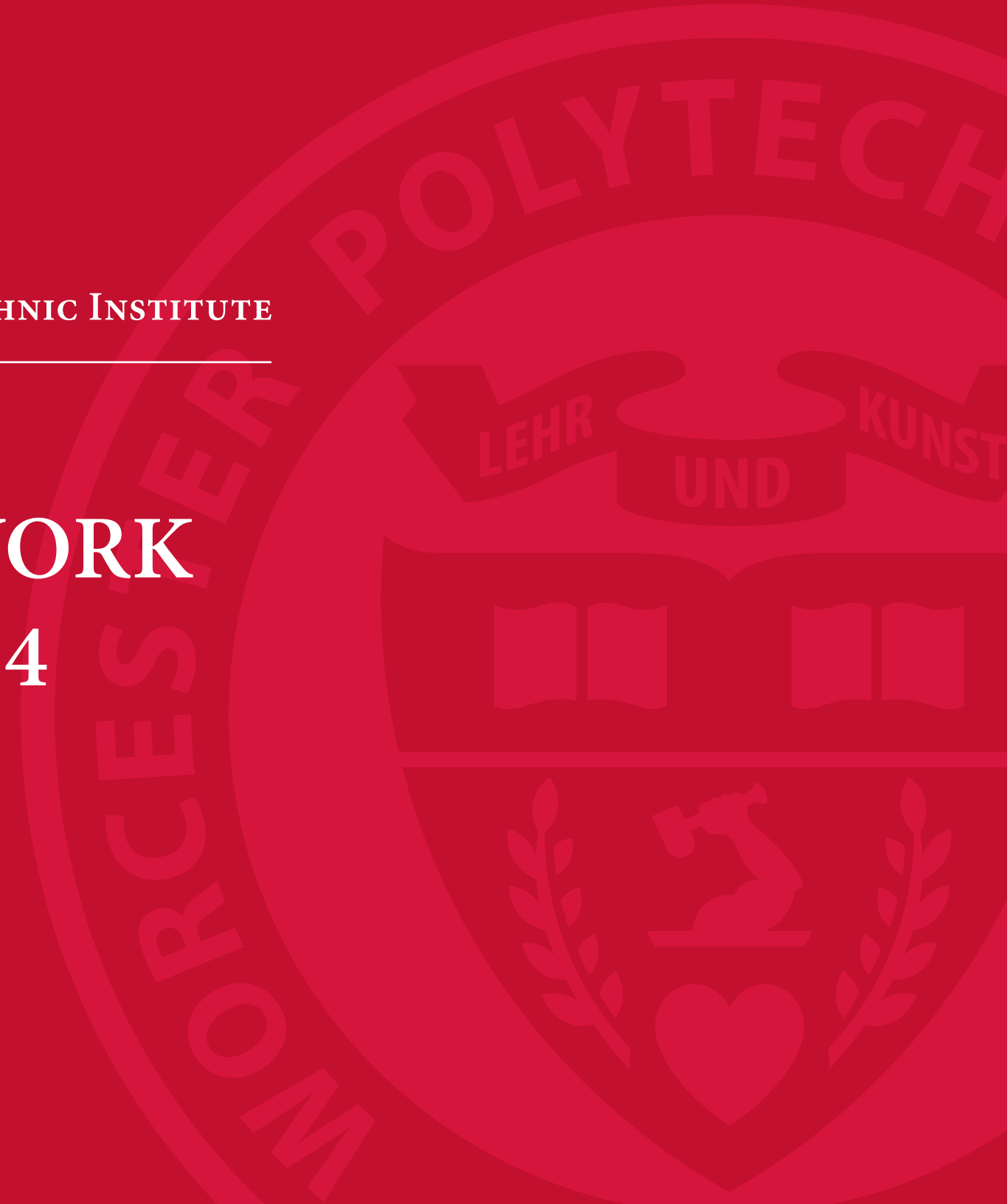


WORCESTER POLYTECHNIC INSTITUTE

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# CAMPUS FRAMEWORK PLAN 2024

Executive Summary







# Contents

President's Message 03

Purpose of the Framework Plan 04

Key Issues 06

Planning Principles 10

The WPI Framework Plan 12

Summary of Framework Concepts to  
Address Planning Principles in Practice 28





## President's Message



WPI transforms lives, turns knowledge into action to confront global challenges, and revolutionizes STEM through distinctive and inclusive education, projects, and research.

Worcester Polytechnic Institute (WPI) is a distinctive, top-tier technological university founded in 1865 on the principle that students learn most effectively by applying the theory learned in the classroom to the practice of solving real-world problems. WPI recognizes the essential nature of preparing and supporting future scientists, engineers, business leaders, and humanists in their journeys to become STEM professionals with the effective, socially conscious, and readily applicable skills the world needs now.

### **Our Education**

WPI is where students gain the skills needed for successful and rewarding careers. We empower and support diverse learners to realize their potential to foster impact for themselves, their families, their communities, and the world. WPI is committed to innovating the ways STEM influences the world. We continuously expand the work of hands-on, project-based learning rooted in real-world problems, with a sharp focus on including and valuing all voices and embracing new views of credentials and learner engagement.

### **Our Research**

Our investment in interdisciplinary and creative scholarship is critical, building on WPI's already fast-growing research enterprise. We are committed to growing our investment in research and supporting the innovations of our faculty and students as they seek to address some of humanity's most significant challenges. WPI is increasing the relevance and impact of our research and building a strong research infrastructure to support the success of our scholars.

### **Our Immersive Campus Life**

WPI takes a holistic and inclusive approach to elevating student well-being across academic and co-curricular experiences. To thrive and lead in an increasingly diverse and competitive global market, WPI fosters a community of ethical learners and leaders where all are included and are treated with respect. We welcome and treasure the diversity of thought and approach that form the basis for true inspiration, imagination, and transformational innovation that follows.

### **Our Campus Evolution**

To support our mission, our campus must continue to evolve and serve the needs of our students, faculty, staff, and our campus community. This Framework Plan addresses our needs and identifies near- and long-term opportunities for campus evolution, particularly the careful stewardship of the university's footprint, physical infrastructure, and environment. We must drive connectivity, placemaking, and vibrancy by integrating the ever-growing needs for space, cutting-edge instruction and research facilities, as well as affordable and quality student housing within our urban environment and historical campus architecture.

I am excited to share with you this bold and flexible Framework Plan outlining the future campus of WPI.

**Grace J. Wang, PhD**  
*President*

# Purpose of the Framework Plan

The objective of the WPI Framework Plan is to formulate a comprehensive vision for the physical campus, resulting in a flexible roadmap to guide both short-term and long-term decision-making. This ensures a coordinated and integrated campus that meets the university's long-term needs.

The Plan highlights potential opportunities for improvements in placemaking, growth, and connectivity, as well as potential options to support these opportunities. It is understood that not all proposed options will be implemented within the next ten years, and some may never be realized. The goal is to provide adaptable ideas and possibilities, allowing the campus to evolve and meet the changing needs of the university over the coming decades.

## WPI OVERVIEW

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Worcester Polytechnic Institute (WPI) boasts numerous strengths that contribute to its vibrant campus life and academic excellence. Central to these strengths is a strong sense of community that fosters a welcoming and collaborative environment for students, faculty, and staff. WPI is unique for its revolutionary reimagining of undergraduate STEM education based on the principles of combining theory and practice through a project-based curriculum.

The WPI campus is organized into distinct zones, each serving specific purposes and enhancing the overall functionality of the institute.

### CAMPUS HILL

WPI's Campus Hill is the historic academic heart of the university, centered around the iconic quad. This area is framed by a vibrant mix of academic, residential, social, athletic, and recreational facilities, embodying the university's dynamic spirit. Serving as WPI's "front door," Campus Hill welcomes visitors and students alike, reflecting the institution's rich history and vibrant campus life. The development capacity on Campus Hill is located at its perimeter due to the density of the center of campus.

