

A Sustainable & Resilient Campus

The Roux Campus intends to incorporate state-of-the-art sustainable technologies to the maximum extent practicable. Examples of possible technologies (illustrated below) that will be thoroughly studied include: geothermal heating and cooling, photo-voltaic solar panels, high-performance building envelopes with triple glazing, green roofs, blue roofs, storm water / greywater management, passive solar gain, sea water cooling, and natural summer ventilation. Resilience strategies like constructing buildings well above the 100-year flood zone will also be deployed to account for rising sea levels and severe weather events.



Enhance Access

The striking campus is visible from Interstate 295, as well as from its on and off-ramps which are located nearby. US Route 1 and downtown Portland are both accessible within minutes. Via Sherwood Street, the Roux Campus will connect to the East Deering and Back Cove neighborhoods. Bus routes within easy walking distance, and waterfront pedestrian and bicycle trails (including a potential new connection under Tukey's Bridge) will link the Roux Campus to the Back Cove Trail, Bayside Trail, Eastern Promenade, and future trail networks. Within the site, ADA pathways and inclusive design principles will ensure the site benefits all visitors.

Adjacent to the Roux Campus (but not on its property) is the former Grand Trunk Railway line, which could one day provide a new transportation pathway. Connections to Casco Bay ensure water access to the peninsula, islands, and the entire Maine coast.



- Vehicular Routes
- Pedestrian / Bicycle Routes
- - - Former Grand Trunk Railway
- METRO 7 bus
- METRO 9a/9b bus
- - - Water Shuttle
- Boating Locations

Contribute to Portland's Open Space Network

The Roux Campus will add significantly to Portland's open space network via a modern waterfront with public amenities such as lawns, a pier, plazas, and a large central green space. Enhanced sidewalks and bike lanes, a potential direct connection to the Back Cove, Eastern Promenade, and Bayside trails, along with a pier for a water shuttle and / or taxi, will help the public get to the Campus. Gardens, native meadows, trees, and natural areas will offer new, calming spaces and create a variety of healthy habitats.

The primary academic building of the Roux Institute at Northeastern University will anchor a cohesive campus of learning, research, and collaboration along with residential and retail facilities that support them; natural systems will integrate with everyday life. A network of inland pathways across various landscapes will thread uses together.

The Roux Campus will transform an industrial site into an ecologically diverse, urban waterfront setting. Many existing impervious surfaces will give way to open spaces inspired by natural landscapes from the Greater Portland area. Stormwater management strategies will further contribute to the environmental function of the site.



Martin's Point

Mackworth Island State Park

Presumpscot Elementary School

Payson Park

Roux Campus

Casco Bay

Back Cove

Barrows Park

Belmeade Park

Pedro Field

Fessenden Park

Bedford Park

Back Cove Park

Deering Oaks

Bayside Trail

Franklin Street

Kennedy Park

Major Charles Loring Memorial Park

Fort Sumner Park

Marada Adams Park

Eastern Cemetery

Eastern Promenade

Fort Allen Park

Fort Gorges

Moontide Park

Maine State Pier

Legend:

