



INSTITUTIONAL MASTER PLAN 2017
AMENDMENT #1 REVISED SUBMISSION

SUBMITTED FEBRUARY 28, 2018
REV. 03/12/18

“The mission of Brown University is to serve the community, the nation, and the world by discovering, communicating, and preserving knowledge and understanding in a spirit of free inquiry, and by educating and preparing students to discharge the offices of life with usefulness and reputation. We do this through a partnership of students and teachers in a unified community known as a university-college.”





CONTENTS

Planning Context

Building On Distinction.....	4
Handbook for Physical Planning.....	4
Community Engagement.....	5

Campus Footprint

Existing Campus & Property Holdings.....	6
Recent Changes in Real Estate Holdings.....	6
Projects Currently Under Construction.....	6
Anticipated Projects Over Next 10 Years.....	6

Projects Seeking Approval

450 Brook Street Wellness Center & Residence Hall.....	7
Performing Arts Center.....	8
Project Enabling.....	9

Campus Infrastructure

Parking Plan.....	10
Transportation Study.....	10

Appendix

- A. Public Community Meeting Presentation
- B. VHB IMP Transportation Report Update

PLANNING CONTEXT

BUILDING ON DISTINCTION (BROWN'S STRATEGIC PLAN)

www.brown.edu/facilities/sites/facilities/files/brown.edu_web_documents_BuildingOnDistinctionOct262013.pdf

In 2013, the Corporation of Brown University approved the Building on Distinction strategic plan, which established a far-reaching set of goals that will enhance the quality of our academic and campus environment. This plan is constantly monitored and adjusted, and it continues to focus the University's efforts in its pursuit of excellence.

One of the seven priorities of the university's strategic plan is:

Cultivating Creative Expression | Creative expression is used to explore human values and communicate new ideas, to challenge societies, and to draw disparate groups together. At Brown, the creative arts are tightly integrated into the liberal arts. We aspire to foster an environment in which artists operating at the highest levels of their crafts learn from and inform scholars in disciplines across the campus.

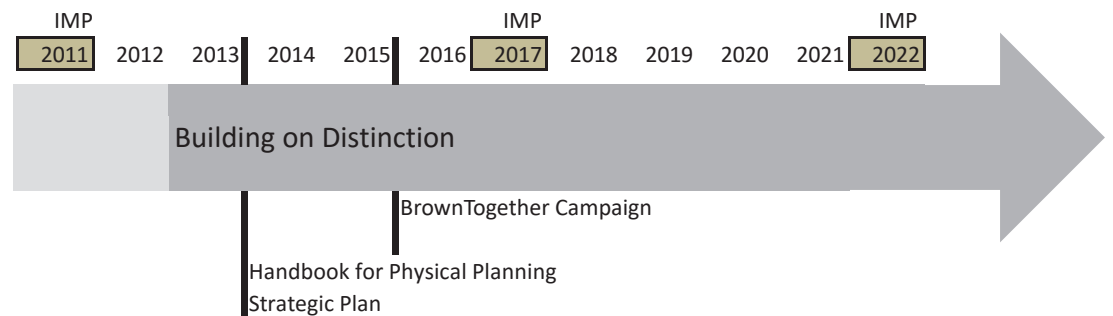


HANDBOOK FOR PHYSICAL PLANNING

www.brown.edu/facilities/sites/facilities/files/HandbookforPhysicalPlanning_Sasaki.pdf

In 2013, the Handbook for Physical Planning was created as a corresponding physical framework for Brown's strategic plan. This handbook serves as a guide for decisions about campus planning and design. The handbook focuses on the following interdependent planning principles:

- Strengthen the physical campus as an analog for the Open Curriculum
- Prioritize academic uses in the core
- Celebrate the Brown scale
- Energize the core with a mixture of uses
- Engage Thayer Street
- Connect the campus
- Consolidate landholdings and catalyze partnerships



PLANNING CONTEXT

COMMUNITY ENGAGEMENT

The University's planning process is open and iterative, with regular opportunities for community engagement. Brown staff meets regularly with neighborhood organizations, elected officials, and allied institutions to share Brown's plans for development and solicit feedback.

The public engagement process in the development of this Institutional Master Plan Amendment was as follows:

09/06/17	Providence Preservation Society Presentation
09/21/17	City Plan Commission Briefing
11/02/17	Community Working Group
11/06/17	College Hill Neighborhood Association Meeting
11/07/17	Thayer Street District Management Authority Meeting
11/14/17	Public Community Meeting
11/16/17	Public Community Meeting
12/19/17	City Plan Commission Meeting
02/22/18	Public Community Meeting
02/27/18	Public Community Meeting
02/22/18	Providence Preservation Society Presentation
03/05/18	College Hill Neighborhood Association Meeting
03/20/18	City Plan Commission Continuance Meeting

CAMPUS FOOTPRINT



EXISTING CAMPUS & PROPERTY HOLDINGS

Brown University, founded in 1764, is a teaching and research institution with approximately 6,600 undergraduate students, 2,200 graduate students, 4,400 full-time employees, and 500 medical students. It currently owns 226 buildings totaling nearly 6.8 million square feet. Most buildings are located on College Hill and in the Jewelry District, within a half mile from the historic College Green. Brown also owns a 339-acre property in Bristol, RI, which includes a museum and research facilities. In addition, the University leases approximately 118,000 square feet located in the College Hill area, the Jewelry District, and Butler Hospital.



RECENT CHANGES IN REAL ESTATE HOLDINGS

Since the 2017 Institutional Master Plan, the University has made changes in property holdings reflecting the planning principles in the Handbook for Physical Planning, including both the sale of underutilized properties, primarily as part of the Brown to Brown Home Ownership Program, and acquisitions in key locations.

Expansion of Brown to Brown Home Ownership Program:

- 37 George Street
- 131-133 Brown Street
- Gifted then sold: 193 Hope Street

Properties Recently Sold:

- 10 Davol Square



PROJECTS CURRENTLY UNDER CONSTRUCTION*

- Watson Institute Expansion
- Wilson Hall Renovation
- GeoChem Renovation
- Housing Renewal

Development Partnership Projects In Design:

- School of Professional Studies / Innovation
- 249 Thayer- Nelson Center for Entrepreneurship

ANTICIPATED PROJECTS OVER NEXT 10 YEARS**

Renovation/renewal projects:

- Brown Office Building / 164 Angell
- Manning Hall
- Marston Boat House
- Classrooms
- Residential/Dining
- Research
- Housing Renewal

* Since Brown's initial submission in November 2017, two projects have been completed and are no longer in construction: South Street Landing and Engineering Research Center.

** In addition to projects seeking approval under this IMP amendment

PROJECTS SEEKING APPROVAL

450 Brook Street Wellness Center & Residence Hall

The new Wellness Center will bring together physical health services, mental and emotional health services, and wellness education and programming in one location, creating greater ease of access of services currently spread out across the campus.

The Wellness Center will be co-located with a residential living facility, a “wellness dorm,” for undergraduate students committed to developing and sustaining healthy living. The program and services that will be provided in the new Wellness Center currently exist on campus. The residential facility will provide approximately 128 beds with one resident advisor. The proposed program will include approximately 96,000 square feet of new construction whose design will respond to the context of the street and the pedestrian experience. The project shall conform to the design standards of the C-2 zone. **The project design criteria will respond to the pedestrian scale and activate the street level on Brook Street.**

The proposed site for this new Wellness Center creates ideal geographical opportunities — situated next to a green space, where students can take part in health and recreational activities, close to a neighborhood of student housing, and just a short walk to the Nelson Fitness Center. The site development will incorporate approximately six parking spaces, which will add to Brown’s total number of off-street parking spaces.

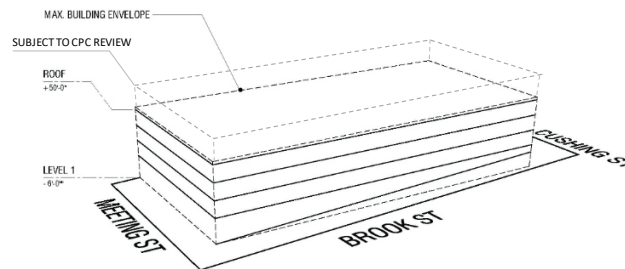
The project site is approximately 32,000 square feet in area and is currently an interim commercial parking lot with approximately 71 parking spaces. The commercial



The site plan above is intended to identify the project site rather than the building footprint.

lot is permitted under a special-use permit that expires in May 2018. Brown will be seeking an extension to cover the time period needed to break ground on construction. As part of the enabling process the parking lot will be redeveloped as part of the new construction project.

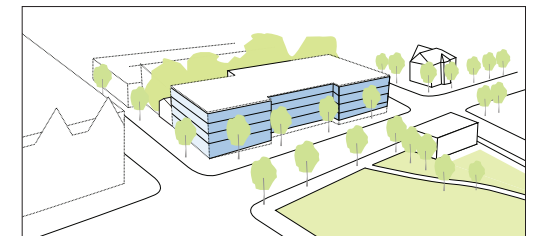
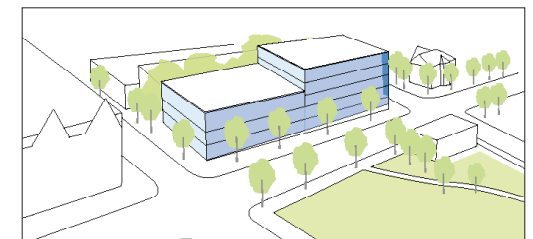
ZONING ENVELOPE STUDY



ZONING

The site is zoned as a C-2 district with an I-3E overlay. The anticipated building height is 50'-0" maximum. The anticipated building height shall not exceed 50 feet and four stories. Brown shall appear before the Zoning Board of Review and/or the City Plan Commission, as applicable, if the project requires any variances.