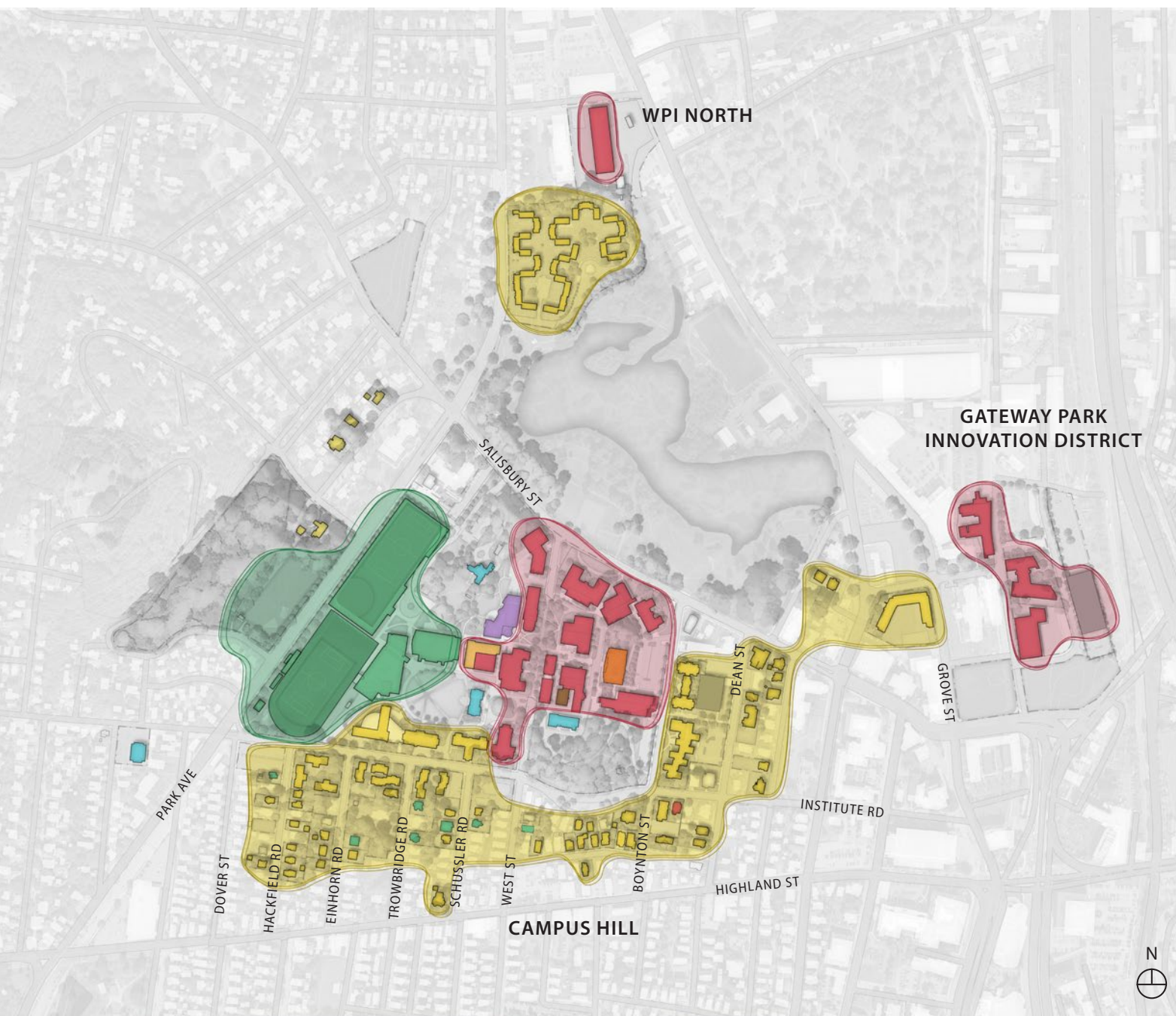
### WPI NORTH

Looking to the future, WPI has identified key areas for growth and development. WPI North is poised to expand research space and evolve into a unique neighborhood for graduate students and upper-level undergraduates, enriching their academic and social experiences.

### GATEWAY PARK INNOVATION DISTRICT

The Gateway Park Innovation District has significant research growth capacity that can also include more residential, commercial, hospitality, and meeting activities, all of which can transform the area into a mixed use innovation district.





# Key Issues

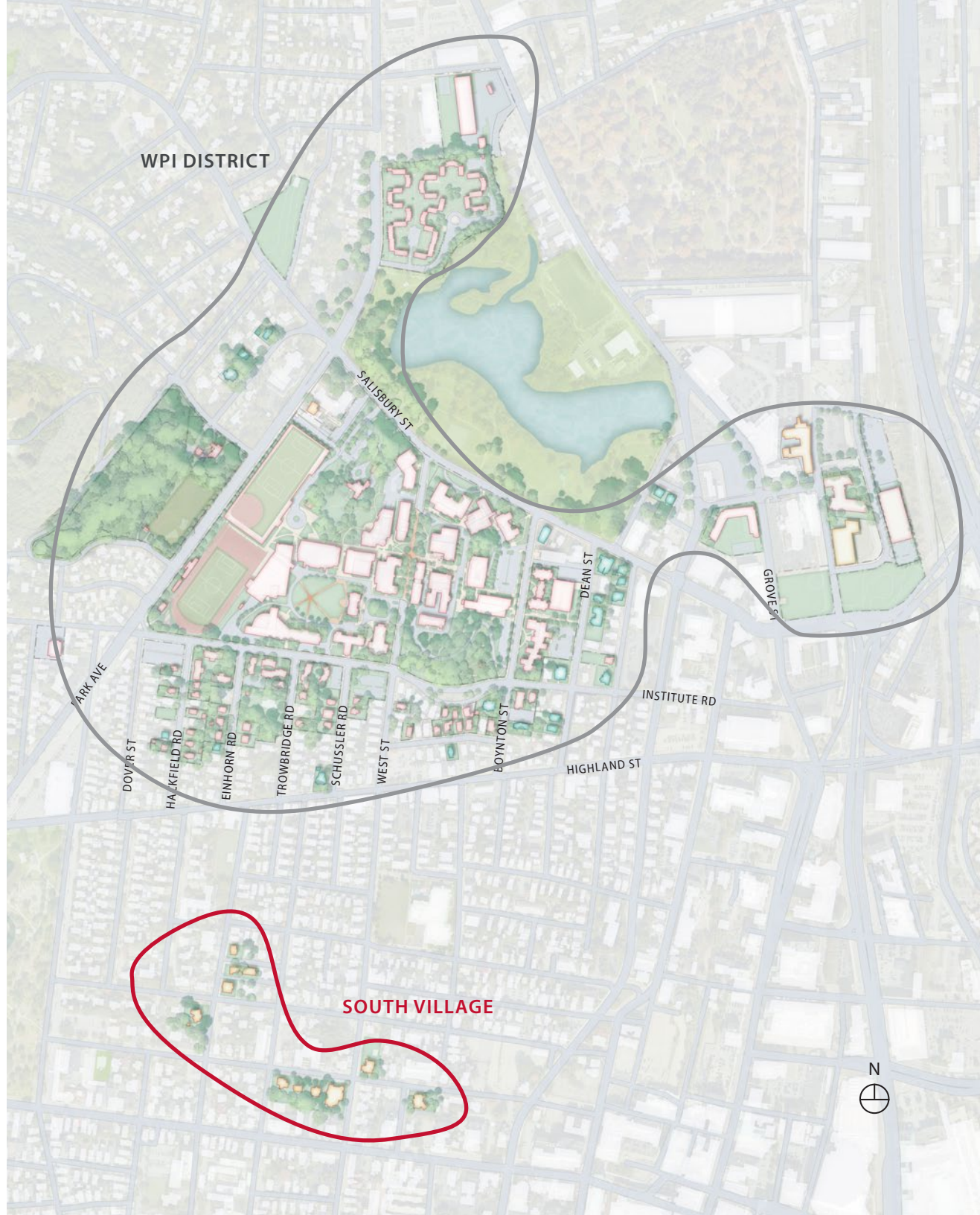
The Framework Plan process was designed to align the physical campus with the mission and goals of WPI. Through interviews, listening sessions, focus groups, previous studies, and physical observations, the strengths and challenges facing the physical campus were identified and consolidated into key issues foundational to the development of the plan. These key issues contribute to a compelling narrative about WPI's legacy and its future trajectory.



## Improve student housing options and transition out of South Village

WPI leases housing in South Village, but students there feel less connected to campus life. Students would prefer to live in the WPI district.