- Open Recreational Space
- Forested Area

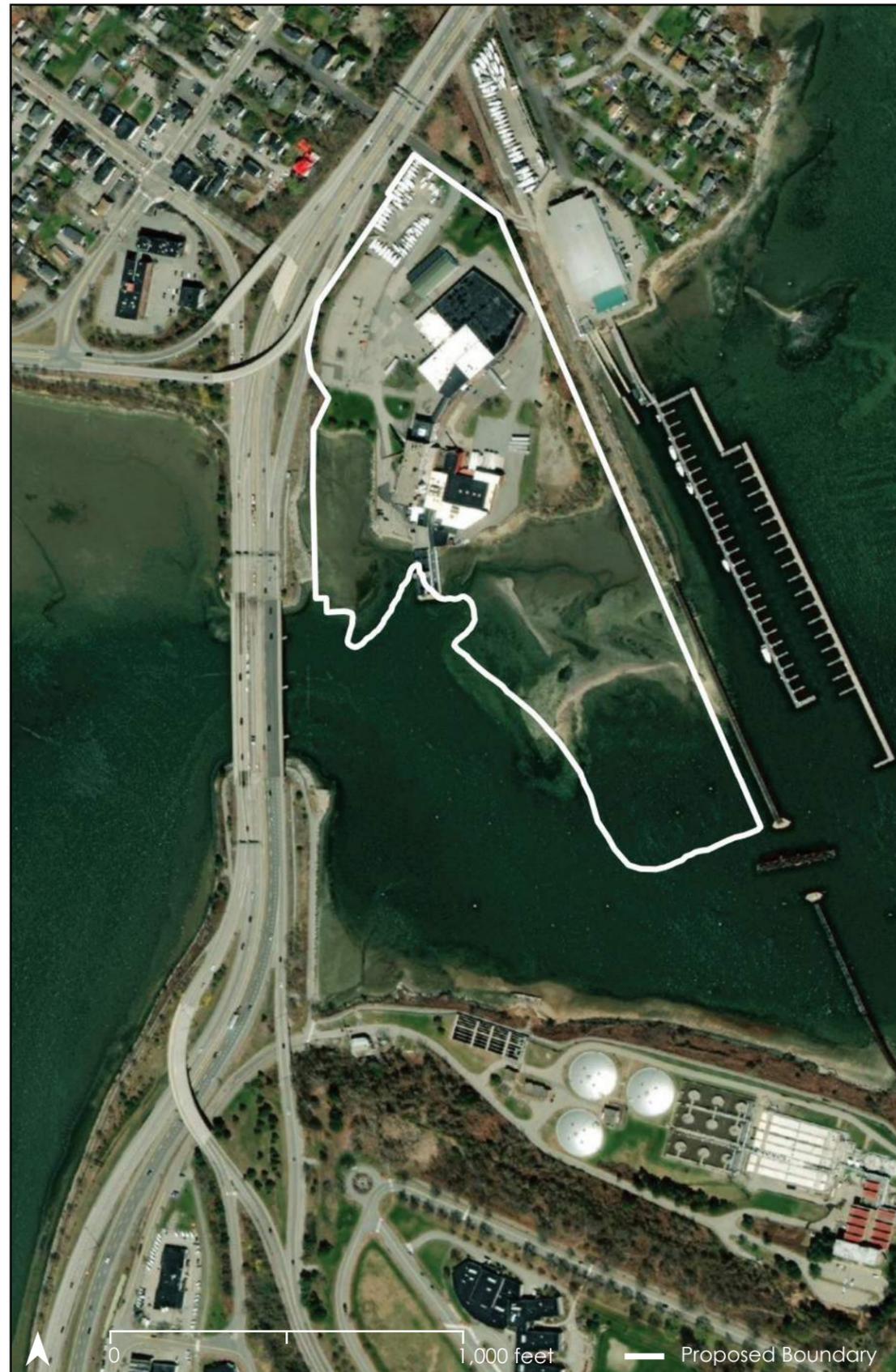
3. Creating the Path Forward



Assessment of Growth

The City's Land Use Code establishes content requirements for Institutional Development Plans, including considerations of transportation, environment, infrastructure, design, and neighborhood engagement. The following pages apply these lenses to the Roux Campus, how they interact, and the opportunities they create.

Boundary of Proposed B-5 & IOZ



Transportation

With one vehicle entry point, the project must be properly planned to minimize impacts on the surrounding street network. Reductions in trip generation through complementary on site uses, alternative modes of transportation, and transportation demand management are crucial.

Infrastructure

Any development is limited by the capacity of nearby utilities infrastructure. Fortunately, the site's previous industrial demands dovetail nicely with the needs of a mixed-use development. High-performance buildings can help reduce further infrastructure demands.

Environment

One compelling aspect of the Roux Campus is the waterfront location; yet decades of production and transportation-oriented industrial use diminished its ecological function. Thoughtful redevelopment will restore some of this function.

Design

While the Roux Institute at Northeastern University seeks to inspire aesthetically, the Roux Campus will be designed with neighborhood context and nature in mind. It can serve as a proving ground for best practices in ecological and urban design.

Neighborhood Engagement

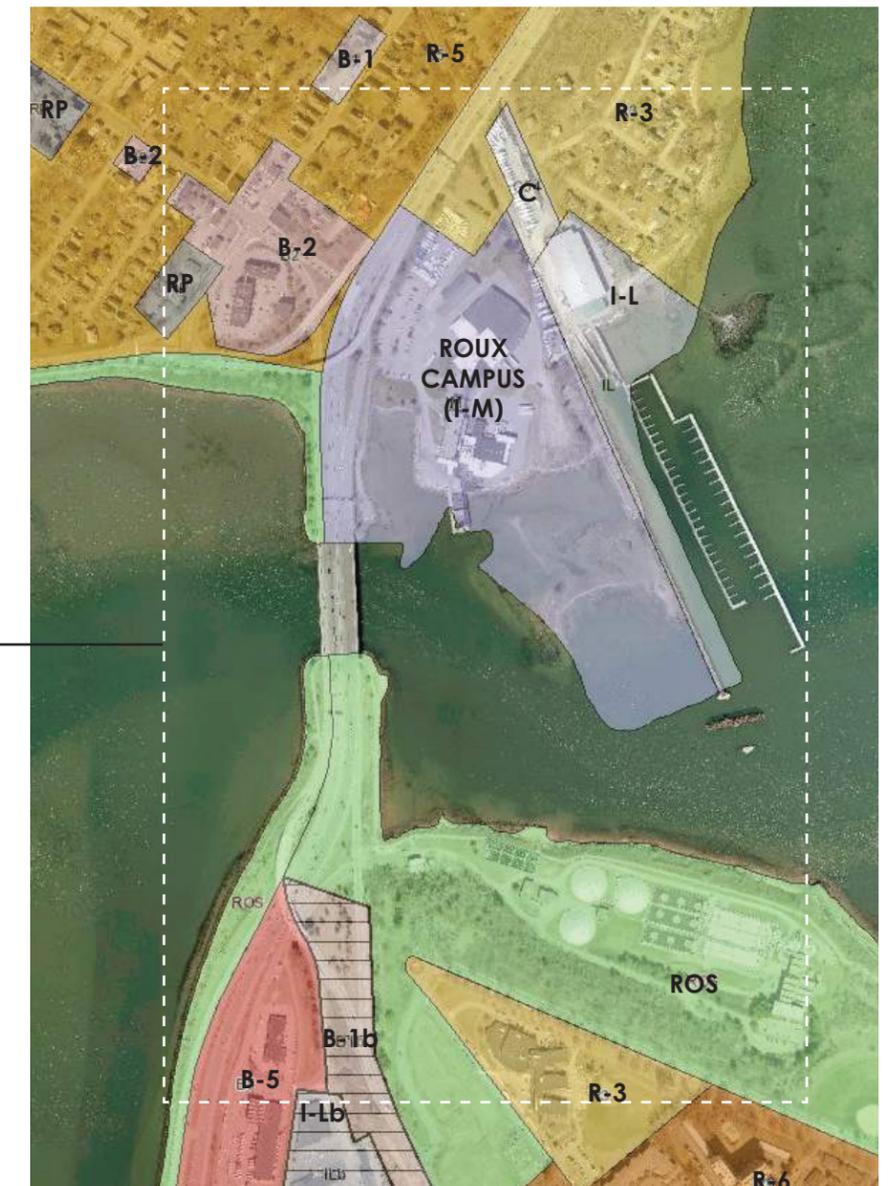
The Roux Institute at Northeastern University cannot thrive without the support and goodwill of its neighbors. By establishing and maintaining community engagement, the organization will incorporate fresh ideas and build trust.

The environment of the site influences its design. That design leads to higher or lesser demands on transportation networks and utility infrastructure, which in turn impact the environment. Underlying the entire process is neighborhood engagement, without which the Roux Institute at Northeastern University cannot succeed.