CONCEPTUAL MASSING STUDIES



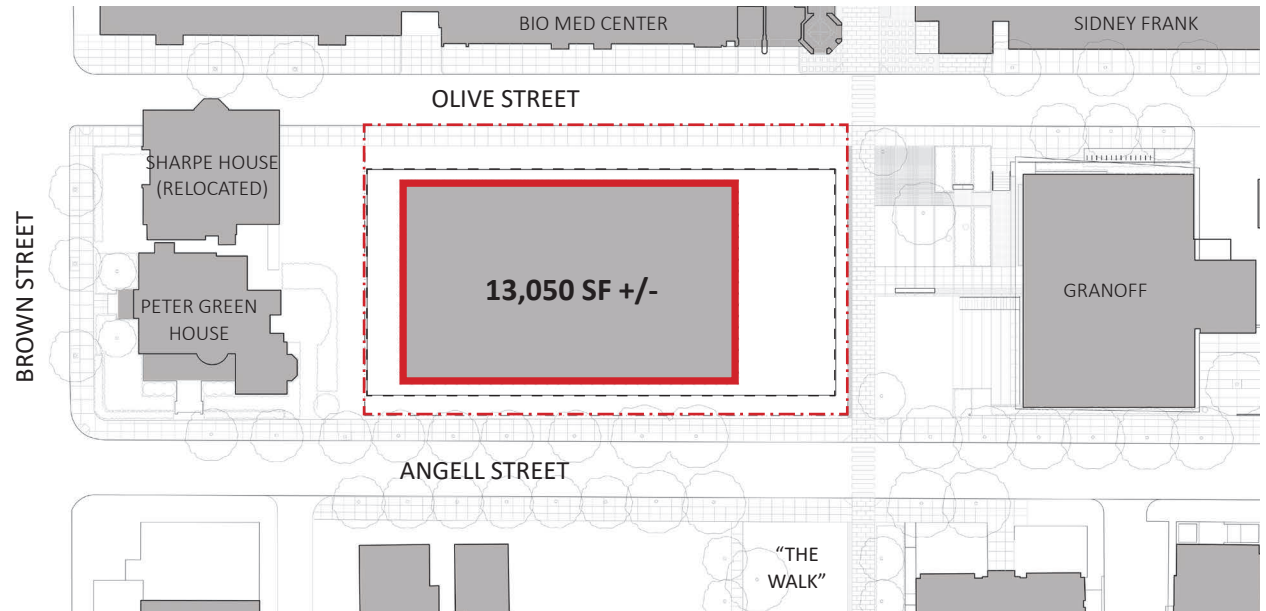
PROJECTS SEEKING APPROVAL

Performing Arts Center

Brown University has bold aspirations to be a primary destination for students around the world who want to integrate the arts into a complete liberal arts education. Currently, Brown lacks a dedicated space for performance suitable for many medium and large ensembles that exist in various combinations across academic programs and student organizations. Along with academic need and high student interest, such a center holds appeal for building community on campus and for drawing together the Brown and Providence arts communities.

To help realize this ambitious vision, Brown intends to construct an 84,000 GSF +/- center for the performing arts. The new building will support performance, teaching and research for music, theater, and dance. At the heart of the center will be a flexible 500-seat performance space. The building footprint at grade will be 13,050 SF +/-, with more than half of the building program and support space located below grade.

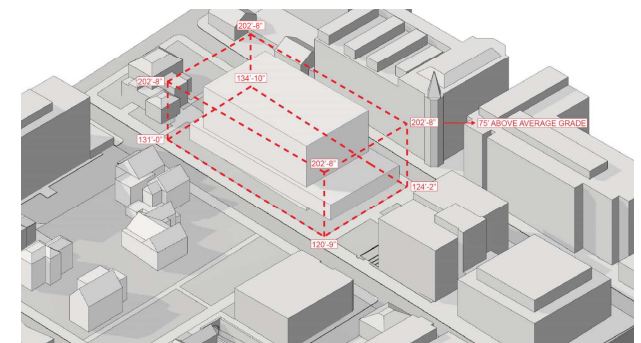
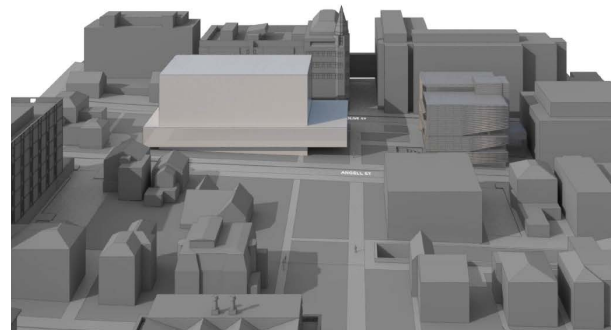
The anticipated site for the new building is on College Hill between Olive and Angell Streets, on the west side of The Walk. After careful study and investigations, the site was chosen for development, as all of the adjacent buildings are Brown-owned, and the development of the site contributes to the Master Planning guidelines of consolidating the core and prioritizing academic uses on College Hill as defined in the Handbook for Physical Planning (2013). This project will require the relocation of the Sharpe House, detailed in the Project Enabling section of this amendment. As planned, the project is wholly within the zoning envelope and will not require any zoning variances.



KEY

- BUILDING FOOTPRINT AT GRADE
- PROJECT BOUNDARY
- CANTILEVERED LOBBY ABOVE

CONCEPTUAL MASSING STUDIES



PROJECT ENABLING



Sharpe House

PROPOSED RELOCATION

The Performing Arts Center project will require enabling work. The existing site consists of one Brown-owned building: the 1872 Sharpe House. Brown engaged Public Archaeology Lab (PAL) to conduct research that meets the standards of HABS Standard I on this property in order to establish the historic, cultural, and architectural/engineering context for evaluation and outline the history of the building as a basis for an evaluation of its importance. Based on PAL's evaluation, impact on the neighborhood, and feasibility, Brown plans to preserve the Sharpe House and plans to move it to the site between the Peter Green House and the Bio Med Center along Brown Street.

The Sharpe House is a contributing resource to the College Hill Historic District. The property is not within the College Hill National Historic Landmark District, nor is it within the City of Providence's College Hill Local Historic District.

The Sharpe House was designed by Providence architect Alpheus C. Morse in the Second Empire style. The Sharpe House, designed as a wood-frame double house, was initially home to two families. The entire building was converted into a dormitory for Pembroke College students in the early 1920s. Today, the building is used as faculty offices for the History Department.

OLIVE STREET CHANGE OF USE

With the relocation of Sharpe and the addition of the PAC, a portion of Olive Street owned by the University, between Thayer and Brown streets, will likely be closed to regular vehicle traffic.

CAMPUS INFRASTRUCTURE

PARKING PLAN

There have been no changes to the off-street parking study performed as part of the IMP 2017 Transportation Component.

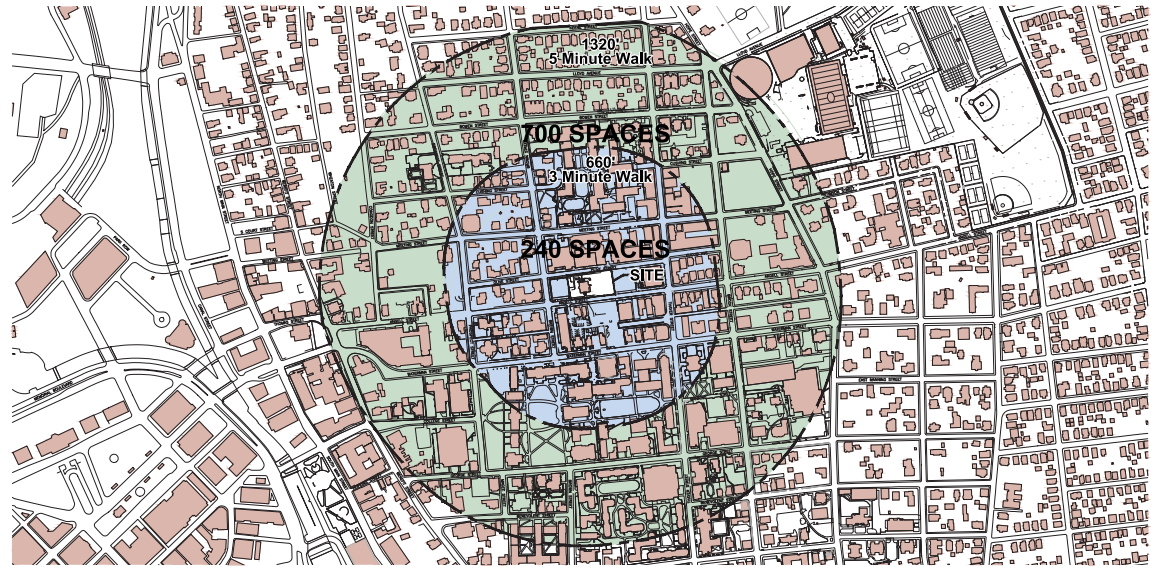
TRANSPORTATION STUDY

The University has engaged traffic engineers VHB to study the traffic and parking impacts for the proposed Performing Arts Center and the 450 Brook Street Wellness Center and Residence Hall. The full report can be found in the appendix of this document. The following is a summary of their preliminary findings:

The Performing Arts Center

The Performing Arts Center (PAC) with a 500 seat main hall is anticipated to generate little demand for additional parking given the performances that are currently occurring in existing venues near the PAC site and will continue to utilize available on-street parking.

VHB has performed an on-street parking occupancy study to assess the available parking for the new PAC. There are 240 on-street parking spaces within 660 feet (3-minute walk) and 940 spaces within 1,320 feet (5-minute walk) of the proposed PAC, demonstrated in the map to the right. Additional parking spaces are available immediately outside of the 5-minute walking area and are typically underutilized. Major events typically occur after 5:00 p.m. when demand for on-street parking is lower. Non campus patrons attending events typically represent between 20% and 40% of the total patrons. Eighty percent (80%) of the non- campus patrons arrive by car with an average occupancy of 3 passengers per vehicle. Based on a worst case scenario assuming all 40%



This map represents the proposed PAC site and available on-street parking spaces located within a 3-minute and 5-minute radius of the PAC.

of non-campus patrons arrive by car and only 2.5 passengers per vehicle, the maximum parking demand is 80 parking spaces for a sold out, 500 seat event. Brown University will actively manage event parking as needed, which may include additional shuttles, locations for security details, and potential on-street parking restrictions to accommodate any drop-off or pick-up activity that may occur.