In addition to shifting the housing from South Village, the housing south of Institute Road as well as the WPI Townhouses in the WPI North will require replacement as they are near the end of their useful life. This offers an opportunity to rebalance unit types, enhance community building, and support the WPI student experience.

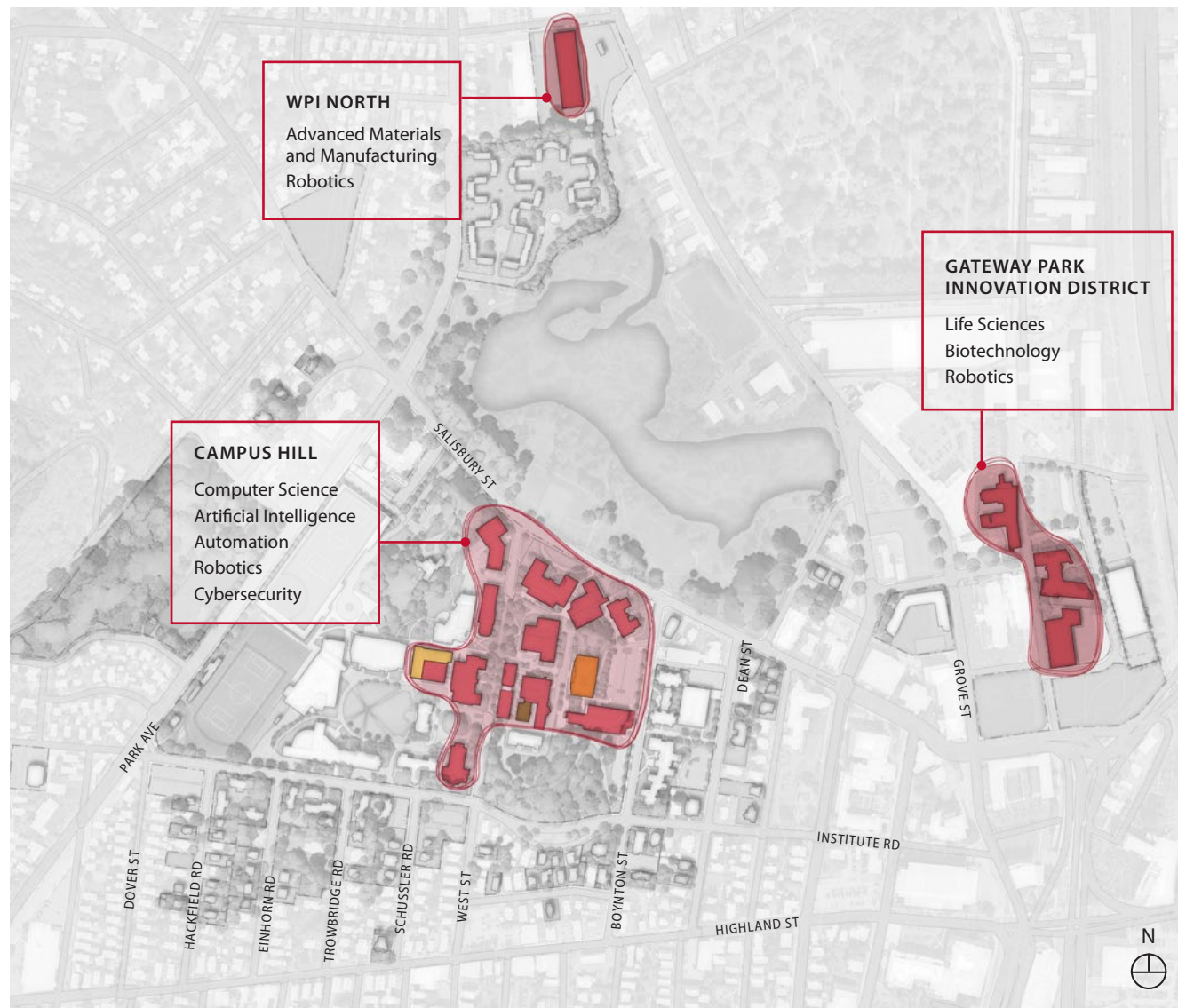


## Define research community themes to foster collaboration

*Developing themed research nodes will strengthen each neighborhood's identity and purpose, enhancing the overall cohesion and functionality of the WPI campus. Campus Hill is the main undergraduate and administrative center, housing departments and research focused on Computer Science, AI, Robotics, and Cybersecurity. WPI North is intended to focus on Advanced Materials and Manufacturing as well as Robotics. The Gateway Park Innovation District can expand on its specialties in Life Sciences, Biotechnology, and Robotics.*

### RESEARCH COMMUNITIES

■ Academic / Research



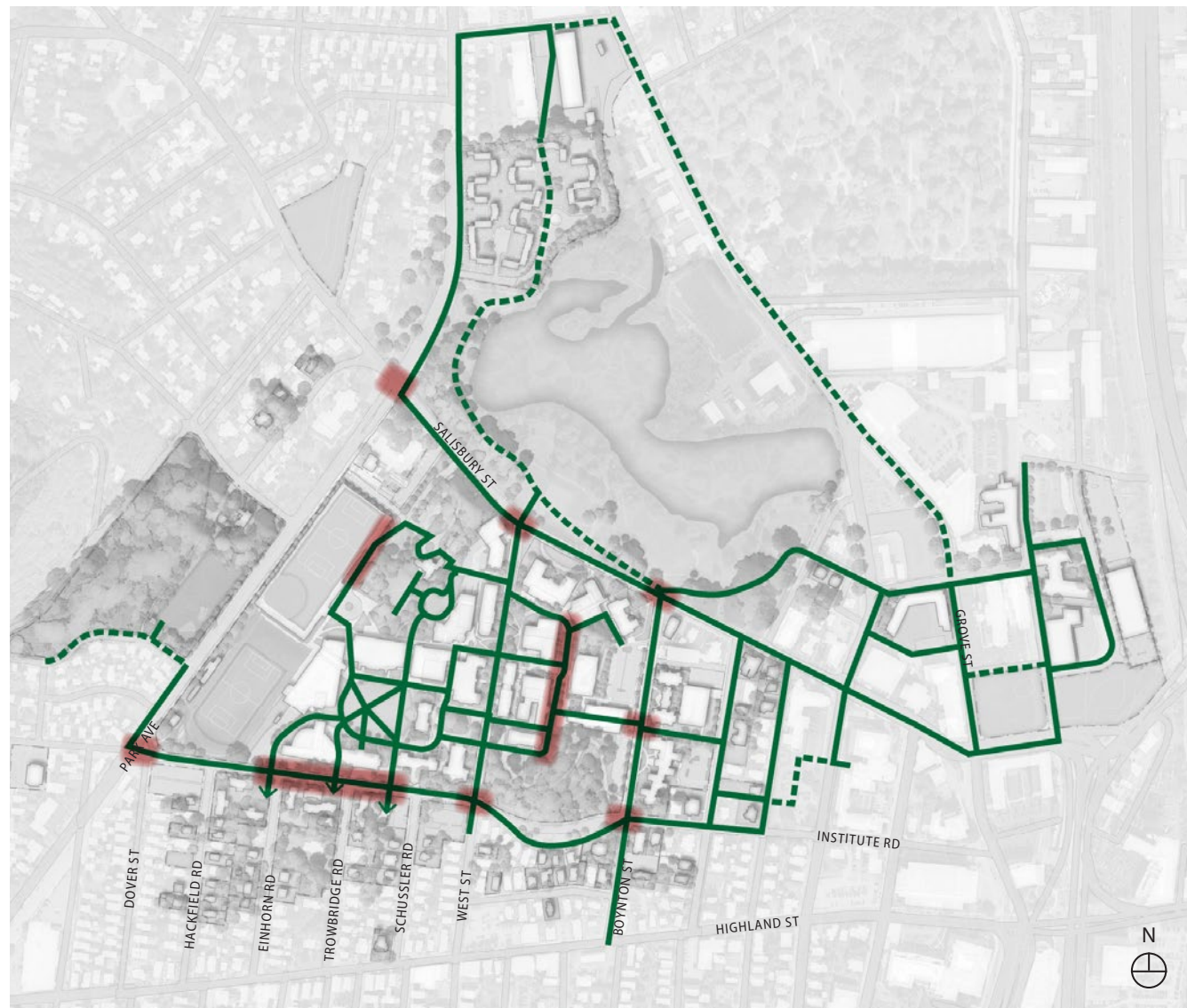


## Connect campus neighborhoods to create a strong sense of place

Although WPI's three campus neighborhoods are within a ten-minute walk, disconnected pathways, busy roads, and inconsistent night lighting make them feel further apart, discouraging movement and collaboration. Enhancing pathways, adding touch-down spaces, and creating a consistent look and feel in each neighborhood will foster a more integrated and cohesive campus community, encouraging interaction and collaboration across WPI's academic and research centers.