The proposed Roux Campus aligns well with the B-5 Mixed-Use Business zone's purpose statement in the City of Portland's Land Use Code:

"To provide areas of the peninsula* near the downtown where a mixture of uses, including marine, industrial, commercial, and residential, is encouraged. The B-5 and B-5b zones are characterized by larger underdeveloped lots with great potential for denser, clustered, urban mixed-use development and more efficient reuse of existing land and buildings. It is anticipated that the dense, mixed-uses of the B-5 and B-5b zones will rely on a shared infrastructure system, including service alleys, parking lots, public transportation facilities, stormwater management, and driveways."

*Per the City of Portland's Land-Use Code, "on-peninsula" is defined as all land south of I-295. The proposed Roux Campus is south of I-295.



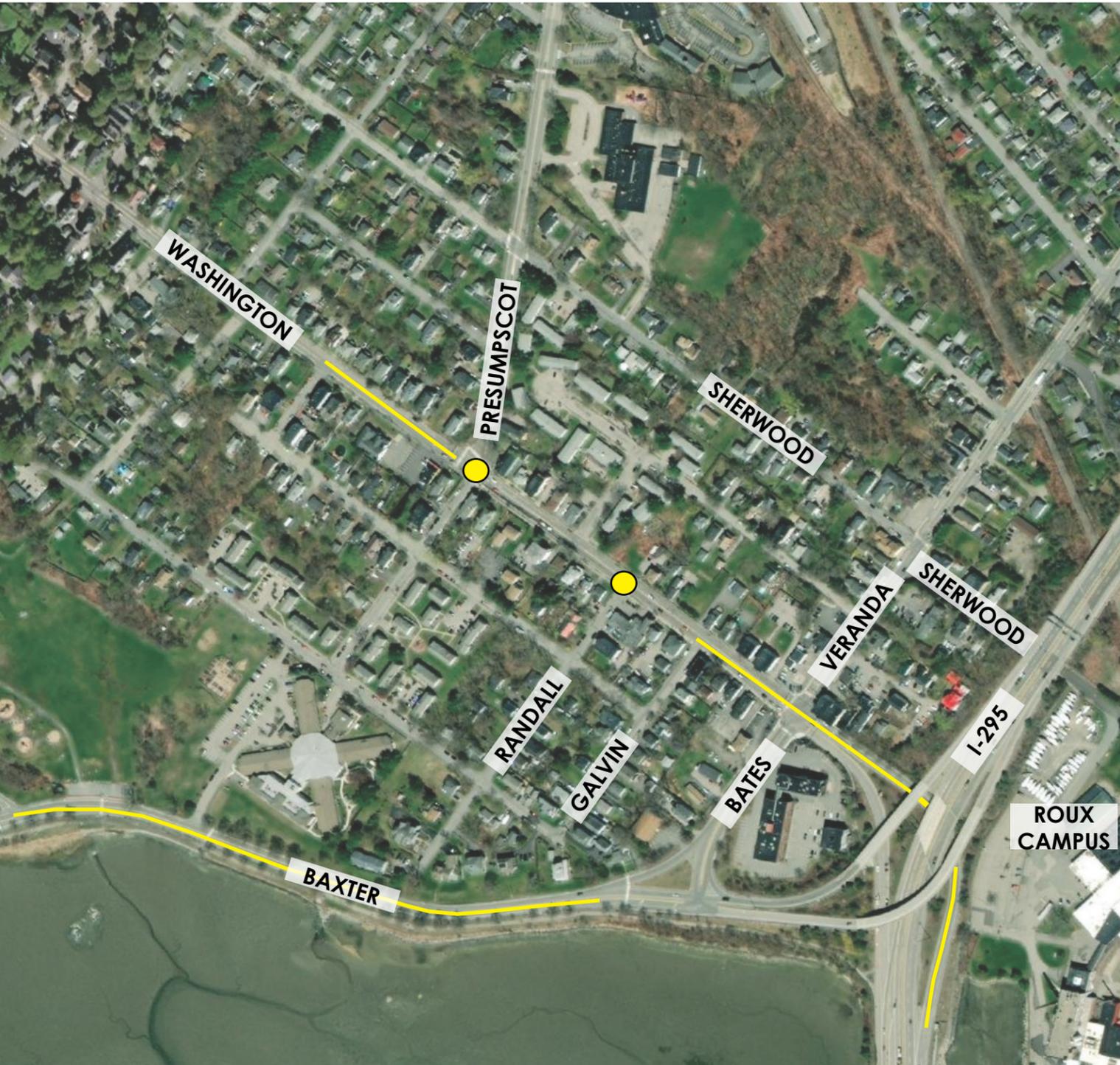
Transportation

The Roux Campus is well-situated to several major thoroughfares, including I-295, US Route 1, Washington Avenue, and Baxter Boulevard. The site has a single access point, located on Sherwood Street; that access will continue to provide vehicular access in and out of the site in the future. Access to Sherwood Street is provided via Veranda Street which connects to Washington Avenue, I-295, Baxter Boulevard, and US Route 1.

Washington Avenue accommodates all users, with traffic using two lanes in each direction south of Presumpscot Street, one lane in each direction north of that point, and buffered bike lanes north of Presumpscot. Bus routes run along Washington Avenue and pedestrian accommodations are present. In addition, the traffic signal system along Washington Avenue is a traffic responsive system operating with high efficiency. Intersections of Washington Avenue at Veranda Street, at Presumpscot Street, and at Ocean Avenue are each signalized intersections with pedestrians processed concurrently to traffic.

Veranda Street accommodates vehicular traffic with a single lane in each direction. Sharrows (faded) indicate that bicycles share the travel lane. Sidewalks are provided on both sides of Veranda Street and transit stops are present. Sherwood Street is a two-way roadway that is not striped and allows parking. Sherwood Street intersects Veranda Street to form a slightly offset four-way intersection. Both Sherwood Street approaches are stop controlled at Veranda Street as well as Presumpscot Street.