Wellness Center and Residence Hall

450 Brook Street Wellness Center and Residence Hall will include a limited number of off-street parking spaces that includes one ambulance space, two dedicated medical staff spaces, two

handicap spaces, one delivery space, and one additional visitor space. The parking provided will be comparable to the existing parking provided at Health Services at Andrews House. The existing parking at Andrews House will then be available for permit parking. No parking will be provided for the residence hall. The Wellness Center is expected to generate little vehicular traffic; therefore, no changes are required to the previously performed traffic analysis under the 2017 Institutional Master Plan. The project eliminates a 71-space commercial parking lot which will result in a reduction of vehicular trips to the site. These commercial spaces do not contribute to Brown's off-street parking count.

APPENDIX

A. PUBLIC COMMUNITY MEETING PRESENTATION
PRESENTED PUBLICLY 02/22/18 AND 02/27/18

LEGACY OF PRESERVATION AT BROWN



1792 Nightingale-Brown House



1830 Maddock Alumni Center



1890 Peter Green House



1905 Orwig Music Hall

1700s

1800s

1900s

2000s

**35% of Brown structures
were built in the 18th &
19th Centuries**

**60% of Brown structures
are 75 years old and older**
(133 of 220 Total buildings)

Total invested in historic structures over the last 12 years

\$512M

Total currently investing in historic structures

\$97M

LEGACY OF PRESERVATION AT BROWN



Providence Preservation Society Awards

- 2012 Restoration Award for Brown University Ladd Observatory Transit Room
- 2012 Award for Adaptive Reuse for Alpert Medical School Building
- 2008 Material Conservation Award For Historic Exterior Elements And Stained Glass Lay Light, Peter Green House
- 2006 Adaptive Reuse Award for Brown University Cabinet Building/Mencoff Hall
- 2005 Material Conservation/Institutional Award for Maddock Alumni Center
- 2003 Institutional Rehabilitation/Restoration Award for Corliss Bracket House
- 2002 Institutional Rehabilitation/Restoration Award for Department of English
- 2000 Institutional Preservation Award for Smith Buonanno Hall
- 1998 Preservation Honor Award for Institutional Preservation for Rehabilitation of Ladd Observatory
- 1996 Institutional Restoration Award for Augustus Stout Van Wickle Memorial

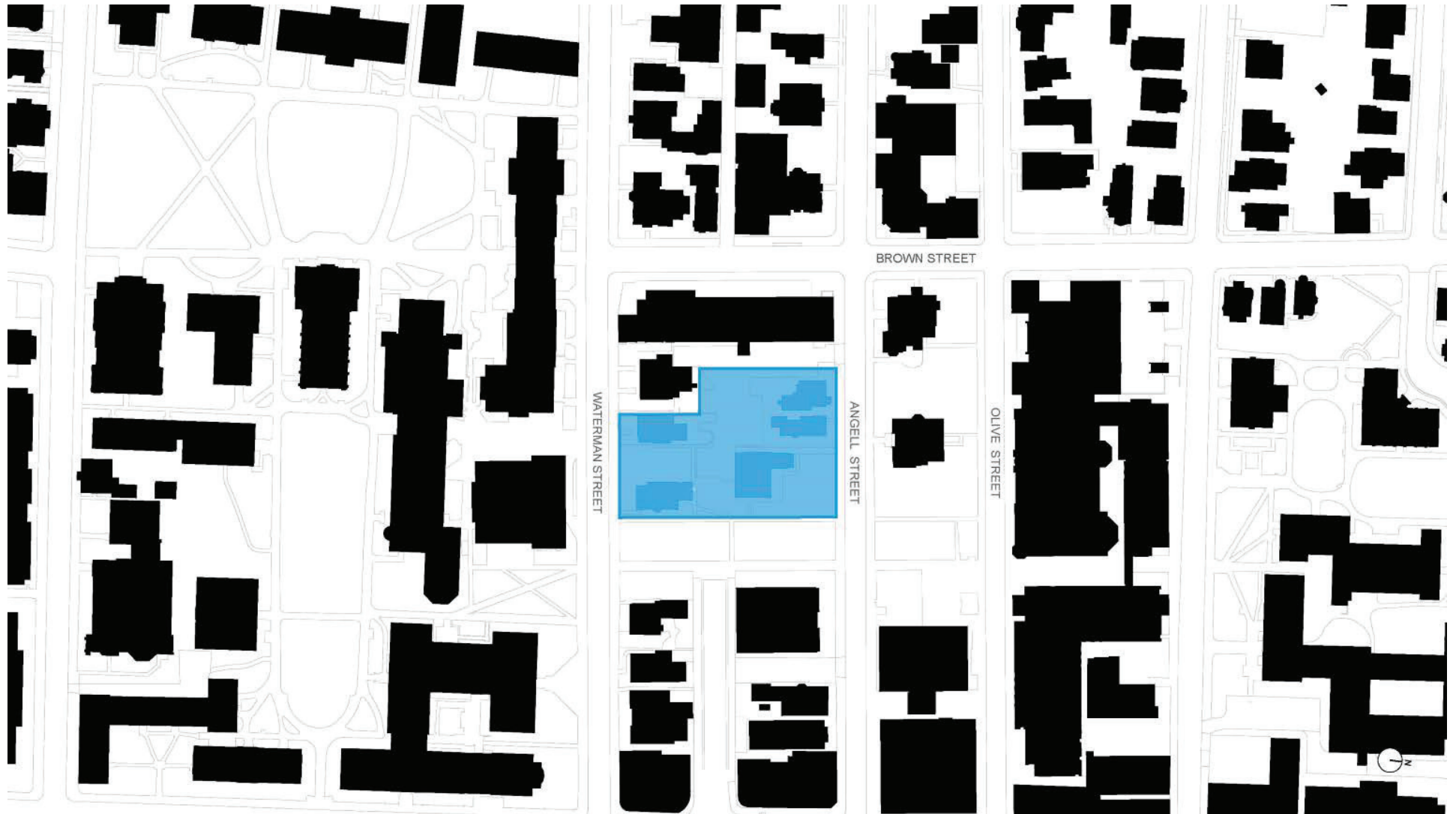
Rhode Island Historical Preservation & Heritage Commission Awards

- 2012 Project Award for Ladd Observatory, Brown University
- 2005 Preservation Project Award for Brown University Computing Lab
- 2003 Preservation Project Award for Corliss House, Brown University

Rhode Island Chapter of American Institute of Architects

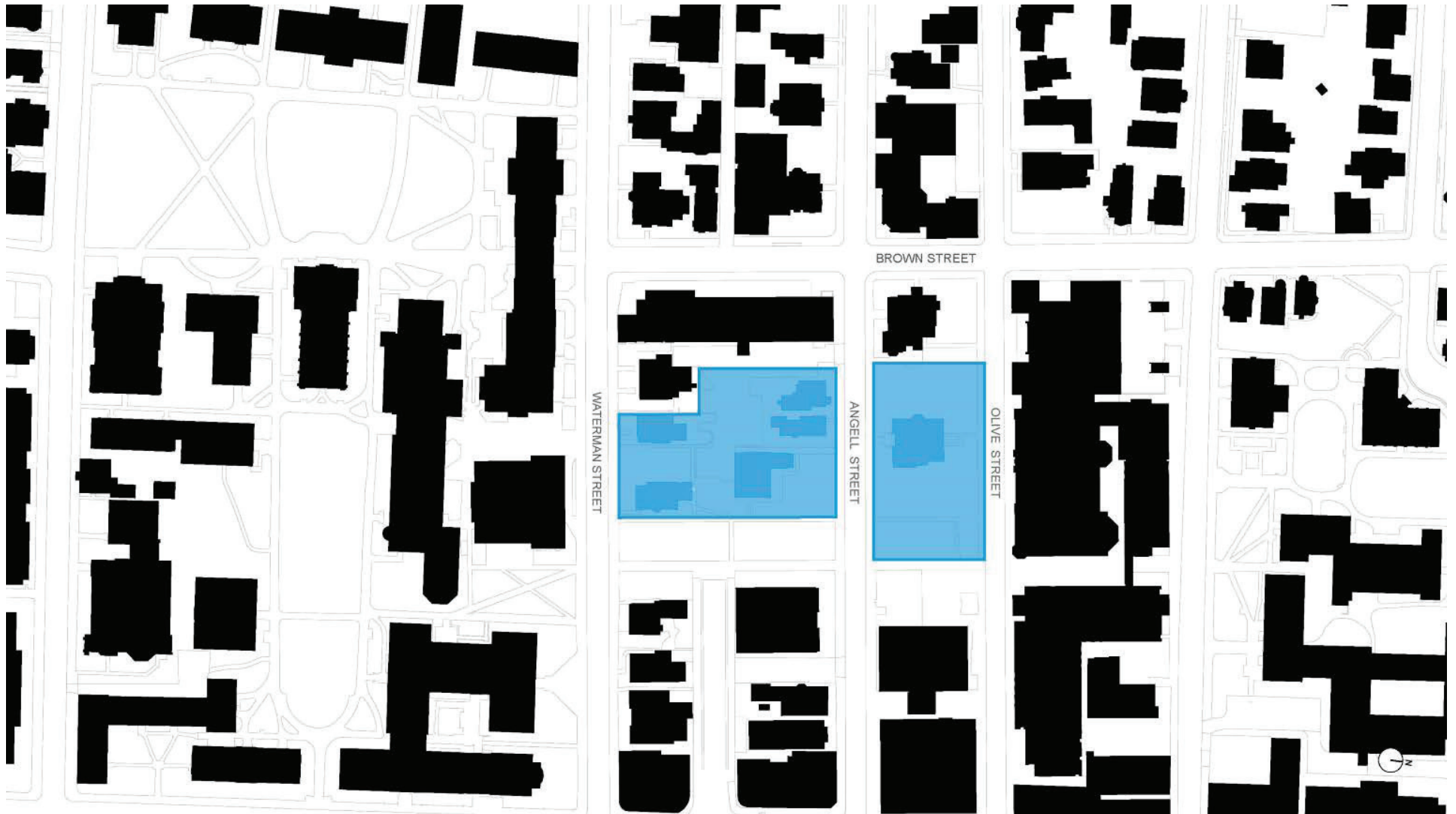
- 1994 Honor Award for Renovation of Mathematics Building