### PEDESTRIAN CIRCULATION

- Existing Pedestrian Paths
- - - Potential Pedestrian Paths
- Pedestrian-Vehicular Conflicts





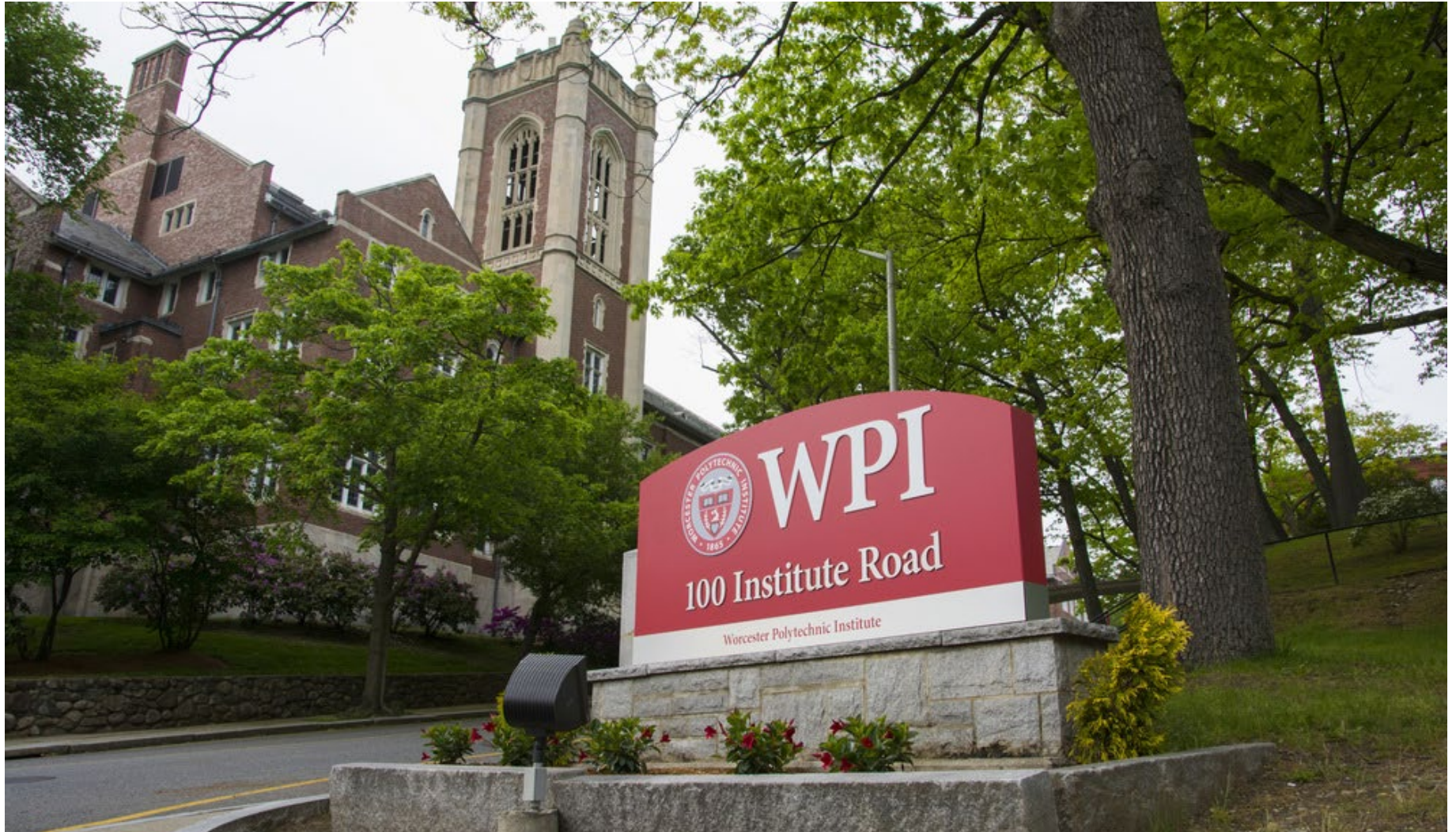
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## Strengthen WPI identity and visitor experience

*While Campus Hill strongly reflects WPI's identity, this is less evident in the WPI North and Gateway Park Innovation District. Enhancing these areas with updated and additional gateway signs, extending iconic stone walls, and clear and updated directional signage can create a distinct "WPI district." These improvements will strengthen campus identity, improve navigation, and make the campus more welcoming, particularly for first-time visitors.*









## PLANNING PRINCIPLES

Building upon WPI's mission, history, strategic plan, and campus needs, three overarching planning principles were developed as guideposts for the Framework Plan:

### Amplify WPI's Mission

Amplify WPI's distinct STEM education and research through campus improvements that enhance collaboration and visibility.

Strengthen WPI's research neighborhoods & develop partnership opportunities

Invest in sustainable infrastructure & land use practices that highlight WPI's expertise

### Strengthen the WPI Student Experience

Integrate academics, student life, and student housing to create a cohesive student experience across the entire campus.

Identify strategic improvements to:

*Housing & Dining*

*Teaching & Research*

*Collaboration*

Design indoor & outdoor spaces that create centers for student activity & gathering

### Connect Campus Communities

Improve wayfinding for first-time visitors and ensure connectivity between WPI's multiple neighborhoods and the surrounding community.

Clarify and enhance the visitor experience




Improve campus connections

Encourage development of a WPI college town district with enhanced retail and dining



## CONCEPT PLAN

The Concept Plan begins to illustrate the physical manifestation of the Planning Principles.

-  Sustainability / Energy
-  Centers/Places
-  Development Zones
-  Collaboration
-  College Town
-  Connectivity
-  Visitor Experience
-  Integrated Campus District



# The WPI Framework Plan

As part of the Framework Plan, opportunity zones were identified to accommodate new development. Some of these sites require the removal of existing structures or parking lots, while others are currently open spaces.



## CAMPUS HILL

The center of Campus Hill is very dense, with limited available development space. Consequently, most development capacity is located at the perimeter of campus, particularly along the southern and eastern edges of campus.



## WPI NORTH

WPI North has significant development potential with the redevelopment of the WPI Townhouses site. This neighborhood can be transformed into a vibrant community with additional academic and research space as well as residential and student support spaces.