Bates Street extends from the intersection of Washington Avenue and Veranda Street toward Baxter Boulevard, and consists of a vehicular traffic lane in each direction and a bike lane from Washington Avenue to Baxter Boulevard. A sidewalk runs along the west side of the street, but narrows and is periodically blocked by utility poles. A single lane in each direction at the intersection of Bates Street and Baxter Boulevard provides access north on I-295. Access south on I-295 is via a two-lane connection in each direction at the intersection of Washington Avenue at Veranda Street and Bates Street. This widens at Washington Avenue for turn lanes.



Adjusted Traffic Volumes at Washington Avenue and Veranda Street (2021)

Approach	Movement	AM Peak Hour Volume	PM Peak Hour Volume
Veranda St. Southbound	Left	130	70
	Through	65	95
	Right	50	60
Washington Ave. Eastbound	Left	35	50
	Through	1195	995
	Right	65	90
Veranda St. Northbound	Left	65	65
	Through	45	95
	Right	160	155
I-295 Exit Ramp Westbound	Left	100	150
	Through	650	1090
	Right	80	190

The intersection of Washington Avenue and Veranda Street is critical. Traffic from I-295, Baxter Boulevard, and Washington Avenue all travel through it to reach the site.

Several high crash locations (segments or intersections with eight or more traffic crashes and a critical rate factor exceeding 1.00 over the most recent three-year period) are located near the project site:

Intersections (with Crash Totals):

- Washington Ave. at Randall St. (8)
- Washington Ave. at Presumpscot St. (32)

Segments (with Crash Totals):

- Washington Ave. from I-295 to Veranda St. (11)
- Washington Ave. from Veranda St. to Galvin St. (12)
- Washington Ave. from Galvin St. to Randall St. (8)
- Washington Ave. from Presumpscot St. to Cummings St. (10)
- Baxter Blvd. from Bates St. to Catafalque Dr. (9)

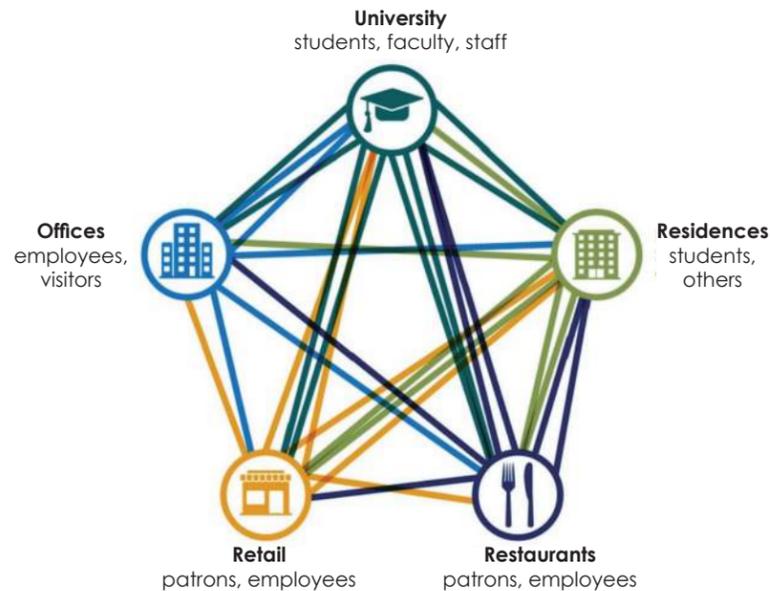
From 2018 to 2020, no fatal crashes occurred at any of these locations. Most were rear end or sideswipe crashes, with some intersection movement crashes. One pedestrian crash occurred, at Washington Avenue and Presumpscot Street. Two bicycle crashes occurred, one each at Washington Avenue and Presumpscot Street and on Washington Avenue between Presumpscot Street and Cummings Street.



Trip Generation

Trip generation was evaluated using standard rates and Maine DOT guidance for the long-term development of the site. Trip generation rates were obtained from the Institute of Transportation Engineers Trip Generation Manual, 10th Edition. Relevant uses for the Roux Campus include university/ college (LUC 550), general office building (LUC 710), multi-family housing high rise (LUC 222), high-turnover sit-down restaurant (LUC 932), shopping center (LUC 820), supermarket (LUC 850), and hotel (LUC 310). As a mixed-use development, many trips will occur between destinations on the campus. Students, faculty, and staff will eat in on-site restaurants and shop at on-site retail stores. Some students will live in the residential units or work in the office space. Office workers may travel between offices, university buildings, restaurants, and stores.

Inclusion of ancillary uses on the campus, such as housing, hotel, office space and retail, will reduce the number of external trips to the site; internal trips will not generate external traffic or impact the adjacent road network. For traffic generation purposes, internal trips are separated from total trips estimated using engineering standards.



Vehicle Trip Assignment

Vehicle trips were assigned to area roadways by estimating the proportion of trips arriving or leaving on each approach to the area. Estimates were based on data from several sources, including population density maps and US Census Journey to Work data. The process was repeated using catchment areas of various sizes, with minimal change in results. Trip distribution for people within a commuting distance of the site is shown in the adjacent top graphic.

Approximately 50 percent of trips are anticipated to travel from the south to reach the site and 15 percent are anticipated to approach from the north. (The thicknesses of arrows are scaled to indicate the share of trips that will use that route.)

Anticipated distribution of vehicular trips on neighborhood streets is shown in the adjacent bottom graphic. A full 80 percent of site trips are anticipated to pass through the intersection of Washington Avenue and Veranda Street. This traffic then travels along Veranda Street between Washington Avenue and Sherwood Street, resulting in impacts to that roadway segment.

Additionally, almost 30 percent of the site traffic is oriented to points west /southwest along local roadways or to and from the north on I-295; this will impact the intersection of Bates Street and Baxter Boulevard.



Mode Share

The East Deering Neighborhood is served by multiple bus routes and features a pedestrian and bicycle network. With improvements to these resources, the project site will be well-suited for trips by modes other than single-occupant vehicles. IDEALS and the Roux Institute are committed to working with Portland METRO to support increased transit opportunity to and from the campus area. These factors, in addition to a Transportation Demand Management (TDM) plan, will reduce auto mode share.