PROPOSED PROJECT SITE: PERFORMING ARTS CENTER



PROPOSED DECEMBER 2017

PROPOSED PROJECT SITE: PERFORMING ARTS CENTER



ORIGINAL SITE & SHIFTED SITE

PROPOSED PROJECT SITE: PERFORMING ARTS CENTER



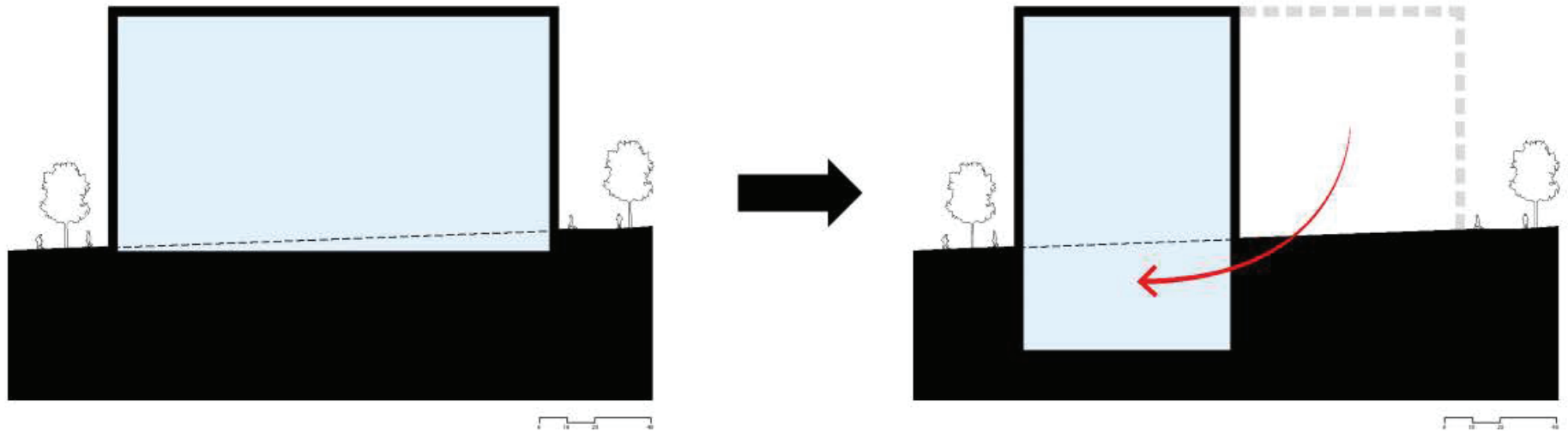
SHIFTED SITE

PROPOSED PROJECT SITE: PERFORMING ARTS CENTER



PROPOSED RELOCATION OF SHARPE HOUSE

PROPOSED PROJECT SITE: PERFORMING ARTS CENTER



Original Site

Shifted site

BELOW GROUND SQUARE FOOTAGE

GROWTH & APPROACH

STRATEGIC FRAMEWORK FOR PHYSICAL PLANNING (2003)

- Consolidate the Core

HANDBOOK FOR PHYSICAL PLANNING (2013)

- Prioritize academic uses in the core
- Celebrate the Brown scale
- Energize the core with a mix of uses
- Engage Thayer Street
- Connect the campus
- Consolidate landholdings and catalyze partnerships

BUILDING ON DISTINCTION (2013)

- College Hill will remain the core of undergraduate instruction and faculty research
- Prioritize new or renovated space for academic needs in the creative and performing arts



- Open space
- ⋯ 10-minute walk within academic core
- Institutional Zone

ACADEMIC USE

60%

1,500

31

ACADEMIC USE

60%



ACADEMIC USE

1,500



ACADEMIC USE

31

Anthropology
Applied Mathematics – Computer Science
Applied Mathematics – Biology
Applied Mathematics – Economics
Biochemistry & Molecular Biology
Biology
Chemistry
Classics
Cognitive Neuroscience
Cognitive Science
Comparative Literature
Computer Science
Economics
Education Studies
Engineering
English
Environmental Studies
Geology – Physics/Mathematics
Health and Human Biology
History
Independent Concentration
International Relations
Mathematics
Music
Neuroscience
Physics
Political Science
Psychology
Public Policy
Slavic Studies
Visual Arts



ACADEMIC NEED



The Brown arts student has the confidence and ability to **explore, experiment**, think outside the box, **collaborate, & engage** with contemporary issues



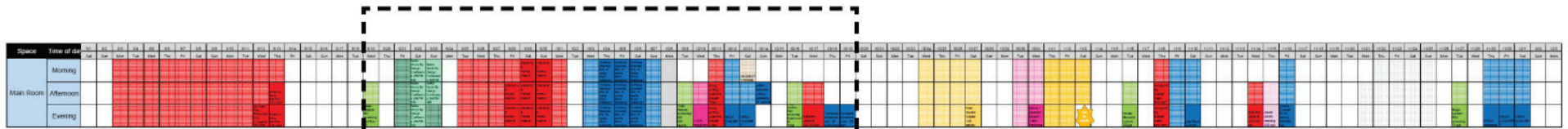
At Brown we aspire to foster an environment in which artists operating at the highest levels of their crafts learn from and inform scholars in disciplines across campus.



ACADEMIC USE



ACADEMIC USE FOR PERFORMING ARTS CENTER



Space	Time of day	9/19	9/20	9/21	9/22	9/23	9/24	9/25	9/26	9/27	9/28	9/29	9/30	10/1	10/2	10/3	10/4	10/5	10/6	10/7	10/8	10/9	10/10	10/11	10/12	10/13	10/14	10/15	10/16	10/17	10/18	10/19
		Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri
Main Room	Morning				Better World By Design Conference ADM/ML 400	Better World By Design Conference ADM/ML 400											Contemp. Chamber En. w/ media Short performance	Contemp. Chamber En. w/ media Short performance	Contemp. Chamber En. w/ media Short performance							UNIVERSITY FORUM						
	Afternoon				Better World By Design Conference ADM/ML 400	Better World By Design Conference ADM/ML 400					Interactive Performance	Interactive Performance	Interactive Performance				Contemp. Chamber En. w/ media Short performance	Contemp. Chamber En. w/ media Short performance	Contemp. Chamber En. w/ media Short performance					Song-writing Concert Master Class			JAZZ Concert Faculty Weekend 20 people					
	Evening	Magic Lantern film screening Fall break 1st			Better World By Design Conference ADM/ML 400	Better World By Design Conference ADM/ML 400					Interactive Performance	Interactive Performance	Interactive Performance				Contemp. Chamber En. w/ media Short performance	Contemp. Chamber En. w/ media Short performance	Contemp. Chamber En. w/ media Short performance			Food & Hynes screening Fall break 2nd 300 people	VISA Headliner	Song-writing Concert Master Class		ORCH CONCERT	ORCH CONCERT			Magic Lantern film screening Fall break 2nd	Randall Lecture 200-300 ppl	Composer Showcase Fall '20 students

- BAI
- Bell Gallery
- Hist of Art & Arch
- Literary Arts
- Modern Culture & Media
- Music
- Rites & Reason/Africana
- Theater Arts & Performance Studies
- Visual Art
- Other

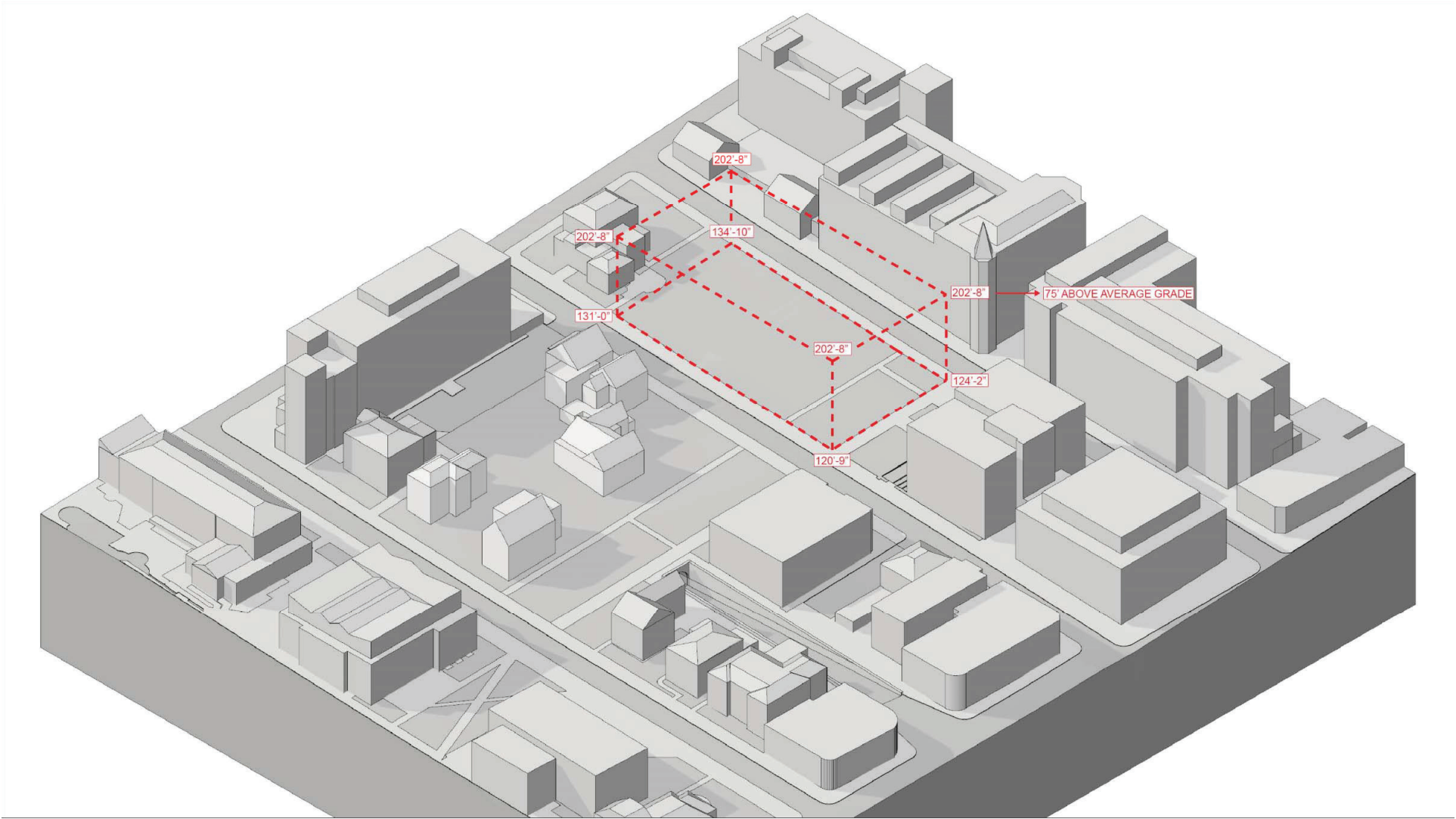
Mock 1 year calendar for Main Hall, produced in collaboration with BAI