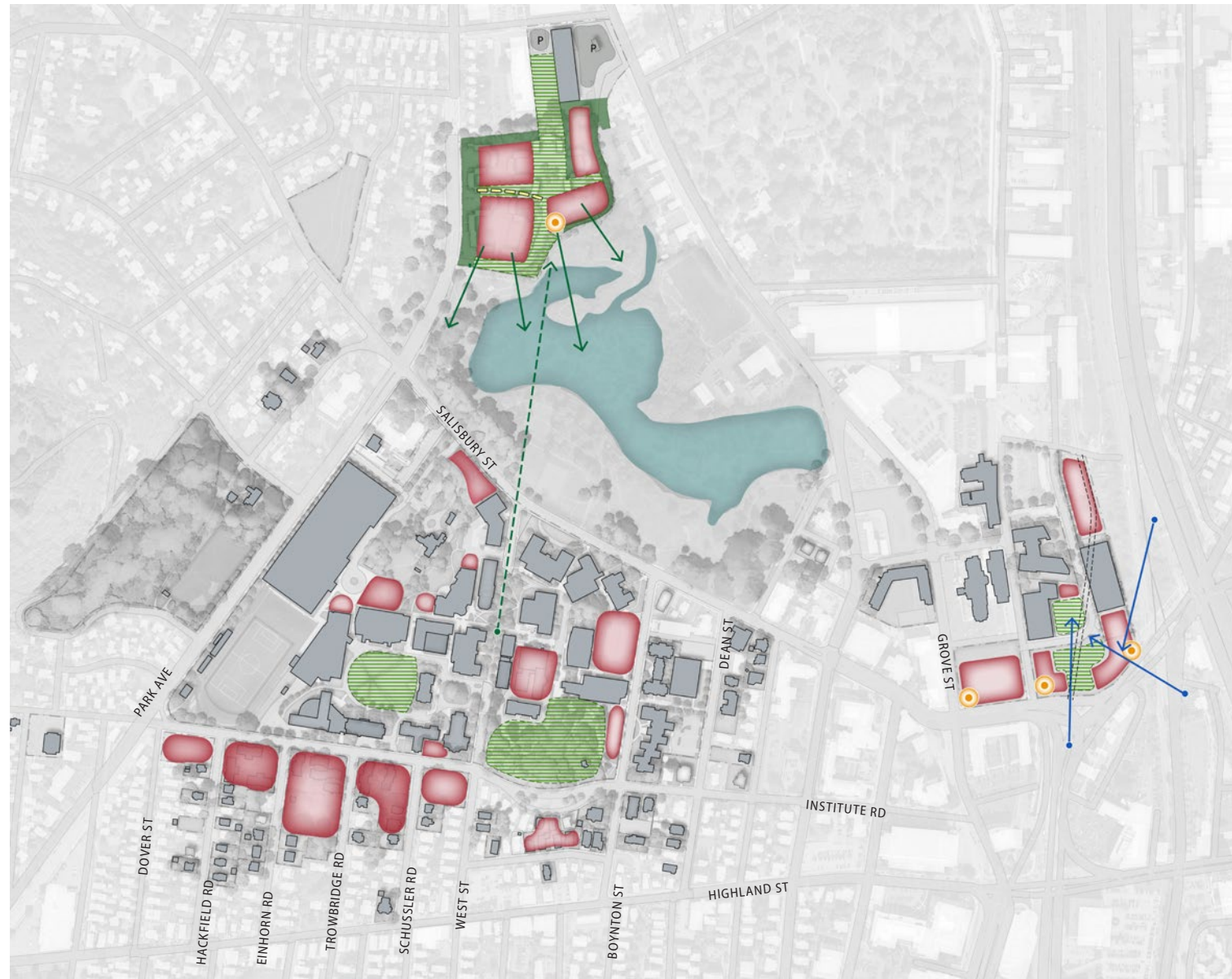
## GATEWAY PARK INNOVATION DISTRICT

The Gateway Park Innovation District also has significant development and partnerships potential. Given its proximity to I-290 and continued redevelopment of the adjacent parcels with a mix of research, collaboration, hospitality, residential, and meeting space, it can become a true innovation district serving WPI and the greater community.



## POTENTIAL DEVELOPMENT ZONES

-  Development Zones
-  Significant Open Space
-  Existing Building
-  Underground Culvert
-  Views to Gateway Park
-  Views into Institute Park
-  View of new campus landmark from Campus Hill
-  Campus Landmarks
-  Park Ave Buffer





## CAMPUS HILL

### EXISTING CONDITIONS

WPI was founded on Campus Hill with the principle of integrating theory and practice. This principle was exemplified by the construction of Boynton Hall (representing theory) and Washburn Shops (representing practice). Each building was clad in different materials and featured a distinctive tower. The two towers symbolize the university's motto, "Lehr und Kunst," and the equal importance the institute places on theory and practice.



*Campus Quad*



*Boynton Hall Tower*



*Washburn Shop Tower*







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From this beginning, the campus grew with more specialized buildings near each other. Since its founding, WPI has used Campus Hill very effectively, but it is now nearly built out. While there are a few opportunities for additions to existing buildings within the core, the largest expansion options lie in redeveloping the area south of Institute Road and along Boynton Street.




#### CAMPUS HILL DEVELOPMENT POTENTIAL

- A** Improved connectivity to WPI North and the Gateway Park Innovation District: Enhancing pathways and infrastructure to better link WPI North and the Gateway Park Innovation District with the Campus Hill via Salisbury Street and Institute Park.
- B** Potential Goddard Hall expansion: Exploring the possibility of expanding Goddard Hall to accommodate growing academic and research needs.
- C** Potential Campus Center expansion: Considering the enlargement of the Campus Center to provide additional space for student activities and services.
- D** Energy Plant and Campus Welcome Center site: To improve energy efficiency and meet sustainability goals, it is important to designate a site for a new energy plant.
- E** New Campus Welcome Center: Proposed new welcome center at Goat Circle to support campus operations and improve visitor engagement.
- F** Open space and campus safety improvements: Implementing measures to enhance campus cohesion and identity as well as improve overall campus safety.
- G** “Boynton Hill” development: Exploring a new building and amphitheater to expand academic and research capacities on Campus Hill.
- H** Redeveloping “The Banana”: Investigating the redevelopment of the area south of Institute Road between Boynton and West streets known as “The Banana” to better utilize campus property and improve connections to Highland Street.
- I** Institute Road redevelopment: Revitalizing Institute Road with new student housing, student life facilities, and academic collaboration spaces.
- J** Music and Theater Improvements: Potentially adapting existing facilities to better support music and theater programs.
- K** Central Plant Redevelopment: Potentially redeveloping the current central plant when the boilers are phased out.





**CAMPUS HILL DEVELOPMENT ZONES**

-  Existing Campus Buildings     Potential New Buildings     Existing Context Buildings



The most significant opportunity for redevelopment and expansion of Campus Hill lies south of Institute Road in the corridor from Dover Street to Boynton Street. This initiative can enhance the quality of student housing and provide additional amenities such as tech suites, social spaces, and meeting spaces. The development can also improve safety by redesigning pedestrian crossings on Institute Road, creating a stronger connection to the core of Campus Hill. A new plaza at the top of the hill could serve as an outdoor social and educational space, further enriching the campus environment. Other uses, including academic, research, performing arts, and parking resources, can also be integrated into the corridor.