A transportation engineer developed target mode shares for each envisioned Roux Campus land use, in consultation with City of Portland and Maine Department of Transportation officials. These shares were applied to external trips to determine the likely number of trips by each mode, yielding the estimates in the table at right.

Estimated Mode Split (%)

Land Use	Transit	Ped. & Bike	Vehicle	Carpool Rider
Office	10	10	75	5
Retail	10	50	40	0
Restaurant	10	50	40	0
University	10	20	65	5
Residential	10	20	65	5
Hotel	10	10	75	5



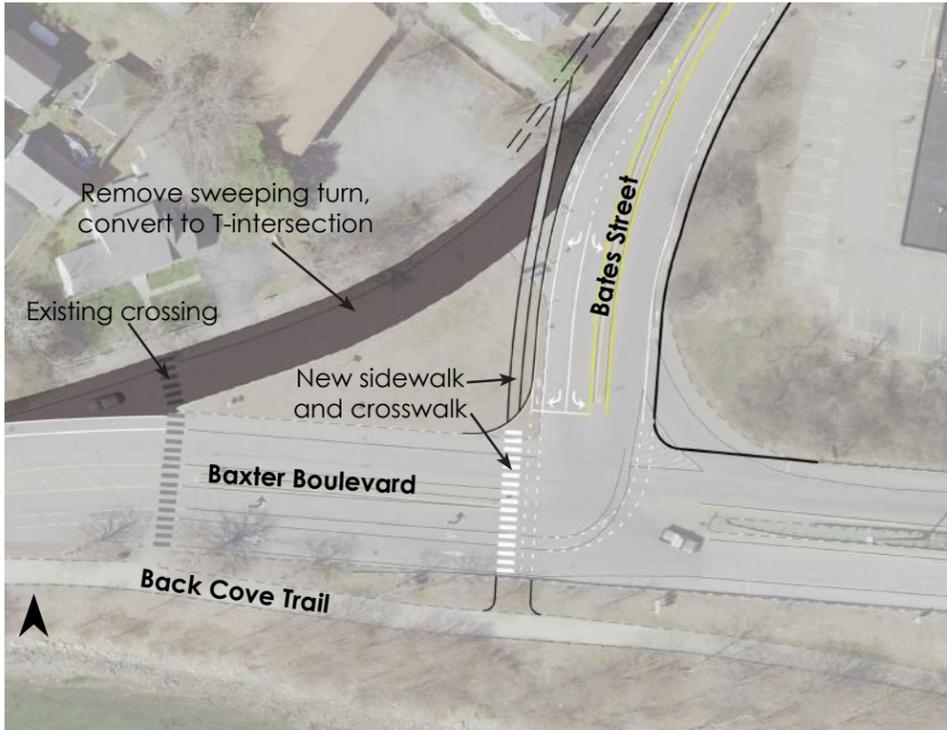
A Portland METRO bus travels north on Veranda Street from a stop near its intersection with Sherwood Avenue.

Transportation Improvement Opportunities

Bicycle and Pedestrian Connection Opportunities

Infrastructure improvements can alleviate some neighborhood traffic impacts. These improvements include roadway reconfigurations, pedestrian and cyclist connections, and additional transit provisions. Two opportunities stand out when considering bicycle and pedestrian improvements (shown below).

The first is an improved connection between the Back Cove Trail and Washington Avenue. At present, users of the Back Cove Trail face a 90-foot mid-block crossing to reach the northwest side of Bates Street. Converting the intersection of Bates Street and sweeping right-turn maneuver would create a shorter, safer crossing. The second improvement is a direct connection from the Roux Campus to the Back Cove Trail, extending the shared-use path below and alongside Tukey's Bridge and through the site.



Above: potential improvement to the intersection of Bates Street and Baxter Boulevard.



Above: potential extension of the existing Back Cove Trail to the Roux Campus.

Parking Demand and Capacity

Parking will be built over time as part of the development program. All vehicular trips are intended to park on-site. As demand increases during the phased development, parking will be introduced incrementally to avoid excess supply and inadvertent encouragement of driving to the site.

Base parking demand (calculated for each hour of the day using ITE Parking Generation Manual rates, 5th Edition, and the same land use codes as for trip generation) indicate that total parking demand across all uses on the site will peak at 11 AM. At completion of the first phase of development, parking demand is expected to be approximately 600 vehicles. Demand at full build-out could be as high as 1900 vehicles, inclusive of day users and residents. All site parking is intended to be communal; availability in the closest lot to a destination will not be guaranteed. Additionally, uses with opposing peak parking demands will be able to share parking resources.

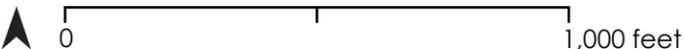
All parking will be paid parking, and a parking office will be created to handle permitting and enforcement for the campus. Parking costs and regulations may vary between classes of users (students, staff, residents, office tenants, visitors, etc.). The Roux Campus may include on-site car share, enabling travel to and from the site using other modes, with the comfort that vehicles are available if necessary.

Public Transit

Two bus lines currently stop near the site: METRO Route 7 and METRO Routes 9A / 9B. These routes provide direct connections to the peninsula, western Portland, and Falmouth. With a transfer at the Downtown Transportation Center, riders can reach the rest of Portland and several outlying towns.

Buses run continuously throughout the day, readily accommodating the varied schedules of students and other campus users. METRO BREEZ express bus service to Yarmouth, Freeport, and Brunswick and the Husky Line to Westbrook and Gorham establish a regional footprint for transit service. Ten local and express routes connect the campus to most of the Portland area with no more than one transfer.

The Roux Institute at Northeastern University will promote and incentivize transit use. It plans to subsize transit passes for students, and will work with METRO to improve the quality and frequency of transit connections to the Roux Campus.