ZONING ENVELOPE, SCALE & MASSING

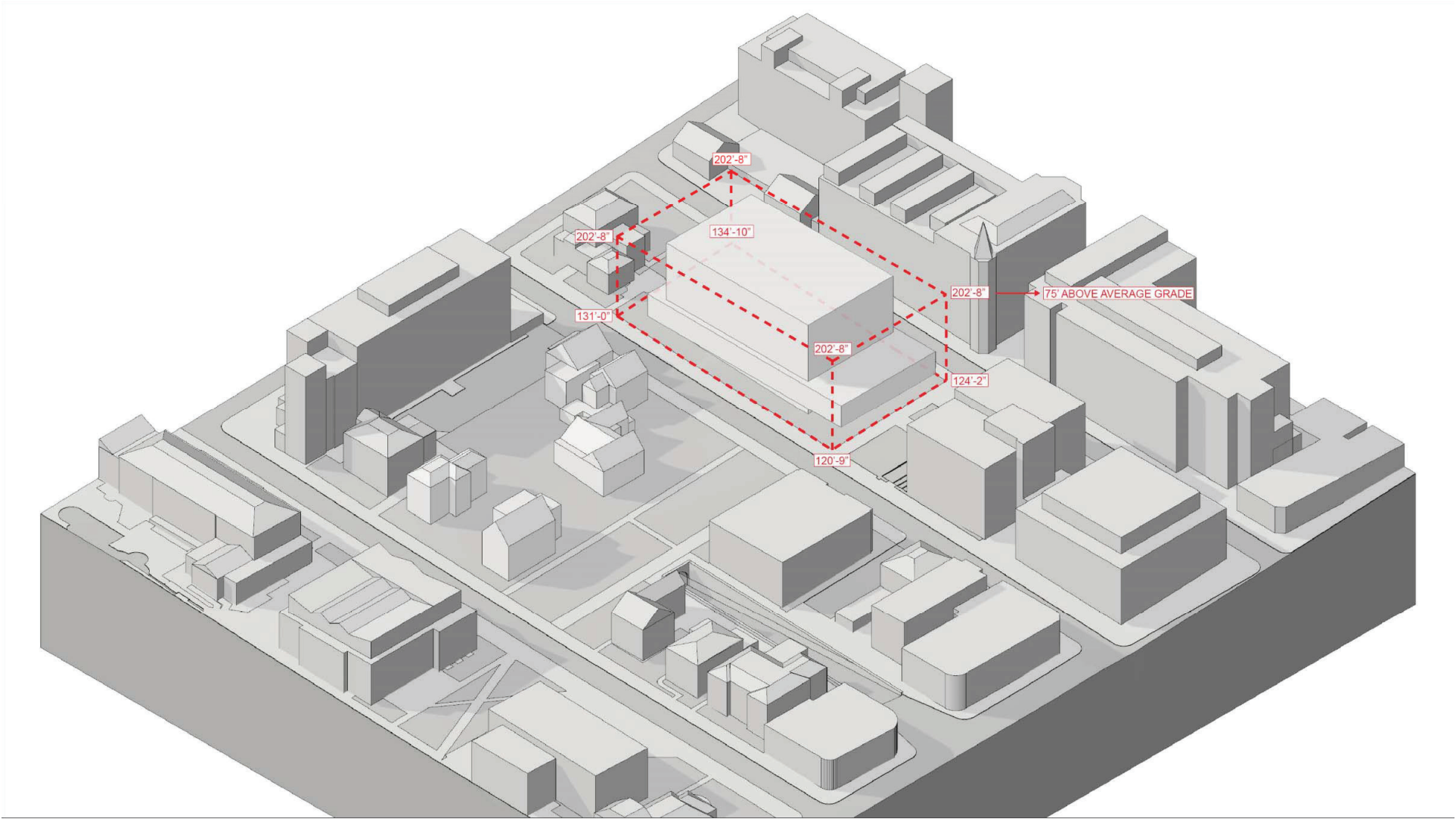


THE WALK

ZONING ENVELOPE, SCALE & MASSING



ZONING ENVELOPE, SCALE & MASSING



SITING & ADJACENCIES



GREEN SPACE ALONG THE WALK

SITING & ADJACENCIES



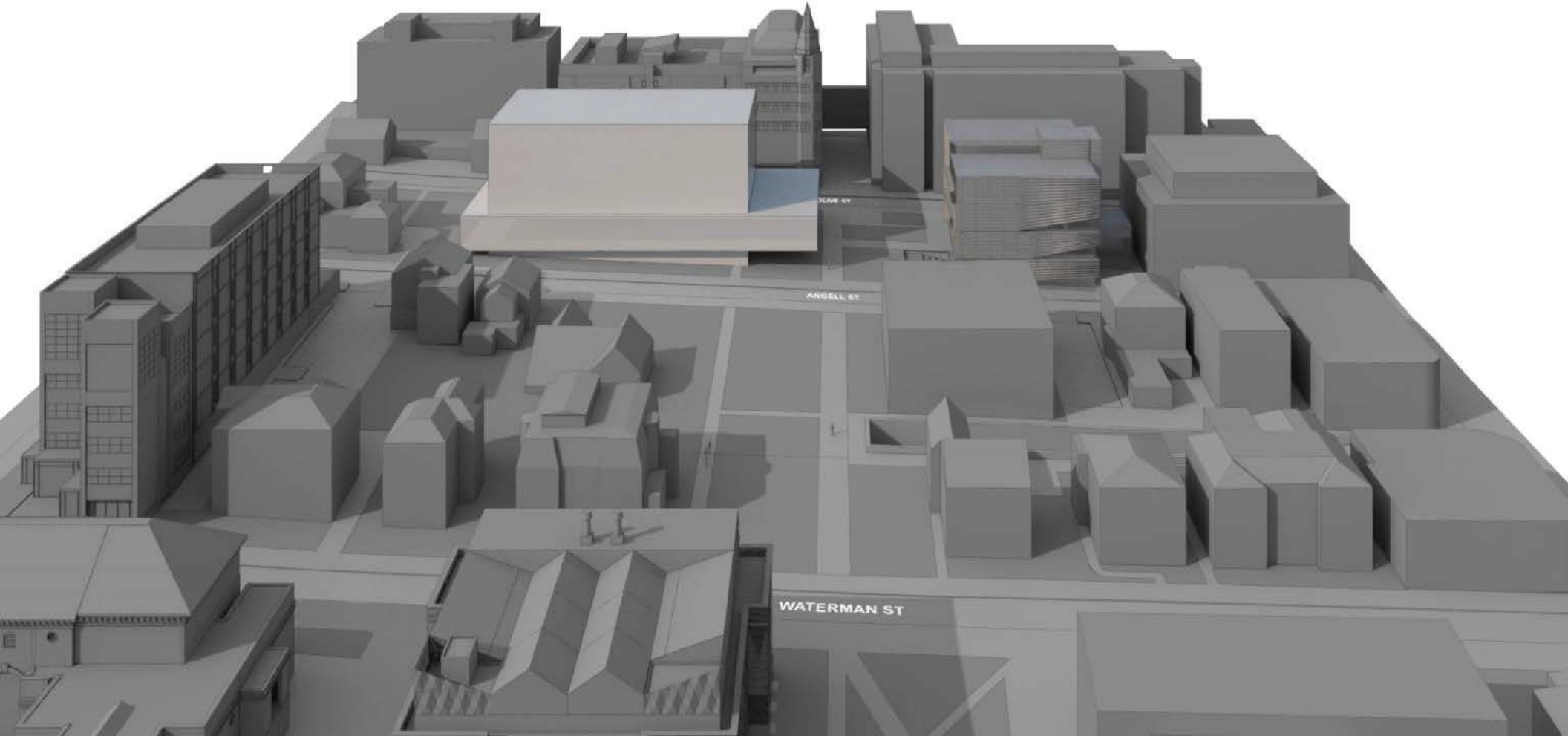
PAC & GRANOFF

SCALE & MASSING



CONCEPT PERSPECTIVE FROM THE WALK

SCALE & MASSING



AERIAL PERSPECTIVE

SCALE & MASSING

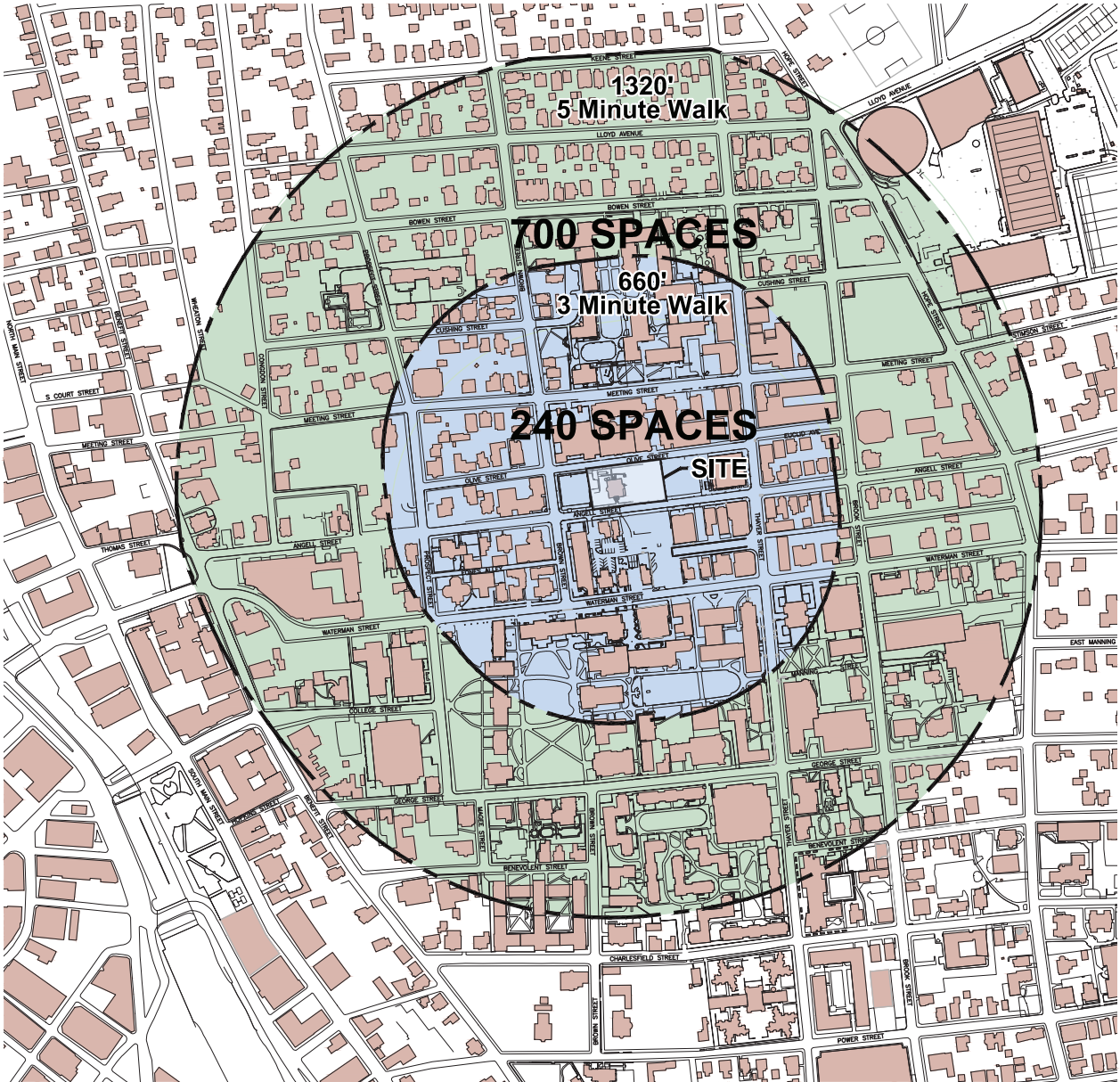


CONCEPT PERSPECTIVE FROM ANGELL STREET

TRAFFIC & PARKING

ON-STREET PARKING

3 Min walk	240 Spaces
5 Min walk	700 Spaces
Total	940 Spaces



TRAFFIC & PARKING

TRAFFIC COUNT DATA: 2011 & 2016

- 10% weighted average decrease in traffic from 2011 to 2016

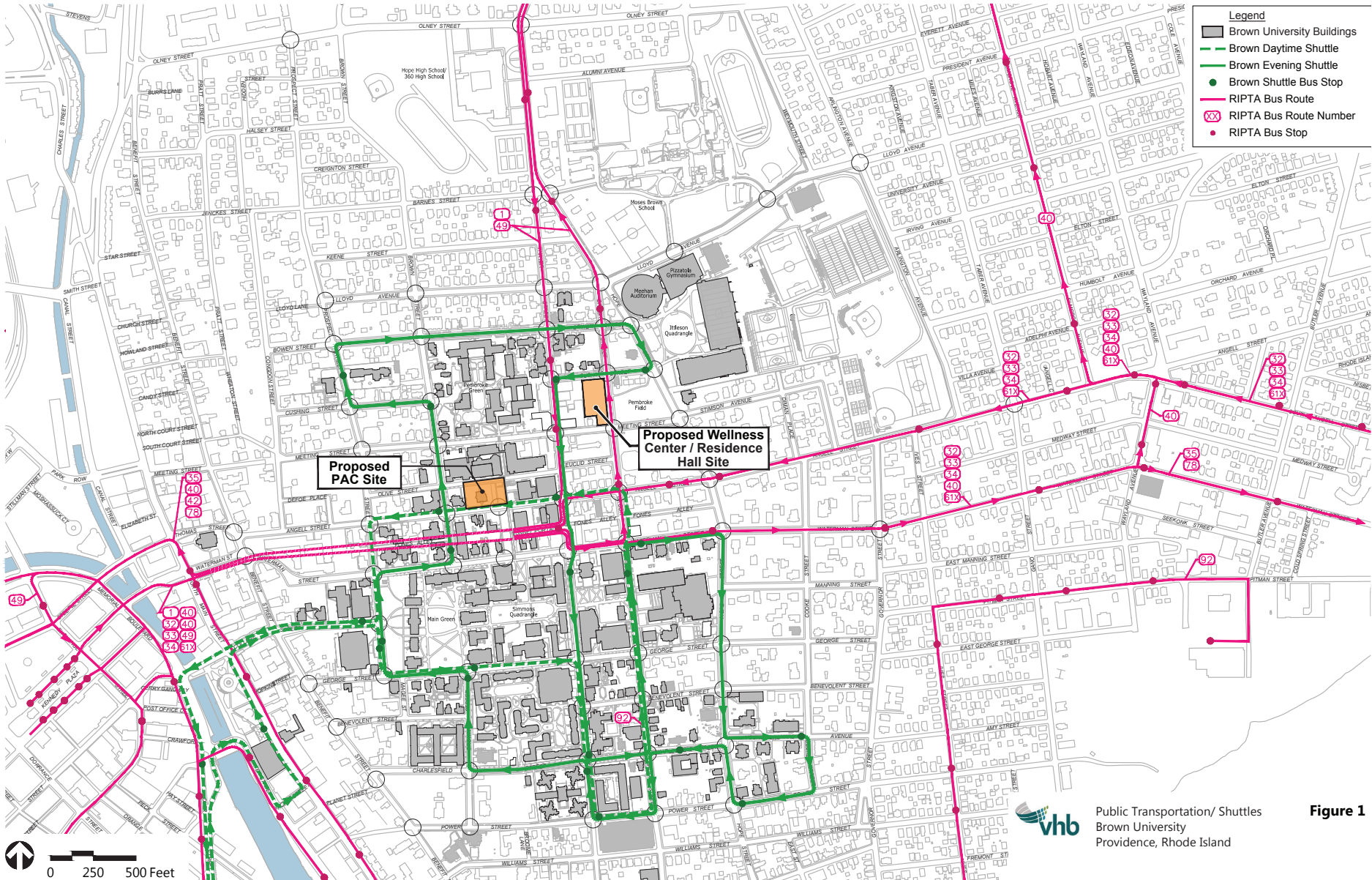
Table 2-2 Automatic Traffic Recorder (ATR) Comparison Table

Location	2011 Weekday (vpd ¹)	2016 Weekday (vpd ¹)	% Change
Waterman Street (west of Prospect Street)	5,410	4,910	-9%
Angell Street (east of Hope Street)	8,030	7,600	-5%
Prospect Street (north of Olive Street)	2,600	2,570	-1%
Brown Street (north of Olive Street)	3,510	1,820	-48%