*Ellsworth Residence Hall*

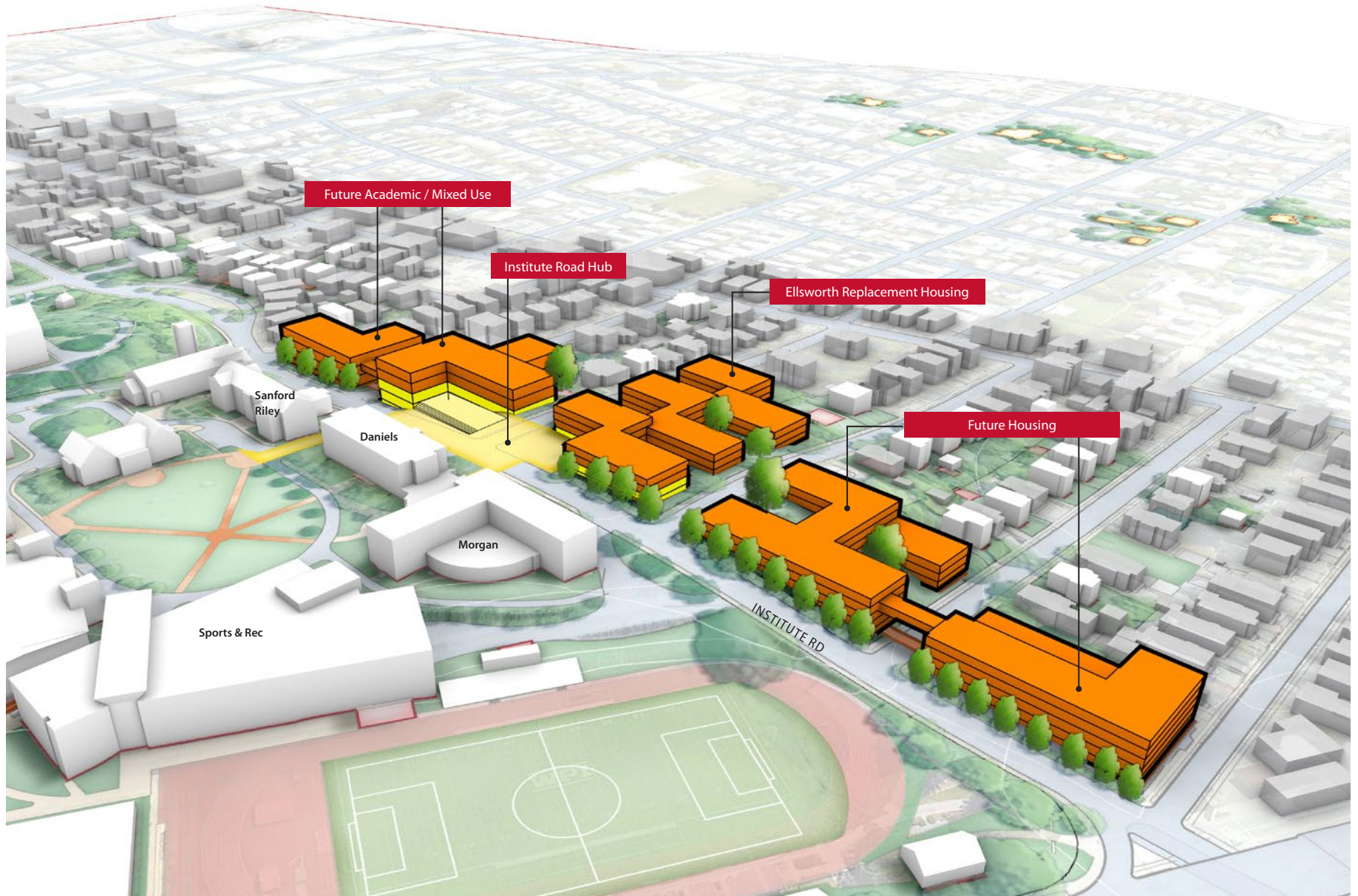


*Fuller Apartments*



*Precedent image for proposed Institute Road Hub - Outdoor classrooms; Grinnell College*





## INSTITUTE ROAD CORRIDOR POTENTIAL

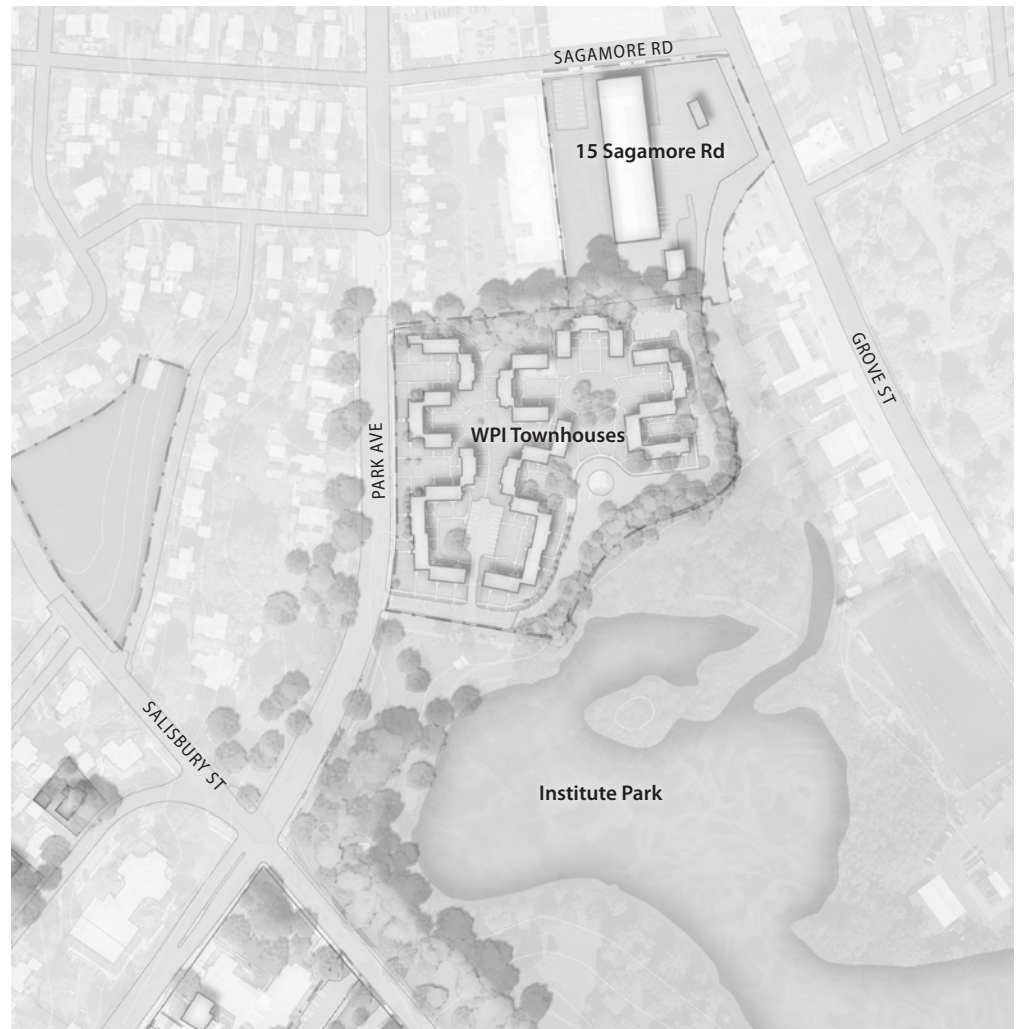
Existing Campus Buildings
  Potential New Buildings
  Existing Context Buildings

## WPI NORTH

WPI North is one of the campus zones with enormous potential for transformation to meet WPI's mission. The WPI Townhouses, nearing the end of their useful life, present a large site ripe for redevelopment into a mix of uses, including housing, academic, research, and student support spaces. The site could be reimagined as a complement to Campus Hill, featuring defined and active outdoor spaces. The building at 15 Sagamore, a flexible industrial structure, has already proven to be a valuable asset for WPI, providing essential research and development space for robotics, advanced materials, and manufacturing research. The site can also accommodate additional research and academic space, allowing for future program expansion.



WPI North Existing Aerial



WPI North Existing Plan





*WPI Townhouses*

A goal of the WPI North transformation is to extend the uses, functionality, connectivity, and campus placemaking from Campus Hill to this area. This includes adding diverse functions such as housing, student life, and research spaces. The transformation will improve functionality, ensure seamless integration with Campus Hill, and enhance placemaking to create inviting, dynamic spaces that foster community.



*Precedent image of campus pathway  
The University of Scranton*



*Precedent image for outdoor classroom  
Grinnell College*



*Precedent image for campus quad or courtyard  
Goucher College*

## TWO APPROACHES

Two approaches were explored for WPI North that include upper level undergraduate and graduate student housing along Park Avenue as well as a new academic and research facility south of 15 Sagamore. Both schemes respect the residential scale and character of Park Avenue by maintaining a landscaped front yard and stepping the building heights. A new multi-story building east of the housing complex could have a large first floor with high bay space that would be ideal for the research and development programs envisioned for WPI North and offer flexibility to accommodate other uses and programs in the future. The upper floors could contain additional research, academic, office, tech suites, and start-up spaces that prepares WPI for future possibilities. To create further connections with Campus Hill, a tower near the southwest corner of the site visible from Reunion Plaza could create visual connectivity between the campus districts. Both approaches focus on creating a unique sense of place with defined and active outdoor spaces and clear connections to Campus Hill and the Gateway Park Innovation District.

**The Central Courtyard** scheme wraps new student housing around a central courtyard creating a semi-private space which could be programmed for a variety of activities focused on building student life and a community of learners.