- Bus Stop
- Route 9A
- Route 9B
- Route 7

Other Roadway Improvement Opportunities

The Roux Campus is constrained on three sides by the Bay, I-295, and a rail line, leaving Sherwood Street as the only viable access road. The campus' vehicle traffic will be highly concentrated on certain streets and intersections immediately surrounding the site. Targeted roadway improvements at these locations can increase capacity and prevent excessive congestion.

These improvements are not tied to specific years or development phases. They are held out as possible mitigation measures to be considered as future traffic warrants. As development continues, the Roux Institute will apply for traffic movement permits (TMP). Potential improvements will be evaluated during the TMP process in collaboration with the Maine Department of Transportation and City of Portland.

Traffic from the campus to southbound I-295 will make two lefts, once onto Veranda Street and again at Washington Avenue. The left turn lane from southbound Veranda Street to Washington Avenue currently has a storage length of only 130 feet. At higher traffic volumes, the line of vehicles waiting to turn left may extend beyond this length, delaying through and right turning vehicles from reaching the intersection. If this type of congestion becomes frequent, it may be mitigated by extending the left turn lane further back. This will require widening Veranda Street between Washington Avenue and Sherwood Street within the existing right of way. Widening on Veranda Street would also allow bicycle lanes to be added.

With 100% of campus traffic traveling through the intersection of Sherwood Street and Veranda Street, improvements may become necessary. The intersection is currently controlled with a stop sign on Sherwood Street. To improve traffic flow, Sherwood Street could be widened at the intersection within available city right-of-way to separate outbound traffic into left and right turn lanes. A bicycle lane could also be added within this space. This would substantially increase capacity on the Sherwood Street approach. If traffic volumes eventually exceed this new capacity, a traffic signal could be installed at the intersection.

Traffic approaching the campus from I-295 southbound will exit at Baxter Boulevard and make a right onto Bates Street. There is significant unused right of way on Bates Street between Baxter Boulevard and Veranda Street that could be repurposed to increase capacity. Another northbound turn lane could be added (isolating left, through, and right movements) at the intersection as well as adding a bike lane. A bike lane would also have the benefit of completing the trail connection from the Back Cove Trail. The intersection of Washington Avenue, Veranda Street, and Bates Street may eventually need other mitigating measures to increase capacity, such as reconfiguring lanes on the I-295 exit ramp approach.



Managing Transportation Demand

Active Transportation

In addition to the transit options in the study area, the Roux Campus development will benefit from existing pedestrian and bicycle infrastructure. Sidewalks are in good condition and pedestrians are accommodated at signalized intersections with crosswalks and concurrent pedestrian signal phasing. Future visitors will benefit from

upgraded pedestrian accommodation along Sherwood Street. Once on the site, pedestrian connections will link site uses and points along the waterfront.

The Roux Campus can promote human-powered trips to the site through improved connections to this infrastructure. The area is

densely populated, bicycle lanes are provided along Washington Avenue and other roadways, and the Back Cove Trail is nearby. In the future, cyclists will be accommodated on Veranda Street and into the site on Sherwood Street via dedicated bicycle lanes.

Transportation Demand Management (TDM)

TDM programs seek reductions in traffic impacts by subsidizing and marketing alternative commute options. IDEALS plans aggressive targets of non-single occupant auto trips and intends to limit on-site parking - the goal is a 37 percent reduction in automobile trips from ITE Trip Generation predictions, and a minimum of 20 percent reduction in parking demand compared to anticipated ITE Parking Generation. As mixed uses are created during development, internal trip-making will increase, and these targets may be revised.

Transportation Coordinator: IDEALS plans to follow industry best practice by appointing a campus-wide transportation coordinator. This person will collect data on the TDM program to ensure it evolves as the site develops. Once aspects of the site are operational, they will conduct a transportation survey to establish a baseline for future trip reduction goals. They will also collect and disseminate information (including non-automobile travel options) among the employers and facility managers on-site to encourage TDM participation.

Public Transit Support: IDEALS intends to partner with Portland METRO to subsidize shorter headway service to the Roux Campus. Student subsidies will enable frequent and reliable service to and from the site.

To further support trips via public transit, the Roux Institute at Northeastern University intends to subsidize bus trips for students and employees (for employees, their purchase can also be included as a pre-tax benefit). Lease agreements will allow IDEALS to encourage transit pass subsidies by other on-site employers.

Carpools: IDEALS will prioritize parking for carpools near building entrances. The transportation coordinator can facilitate carpools by maintaining a database of interested parties; commuters may be matched with others who live near them or can access a park and ride location along their route. The coordinator can also participate in the Maine DOT commuter resource program, which facilitates carpools across nearby sites and provides participants with rewards for carpooling.

Parking Fees: Parking is intended to be shared across uses on the Roux Campus, not guaranteed in individual lots.

Bicycle Travel: IDEALS will support active transportation by investing in complete streets and trail connections, bike storage, and shower facilities and lockers.

Water Travel: IDEALS plans to build a modern pier over the footprint of the current pier, in order to accommodate water shuttles and taxis.



Infrastructure

B&M's facilities required intensive utility and infrastructure development sized appropriately for industrial use. Fortunately, this sizing translates well to re-use in a denser development, as proposed.

Water

Domestic and fire protection services are provided by Portland Water District's (PWD) infrastructure at Sherwood Street. The public water mains nearest to the site are 8-inch and 12-inch, consisting of ductile iron and cast iron. The site is, and will continue to be, serviced by a combined domestic / fire protection loop.

Wastewater

Wastewater will continue to discharge to a gravity public sewer along the I-295 corridor. Downstream of the service connection, public sewer transitions from 15-inch to 48-inch reinforced concrete gravity line conveying combined storm and sanitary sewer from the East Deering neighborhood west of I-295. The 48" combined sewer transitions to a 3-barrel (two 18" and one 30") siphon along Tukey's bridge and discharges through a pumping station prior to treatment at the East End Wastewater Treatment Facility.

Wastewater is conveyed across a portion of the site near Sherwood Street and I-295 from properties to the northeast (Lennox, Berwick, and Kensington Streets) via an easement benefiting PWD. This easement will remain in place unless otherwise approved by PWD.