Waterman Street (east of Governor Street)	8,860	8,860	0%
Thayer Street (south of Meeting Street)	4,530	4,130	-9%
Hope Street (between Meeting Street and Angell Street)	8,520	8,100	-5%
Brook Street (north of Euclid Avenue)	4,930	3,965	-20%
Lloyd Avenue (east of Hope Street)	4,620	3,600	-22%
Thayer Street (south of Charlesfield Street)	2,510	1,610	-36%
Brook Street (south of Charlesfield Street)	3,680	3,200	-13%
Hope Street (south of Angell Street)	8,520	n/a	n/a
Hope Street (south of Charlesfield Street)	n/a	4,880	n/a

Source: Compiled by VHB from traffic data collected in 2011 and 2016

1 Daily traffic expressed in vehicles per day (vpd)

TRANSIT



Public Transportation/ Shuttles
Brown University
Providence, Rhode Island

Figure 1

PROVIDENCE COMPREHENSIVE PLAN



PROVIDENCE TOMORROW

our city ■ our neighborhoods ■ our future

OBJECTIVE LU7: ALLOW FOR INSTITUTIONAL GROWTH WHILE PRESERVING NEIGHBORHOODS

Permit institutional growth and expansion in Institutional areas designated on Map 11.2 'Future Land Use' while limiting their encroachment and negative impacts on the neighborhoods in which they are located.