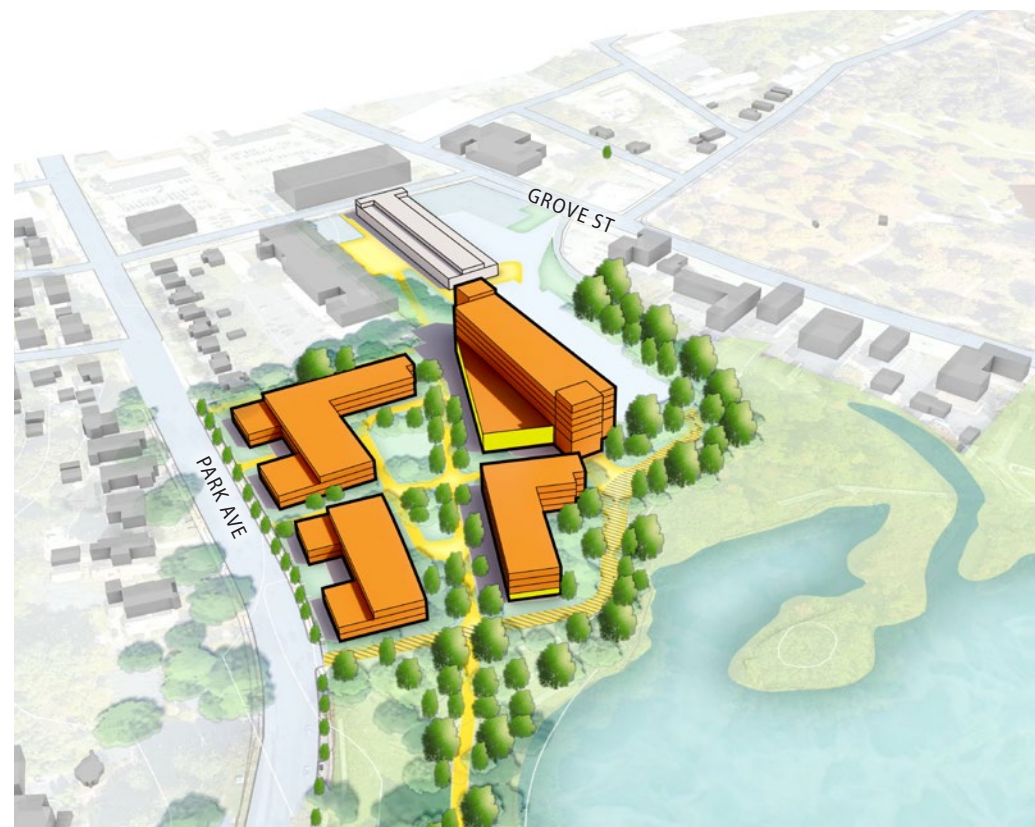
**The Big Diagonal** scheme is organized by a diagonal path which provides a strong connection from Campus Hill to 15 Sagamore with an intentional overlap of living and learning. The clear visual connections can reduce the perceived distance between these neighborhoods and provide an active spine through the site.

If completed, WPI North will no longer be perceived as an outpost but instead be seen as an integral part of the overall WPI campus.





**THE CENTRAL COURTYARD**

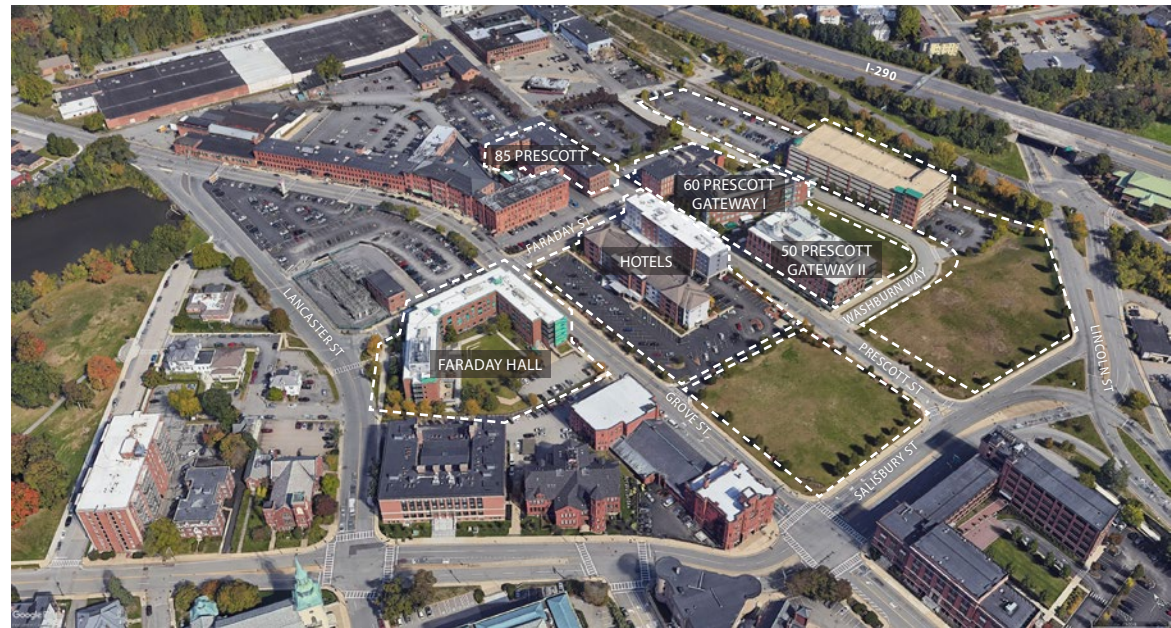


**THE BIG DIAGONAL**

■ Potential New Buildings   
 ■ Science on Display   
 ■ Existing Context Buildings   
 ■ 15 Sagamore

## GATEWAY PARK INNOVATION DISTRICT

The Gateway Park Innovation District is aptly named due to its proximity to the I-290 interchanges and is often one of the first visual encounters with the WPI campus for people entering Worcester from the highway. The former industrial site was planned to take advantage of the historic mills and incorporate new modern mixed-use construction as an Innovation District. WPI is one of the main occupants of the Gateway Park Innovation District. WPI has leveraged the district to focus its academic, research, and development on life sciences and integrated robotics. These programs have the potential for expansion in conjunction with programs in the other campus neighborhoods, such as computer science and mechanical engineering.



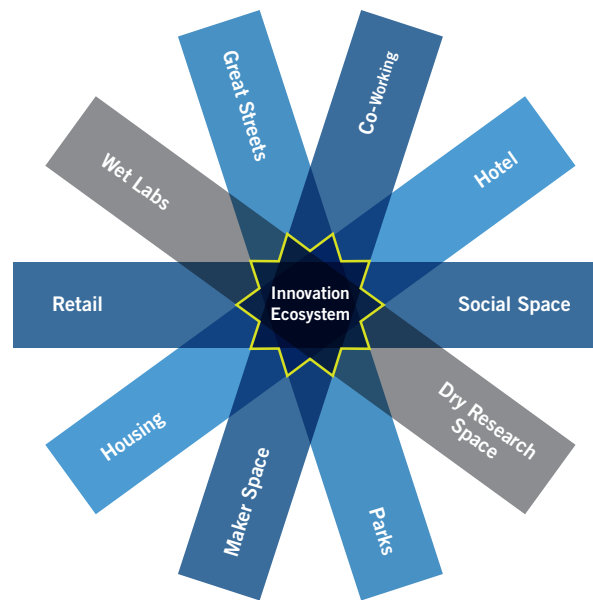
*Gateway Park Innovation District Existing Aerial*



There is an opportunity to expand WPI's space and continue collaborating with the City to further establish a robust innovation district. The area already benefits from existing student housing, hotels, various amenities such as Grove Village, a mix of old and new buildings, and excellent visibility—all essential elements for successful innovation districts. Strategic placemaking and improved connectivity, along with increased activity and amenities, could transform this precinct into a vibrant second campus "heart" for learning and innovation. As development progresses, the plan proposes creating touch-down and collaboration spaces to serve both those based at the Gateway Park Innovation District and individuals from other campus neighborhoods.

WPI has the potential to form partnerships with developers for these projects and to encourage industry collaboration in research and development. Nearby parcels are of interest to developers, and several proposed schemes could expand upon the innovation district concept.

With the Gateway Park Innovation District's proximity to both Campus Hill and WPI North, these three centers can function together to form a well-defined WPI district, with Institute Park and Grove Street serving as key connectors.



*Innovation Ecosystem*



*Innovation districts leverage the power of maximizing connections and growing knowledge.*

## TWO APPROACHES

Two approaches were developed for the Gateway Park Innovation District to enhance its potential as an innovation district. Both approaches aim to establish a new identity along Salisbury Street and capitalize on the new view corridors created by the proposed roundabout at the Salisbury Street and Lincoln Street intersection. Additionally, both approaches improve connectivity by extending Washburn Way from Prescott Street to Grove Street and enhancing the pedestrian pathway through Institute Park to the Gateway Park Innovation District and potentially through the Arts District. These options include the potential for co-location of private industry

partners to advance mutual interests in research and commercialization. The recent acquisition of the two hotels in the center of Gateway Park offers WPI the opportunity to increase capacity for student housing, build a stronger student community with Faraday Residence Hall, and solidify a stronger WPI presence in the heart of the Gateway Park Innovation District.