Stormwater

Stormwater runoff from the site is managed through a combination of catch basins, buried infrastructure, and overland flow, discharging via outfalls to the bay. The Roux Campus redevelopment allows for reduction of site impervious area and incorporation of low-impact development techniques; these will improve the water quality of runoff prior to its discharge into Casco Bay.

In addition to private stormwater outfalls, a public stormwater outfall is located at the site's southwest corner. This outfall will continue to convey drainage from the neighborhood west of I-295 through an easement located near the southwest corner of the site.

Electricity

Central Maine Power provides electric power via an overhead 12.47kV 3-phase distribution system. The facility has two main secondary metered services. New utility corridors will include electrical infrastructure improvements. Energy-saving technologies and renewable energy sources will be incorporated into building and campus design to reduce electricity consumption and advance sustainability goals.

Telephone & Data

Fiber-optic internet is located along Veranda Street and Sherwood Street.

Natural Gas

Unitil provides natural gas service to the site via a 6-inch diameter service. Natural gas infrastructure in the East Deering neighborhood is provided at intermediate pressure and is suitable for campus needs.



Sanitary Sewer
Storm Drainage

Water
Gas

Overhead Electrical /
Communications

0 500 feet



① Buildings shall:

- be characterized by excellence in architectural design, sustainability, & craftsmanship.
- be organized around a central green space.
- incorporate materials, landscape, signage, & lighting appropriate for an urban setting in the Northeast.
- utilize durable materials resistant to the marine climate & which contribute to an attractive public realm.
- screen rooftop appurtenances & set back mechanical enclosures from roof edges to minimize shadow impact.
- share visual connections with other campus buildings to achieve a cohesive campus appearance.
- support activation of adjacent public spaces.
- identify primary academic usage through statement architecture.
- limit sound transmission via acoustical performance.
- respect and provide a buffer from the historic B&M cannery building.
- meet or exceed LEED or WELL standards.
- create a strong identity & sense of place.

② Parking shall:

- ensure EV charging capability meets EV demand & is scalable as demand increases.
- utilize durable building materials & provide architectural interest, with visual connection to campus buildings.
- support street activation & pedestrian scale when adjacent to public open space or right-of-ways.
- conceal the view of parked & and internal light sources as much as possible.

③ Campus circulation shall:

- be bike & pedestrian-centered, with other vehicle circulation generally at the perimeter where practicable.
- provide bike / pedestrian connectivity where feasible.
- provide wayfinding & amenities to create a safe & welcoming environment for the community.

④ Open space shall:

- create a strong identity & sense of place.
- be designed for safety, comfort, & year-round enjoyment.
- enable access to building entrances.
- utilize a combination of landscape & hardscape.
- provide an appropriate buffer adjacent to & complementing the historic B&M cannery building.

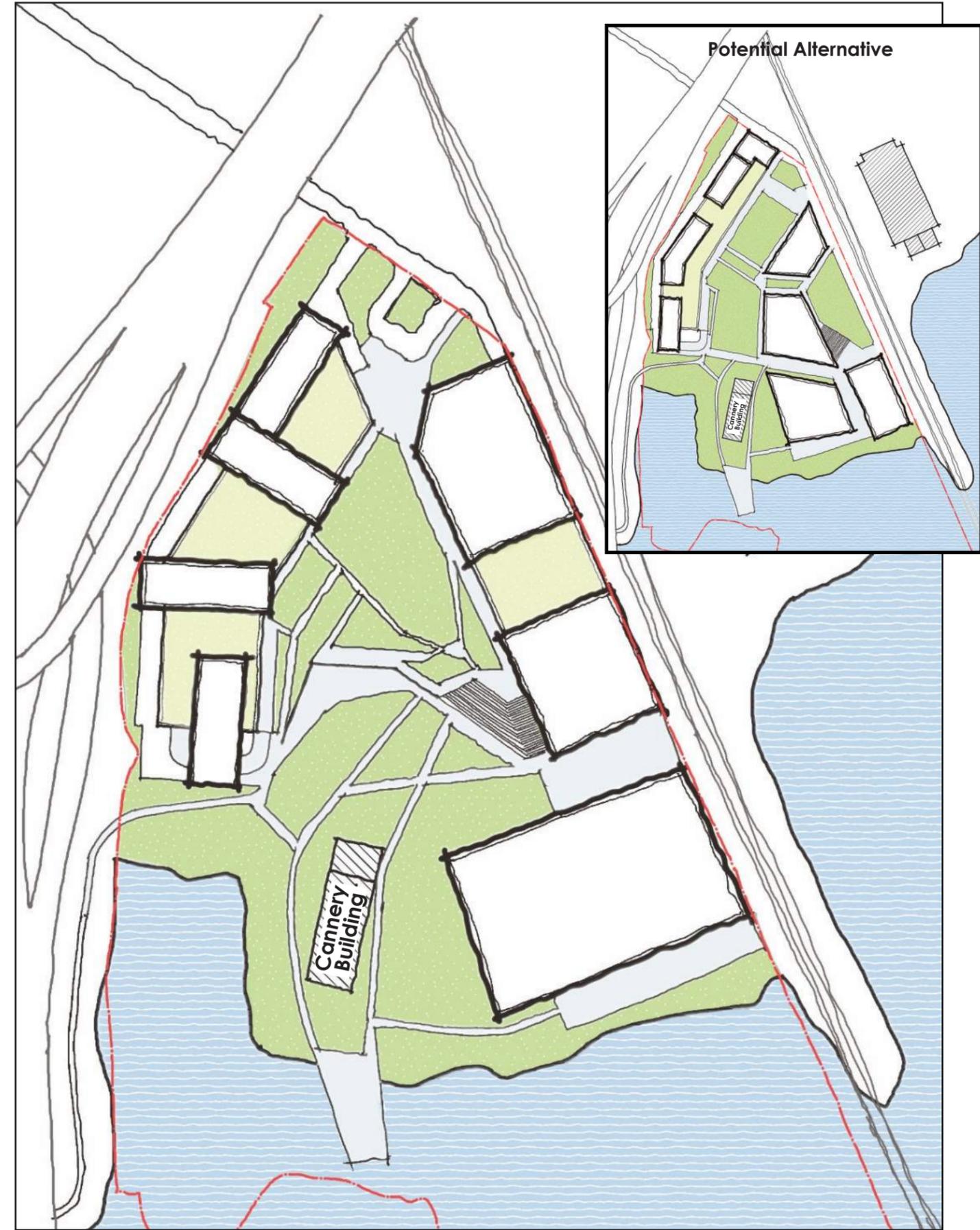
⑤ Waterfront shall:

- provide access & amenities to connect the public to the shoreline & ocean.
- support site resilience in consideration of flooding from storm events & sea level rise.
- support ecological functions & values.