APPENDIX

B. VHB INSTITUTIONAL MASTER PLAN TRANSPORTATION REPORT UPDATE



Memorandum

To: City of Providence
Planning Department
444 Westminister Street #3a
Providence, RI 02903

Date: February 27, 2018

Project #: 72090.20

From: Robert J. Clinton, PE
Project Manager - Transportation

Re: Institutional Master Plan
Transportation Report Update
Brown University
Providence, Rhode Island

VHB has conducted an on-street parking inventory and occupancy study and evaluated the potential transportation, traffic, and parking impacts/issues associated with the proposed construction of a new Performing Arts Center and Wellness Center/Residence Hall. The proposed site locations and the public transportation/shuttles are shown in **Figure 1**. Please note that a Comprehensive Transportation Study was filed with the City of Providence in February 2017 as part of Brown's Institutional Master Plan (IMP). VHB completed that Transportation Study as well as the previous Transportation Study filed in 2013; therefore, providing comparative data and analysis over time.

Performing Arts Center

Brown University will be constructing a Performing Arts Center (PAC), an academic building which includes a 500±-seat main teaching and performance space as well as an additional 250±-seat secondary teaching and performance space. It should be noted that the new facility is being constructed to accommodate existing performances occurring in Alumnae Hall, on the Pembroke area campus, as well as, Salomon Hall and Sayles Hall located on the Main Green. Alumnae Hall currently has 433 seats, Salomon Hall has 500 seats, and Sayles Hall has 500 seats. Alumnae Hall and Sayles Hall are multi-use auditoriums with flexible set-up options while Salomon Hall has fixed seating. These facilities will be backfilled with practice spaces and student rehearsals.

Proposed Facilities:

- The PAC will not include the construction of parking facilities except for a limited number of handicap parking spaces and a small off-street loading area.
- Loading and service activity will be handled on-site with an off-street loading area that will be screened from general view to the maximum extent possible. Small, single-unit/box trucks will primarily service the facility (no large tractor-trailers are anticipated for performance events).
- The site is conveniently located on the Brown University daytime shuttle route and near the Brown University evening shuttle route and a nexus of high frequency RIPTA bus lines on Thayer Street, Brook Street, Angell Street, and Waterman Street.
- The site's location is along one of Brown's primary pedestrian promenades, "The Walk", which ensures pedestrian access and connectivity. The PAC will include generous sidewalks and pedestrian accommodations throughout the site.
- The PAC will include bicycle racks and associated amenities for cyclists to accommodate the many students, faculty, and staff traveling by bicycle.

1 Cedar Street, Suite 400
Providence, RI 02903



Event Management:

- Brown University will prepare an Event Management Plan for the PAC that will be coordinated with the City. The Plan will include additional shuttles as needed, locations where security details may be necessary to assist pedestrians, and potential on-street parking restrictions to accommodate any drop-off or pick-up activity that may occur.
- The majority of attendees to events at the PAC will be students, faculty, and staff, many of whom are anticipated to walk, bike, or take the bus (RIPTA or Brown shuttle) as they currently do for other events across campus. Approximately 75 percent of undergraduate students live on campus (with a University goal of reaching 80%) and the students who live off campus are primarily within walking distance.
- Although many events are open to the public, the PAC is anticipated to generate little to no demand for new parking, given the performances that are currently occurring in existing venues near the PAC site.
- Since the planned project does not include new parking, there is no expected substantial change in vehicular trips and traffic operations. Any event specific trips will be distributed across the study area network.

Parking Inventory and Occupancy:

VHB has performed an on-street parking occupancy study to assess the available parking for the new Performing Arts Center (PAC). The following is a summary of our preliminary findings:

During the daytime, the space will be used by students for classes, rehearsals, practice, and study. Traffic and parking is expected to remain the same as existing conditions. During events, traffic and parking conditions are also expected to be comparable to existing conditions because these events currently occur at other venues on campus.

The majority of building occupants use Brown shuttles, public transportation, bicycles, or walk to classes, rehearsals and events scheduled to occur in the new facility. Non-campus patrons attending events typically represent between 20% and 40% of the total patrons. Eighty percent (80%) of the non-campus patrons arrive by car with an average occupancy of 3 passengers per vehicle. Based on a worst-case scenario assuming all 40% of non-campus patrons arrive by car and only 2.5 passengers per vehicle, there would be a maximum parking demand of 80 parking spaces for a sold out, 500-seat event. There are 240 on-street parking spaces within 660 feet (3-minute walk) and 940 spaces within 1,320 feet (5-minute walk) of the proposed Performing Arts Center. Additional parking spaces are available immediately outside of the 5-minute walking area and are typically underutilized. It should be noted that major events typically occur after 5:00 p.m. when demand for on-street parking is lower. Parking demand for the proposed facility will be comparable to existing conditions and will continue to utilize available on-street parking. The university will have a traffic management plan in place for events expected to be full house events and/or occurring when other audience venues on campus (Sayles, Salomon, Alumnae Hall) are scheduled for simultaneous performances. The attached map (**Figure 2**) illustrates the total number of on-street parking within 3-minute and 5-minute walking areas from the PAC. The evening event-count per year is projected to be 50-60 events.



VHB performed the on-street parking occupancy study on a Thursday and Friday (2/8/18 and 2/9/18) from 5:00 p.m. to 8:00 p.m. to determine the occupancy of the on-street parking spaces within the 3-minute and 5-minute walking areas. The peak hour on Thursday occurred at 6:30 p.m. and on Friday at 5:00 p.m. with Friday being the highest demand for parking. It should be noted that there were many events scheduled on campus during these time periods (see attached). During the highest demand (Friday at 5:00 p.m.) there were 135 available on-street parking spaces within the 5-minute walking area. The observations and parking occupancy study did not include available parking spaces in off street parking lots. There are 117 off-street Brown-owned parking spaces within the 3-minute walking radius and an additional 350 off-street Brown-owned parking spaces within the 5-minute walking area for a total of 467 spaces. It should be noted that there are many available off-street spaces just outside of the 5-minute walking area that are underutilized.

Brown Parking Occupancy Study

3-Minute Walk		240 Vehicle Capacity	
Date	Time	Parked Vehicles Counted	Available Spots
Thursday (2/8/18)	5:00 p.m.	180	60
	5:45 p.m.	188	52
	6:30 p.m.	172	68
	7:15 p.m.	180	60
Friday (2/9/18)	5:00 p.m.	238	2
	6:00 p.m.	209	31
	7:00 p.m.	222	18

5-Minute Walk		700 Vehicle Capacity	
Date	Time	Parked Vehicles Counted	Available Spots
Thursday (2/8/18)	5:00 p.m.	538	162
	5:45 p.m.	469	231
	6:30 p.m.	454	246
	7:15 p.m.	498	202
Friday (2/9/18)	5:00 p.m.	567	133
	6:00 p.m.	582	118
	7:00 p.m.	479	221



Total		940 Vehicle Capacity	
Date	Time	Parked Vehicles Counted	Available Spots
Thursday (2/8/18)	5:00 p.m.	718	222
	5:45 p.m.	657	283
	6:30 p.m.	626	314
	7:15 p.m.	678	262
Friday (2/9/18)	5:00 p.m.	805	135
	6:00 p.m.	791	149
	7:00 p.m.	701	239

Summary: There are 940 on-street parking spaces within a 5-minute walking area of the proposed Performing Arts Center. The facility is projected to need a maximum of 80 parking spaces; therefore, there is adequate on-street parking (based on observations) to accommodate the projected demand.

As documented in the Comprehensive Transportation Study that was filed with the City of Providence in February 2017, capacity analyses were conducted at the Angell Street at Thayer Street and Waterman Street at Thayer Street signalized intersections. The results of the capacity analysis indicate that these signalized intersections operate at acceptable calculated level of service (LOS) C or better during the morning and evening peak periods. The study included a comparison of the vehicles per day from the 2011 traffic counts and the 2016 traffic counts which showed that there has been a 10% weighted average decrease in daily traffic within the study area. The following table (Table 2-2) is from the 2017 Comprehensive Transportation Study.



Table 2-2 Automatic Traffic Recorder (ATR) Comparison Table

Location	2011 Weekday (vpd¹)	2016 Weekday (vpd¹)	% Change
Waterman Street (west of Prospect Street)	5,410	4,910	-9%
Angell Street (east of Hope Street)	8,030	7,600	-5%
Prospect Street (north of Olive Street)	2,600	2,570	-1%
Brown Street (north of Olive Street)	3,510	1,820	-48%
Waterman Street (east of Governor Street)	8,860	8,860	0%
Thayer Street (south of Meeting Street)	4,530	4,130	-9%
Hope Street (between Meeting Street and Angell Street)	8,520	8,100	-5%
Brook Street (north of Euclid Avenue)	4,930	3,965	-20%
Lloyd Avenue (east of Hope Street)	4,620	3,600	-22%
Thayer Street (south of Charlesfield Street)	2,510	1,610	-36%
Brook Street (south of Charlesfield Street)	3,680	3,200	-13%
Hope Street (south of Angell Street)	8,520	n/a	n/a
Hope Street (south of Charlesfield Street)	n/a	4,880	n/a

Source: Compiled by VHB from traffic data collected in 2011 and 2016

1 Daily traffic expressed in vehicles per day (vpd)



Wellness Center/Residence Hall

Brown University will be constructing a Wellness Center and residence hall (approximately 128 beds) at the existing temporary public parking lot at 450 Brook Street. The new Wellness Center will consolidate/replace the existing services currently being offered at the Andrews House and the J.W. Wilson student services building.

Proposed Facilities:

- The Wellness Center will include a limited number of off-street parking spaces that includes one ambulance space, two dedicated medical staff spaces, two handicap spaces, one delivery space, and one additional visitor space. This parking provided will be comparable to the existing parking provided at Health Services at the Andrews House. The existing parking at the Andrews House will then be available for other users.
- No parking will be provided for the proposed residence hall.
- Loading and service activity will be handled on-site, off-street, and screened from general view to the maximum extent possible. Small, single-unit/box trucks will service the facility (no large tractor-trailers are anticipated).
- The Wellness Center will include ample bicycle racks and associated amenities for cyclists to accommodate the many students, faculty, and staff traveling by bicycle.