**The Salisbury Greens** option envisions spaces opening onto Salisbury Street, creating an active public-facing edge for the Gateway Park Innovation District. The site south of the hotels could include a flexible meeting venue with proximity to WPI research and academic centers.

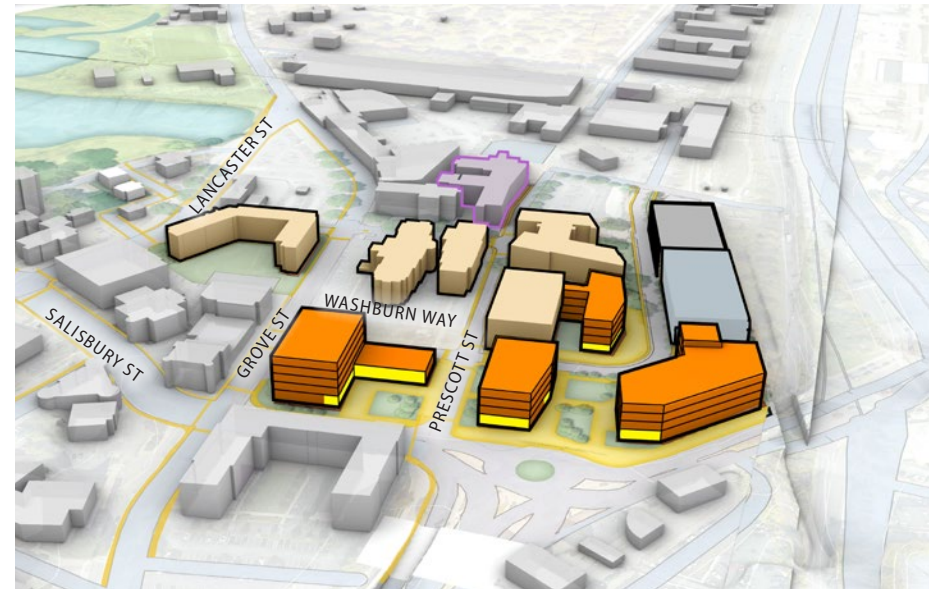
An expansion of 50 Prescott Street (Gateway II) would provide more space for current programs. The southern end of this addition could feature meeting or informal spaces overlooking the plaza and Salisbury Street. Two new buildings on either side of the plaza would feature active uses on the first floor, energizing the plaza area.

**The Central Yard** option focuses on increasing development density along Salisbury Street while incorporating active first-floor uses, including potential meeting spaces or a conference center. The area east of 50 Prescott would be reserved as an open space or “yard” for the center. This approach offers a more urban design, providing a vibrant edge to the streetscape.











**THE SALISBURY GREENS**



**THE CENTRAL YARD**

- |   |   |  |  |
|---|---|--|--|
|  Existing Campus Buildings |  Potential New Buildings |  Vibrant and Active Street Level Uses |  WPI Leased Space |
|  Existing Parking Garage   |  Expanded Parking Garage |  |  |

# Summary of Framework Concepts to Address Planning Principles

The WPI Framework Plan is based on three planning principles which reflect the needs and aspirations of the institute and form the basis of the future physical campus. The Framework Plan builds on these principles to unify the campus districts, extend the WPI identity, and foster a living-learning community.

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## Amplify WPI's Mission

- Demonstrate sustainable development and land use
- Expand opportunities for industry partnerships and community interaction at all centers
- Position Campus Hill with a flexible long-term vision to meet WPI's mission
- Expand capacity for Advanced Materials, Manufacturing, and Robotics Research at WPI North
- Expand capacity for Life Sciences and Robotics Research at the Gateway Park Innovation District

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## Strengthen the WPI Student Experience

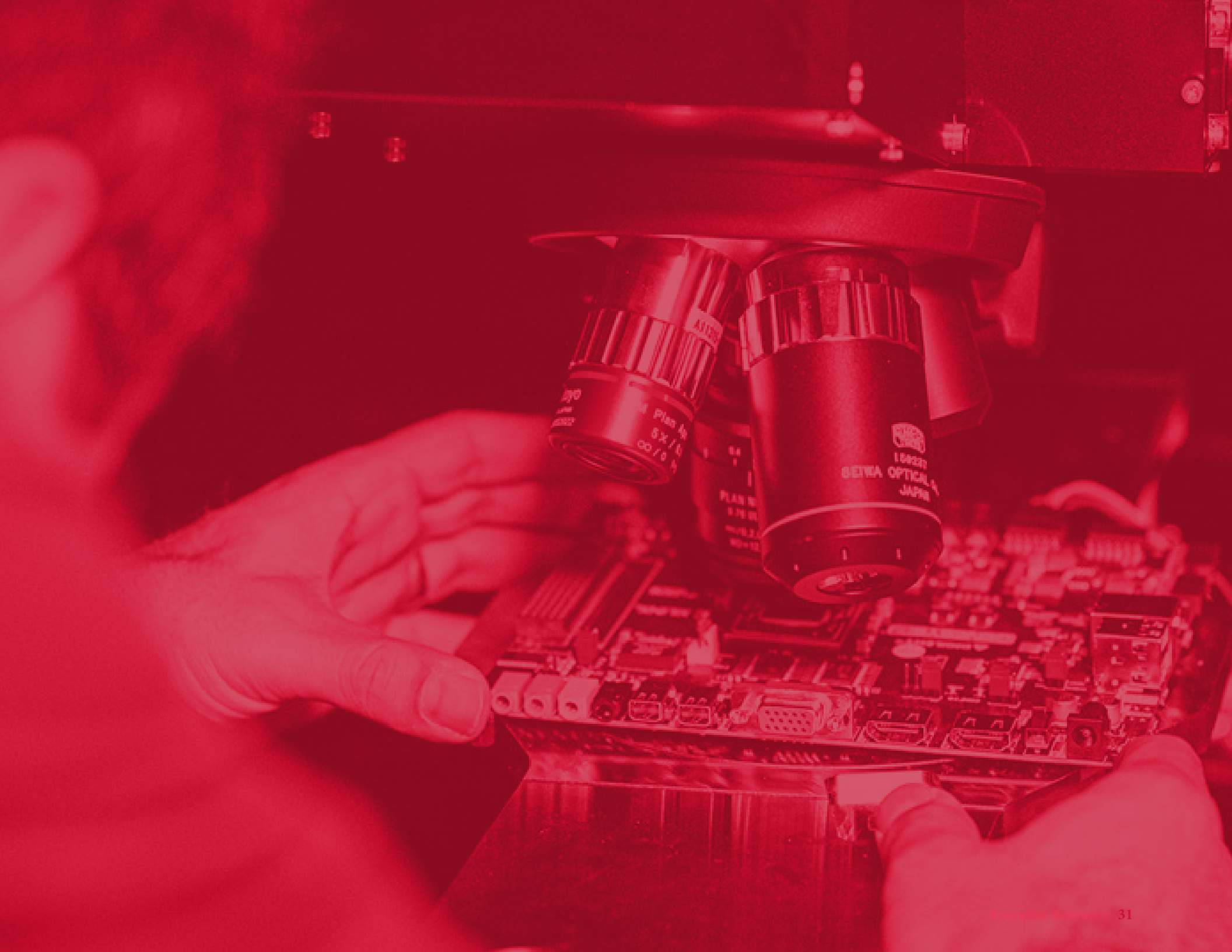
- Link the totality of the WPI campus with improved landscape, open spaces, connectivity, and hubs
- Provide additional spaces to touchdown, collaborate, and get involved in research initiatives
- Reinforce undergraduate student life and critical mass with new housing and connections to amenities to support the WPI campus experience

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## Connect Campus Communities

- Improve physical connections between Campus Hill, the Gateway Park Innovation District, and WPI North
- Extend campus identity through signage, landscape, and landmarks
- Establish a campus heart and create a destination at each center
- Improve the WPI campus experience for first-time visitors, alumni, and community members







WPI