⑥ Height & massing shall:

- marry project requirements for use & density with open space / amenities for the public & urban design.
- vary across the site, with taller buildings located adjacent to I-295 & lower heights adjacent to the historic cannery building and on the northern part of the site, near the residential neighborhood & campus entrance.
- utilize building articulation & material selections to reduce perceived scale.
- ensure permeability through & within the site for light, air, views, & access.
- be appropriately scaled adjacent to central pedestrian activity, utilizing step-backs where appropriate.

Visualizing the Guidelines: Potential Site Layouts



Environment

Strengthening Resilience & Ecology

Under current conditions, the site is approximately 75% impervious with approximately 10 acres of building roofs, parking areas, and loading dock space. Minimal shoreline buffer is present at the site, with pavement extending right up to the armored embankment along much of the shoreline. Existing site grades adjacent to the cannery building are only 1-foot above highest astronomical tide. In recognition of these existing vulnerabilities and with a desire to improve ecological function for the site, the redevelopment will raise interior site grades and soften landscapes to reduce impervious area and increase flood resilience. Living shoreline techniques for landscape will enhance some of the natural resource areas along the water's edge.

Energy Consumption

The development presents an opportunity to mitigate energy consumption through high performance building envelopes, particularly with the likely southern exposure of the Institute building. Similarly, IDEALS intends to explore and hopefully incorporate renewable energy sources such as active and passive solar, sea water cooling, and / or geothermal.

Noise Generation

The proposed mixed-use academic campus is compatible in uses with the surrounding East Deering neighborhood. The Roux Campus is buffered by I-295, the abandoned Grand Trunk Railway, and adjacent marine uses. Development will adhere to City of Portland technical standards regarding noise, vibration, and other potential nuisances. In addition, building materials will be selected to minimize campus and internal building noise from I-295 traffic, benefiting residents, students, and all users of the site.

Hazardous Materials

Use of hazardous materials, if any, will be in academic and laboratory contexts, and managed in conformance with all local, state and federal requirements.

Lighting

All exterior lighting, and, to the extent practicable, interior lighting, will be designed to reduce impact on the night sky.

Shadows

Massing and orientation of buildings can limit shadows on adjoining neighborhoods. Mechanical enclosures will be set back from roof edges to minimize impact.

Wind

Wind engineering specialists will provide insight into microclimate factors. Their recommendations will guide massing and orientation of buildings to maximize comfort in outdoor spaces. Tree placement and landscape features may also mitigate wind impact.

Crime Prevention Through Environmental Design (CPTED)

The site will maximize activity via mixed uses to provide "eyes on the street," especially along primary sidewalks. Lighting and clear sight lines (particularly along bridge underpasses) will improve connections to the site and experiences within it.

Existing Condition



Artist Interpretation



Neighborhood Engagement

The Roux Campus is intended to become a beloved extension of the East Deering neighborhood, which is separated from the site by Interstate 295 and the rail corridor. The site will be a walkable addition to the neighborhood, with open spaces, waterfront, retail, and restaurant amenities, but it also represents a change. To ensure the campus is designed in a manner benefiting the neighborhood will require robust communication with interested stakeholders.

The City of Portland requires two Neighborhood Meetings related to the Institutional Overlay Zone and Institutional Development Plan processes. IDEALS is using those requirements as a starting point for ongoing dialogue. The first Neighborhood Meeting was held virtually on November 18, 2021, with 23 registered attendants. After a 35-minute presentation, IDEALS welcomed questions and comments from participants. The feedback was very positive, and attendees expressed interest in construction job opportunities, sought additional information regarding traffic and associated transportation improvements, indicated a desire for bike/pedestrian connectivity, requested that lighting plans be considerate of adjacent neighborhoods, and asked about climate resilience and disturbance during construction. A second Neighborhood Meeting will be held after submission of this IDP, in accordance with City Land Use Code.

In addition to Neighborhood Meetings required by the regulatory process, IDEALS is hosting periodic virtual forums called Roux Campus Roundtables as a way to engage with the East Deering neighborhood on an on-going basis. The first such event occurred December 14, 2021, with 45 participants, and the second occurred February 1. More Roundtables will be scheduled in 2022 as project plans progress.

To keep all potential stakeholders apprised of the development plans, IDEALS maintains a website, www.rouxcampusportland.org, to showcase up to date plans, present information about the Roux Institute at Northeastern University, and provide notice of upcoming events with links to recordings of prior forums. The site is an interactive platform with an email link for questions and a feedback section that probes for input on a wide variety of issues. All questions receive a response within a day or two, and responses are visible to viewers. IDEALS will be tracking and responding to concerns and comments. The website developer / host was selected because of its reputation for enabling robust public engagement. This platform will also be a valuable communication tool during construction, providing a means to share information related to construction schedule, work hours, management plans, public safety, and site access.

Additionally, IDEALS has a designated community contact for members of the public. This contact works closely with neighborhood and city stakeholders to solicit feedback and ensure that any concerns are dealt with promptly, whether reported in person or through the website.

Finally, members of the IDEALS team are conducting regular outreach to interested stakeholders and potential partners to gain broad input into development plans. This will facilitate assessment and calibration regarding how the Roux Campus can fit into the Portland landscape and ways it can best live up to its potential as a model for education, economic development, recreation, and aesthetics.