Traffic and Parking Impacts:

- The Wellness Center is expected to generate very little vehicular traffic; therefore, no changes are required to the previously performed traffic analysis under the 2017 Institutional Master Plan (IMP). In fact, the project eliminates a temporary 71-space public parking lot (450 Brook Street) which will result in a reduction in vehicle trips to the site.
- The majority of the trips are anticipated to be walking/biking or via public transportation. The site is conveniently located on the Brown University shuttle route and located on high frequency RIPTA bus lines on Thayer Street and Brook Street.
- Parking demand observations of the 450 Brook Street lot were completed on Thursday, November 2nd through Saturday, November 4th, 2017 to determine the potential impact associated with removing the temporary parking lot. The study found that:
 - On average, approximately 40 percent of vehicles in the lot during a weekday are monthly parking permit holders. According to the lot manager (Marsella Properties), the majority of monthly permit holders are Wheeler School employees or area restaurant employees.
 - The lot serves two types of uses: (1) long-term parking by employees of the Wheeler School employees or restaurant employees and (2) short-term public parking for nearby business on Thayer Street.



- The peak occupancy on Thursday occurred at noon with 79 percent of the parking spaces occupied, or 56 spaces. Of the 78 vehicles observed using the lot, 53 were long-term parkers (staying at least 3 hours). The remainder of vehicles (25 parkers) were short-term parkers (staying approximately 1-hour duration), assumed patrons of the Thayer Street businesses.
- The peak occupancy observed on Friday occurred at 1:00 PM with 83 percent of the parking spaces occupied, or 59 spaces. Of the 93 vehicles observed using the lot, 38 were long-term parkers (staying at least 3 hours). The remainder of vehicles (55 parkers) were short-term parkers (staying approximately 1-hour duration), assumed patrons of the Thayer Street businesses.

The peak occupancy observed on Saturday occurred at 6:30 PM with 48 percent of the parking spaces occupied, or 34 spaces. Of the 96 vehicles observed using the lot, 8 were long-term parkers (staying at least 3 hours). The remainder of vehicles (88 parkers) were short-term parkers (staying approximately 1-hour duration), assumed patrons of the Thayer Street businesses.

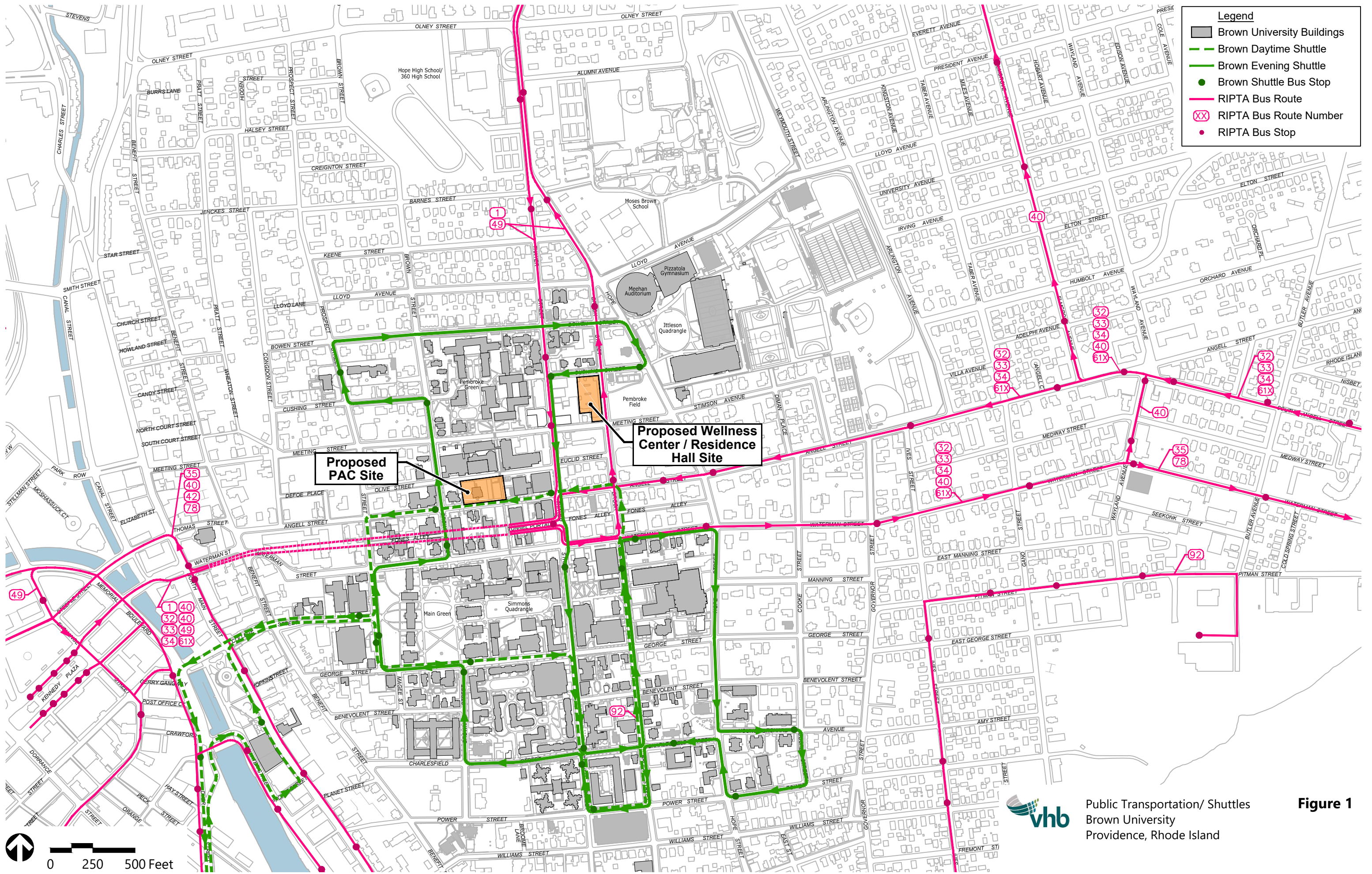
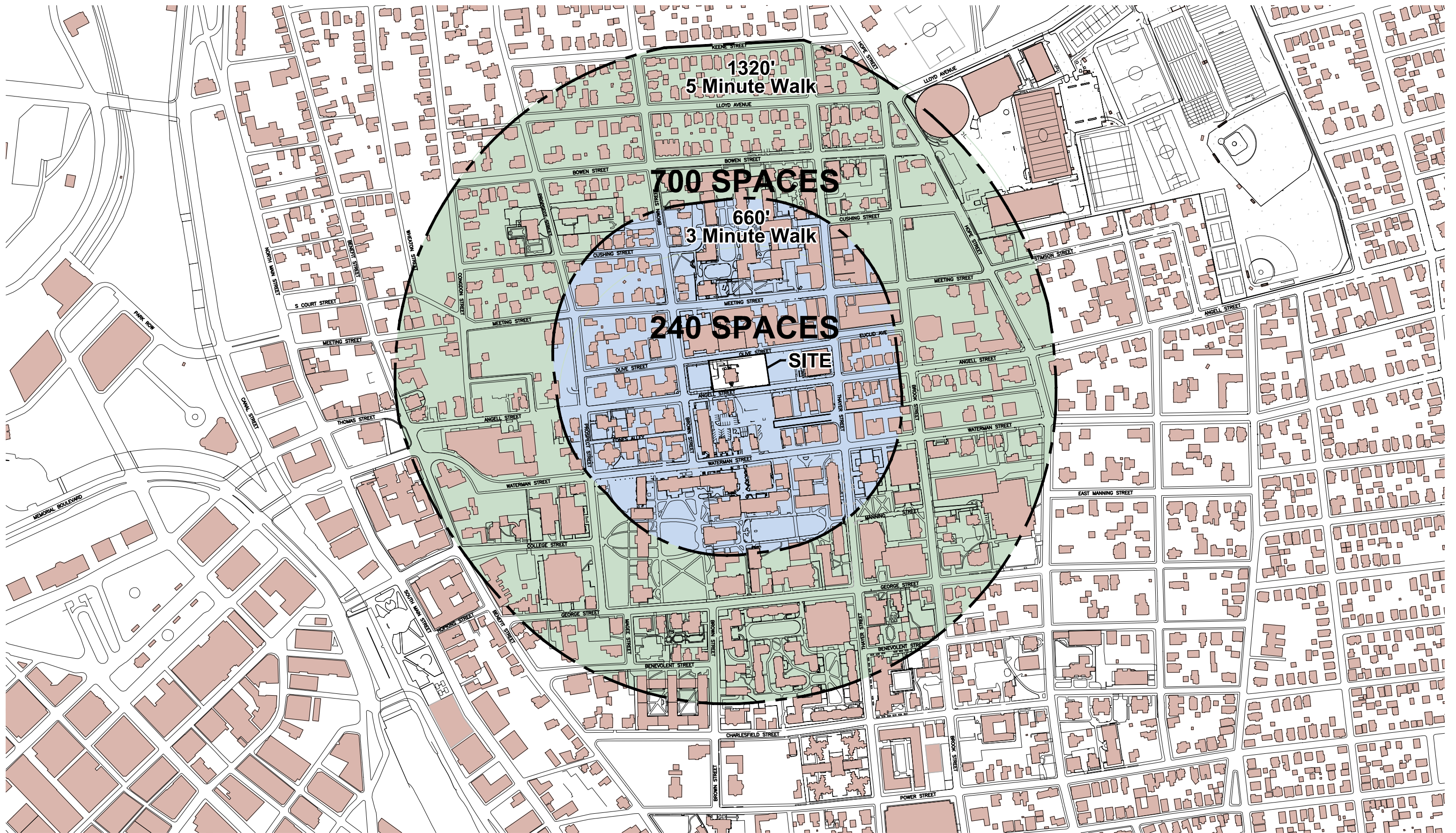


Figure 1



240 SPACES WITHIN THE 660' (3 MINUTE WALK)
700 SPACES WITHIN THE 1320' BUT OUTSIDE THE 660' (5 MINUTE WALK)
940 SPACES (TOTAL WITHIN THE 1320')



Radius Map
On-Street Parking Spots
Providence, Rhode Island

Figure 2