



2019 Town Gown Report



HARVARD
UNIVERSITY

for the
City of Cambridge

Submitted by
Harvard Planning Office



2019 Harvard University Town Gown Report

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Harvard's Cambridge campus has a population that includes over 26,000 students who are enrolled in undergraduate, graduate and Extension School programs. The University also has over 12,000 Cambridge-based faculty, staff and post-doctoral scholars, making it the largest employer in the City of Cambridge.

An unusually warm autumn afternoon sends readers into Harvard Yard lounging on the common space chairs in front of University Hall at Harvard University.
Photo: Stephanie Mitchell/Harvard University

FACULTY AND STAFF ¹

	2015	2016	2017	2018	2019	2024
Cambridge Based Staff						
Head Count	12,343	12,695	12,781	12,999	12,991	12,600 - 13,700
FTEs	10,160	10,434	10,404	10,698	10,636	10,300 - 11,700
Postdoctoral Scholars ²						
	1,063	1,193	1,093	1,176	1,162	1,000 - 1,200
Cambridge Based Faculty						
Head Count	2,072	2,102	2,100	2,123	2,117	2,100 - 2,200
FTEs	1,836	1,870	1,884	1,898	1,929	1,800 - 2,100
Cambridge Residents Employed at Cambridge Facilities						
	3,982	4,146	4,190	4,243	4,104	
Cambridge Residents Employed at Boston Facilities						
	754	806	793	791	707	

STUDENTS ³

	2015	2016	2017	2018	2019	2024
Total Undergraduate Degree Students						
	7,237	7,333	7,447	7,544	7,587	7,400 - 7,600
Day	6,636	6,634	6,645	6,699	6,722	
Evening	[601]	[699]	[802]	[845]	[865]	
Full Time	6,874	6,893	6,391	6,950	6,982	
	[244]	[259]	[286]	[251]	[260]	
Part Time	363	440	516	594	605	
	[357]	[440]	[516]	[594]	[605]	
Total Graduate Degree Students						
	10,254	10,487	10,948	11,444	11,824	10,700 - 12,500
Day	8,967	9,015	9,231	9,372	9,480	
Evening	[1,287]	[1,472]	[1,717]	[2,072]	[2,344]	
Full Time	9,131	9,200	9,470	9,816	9,915	
	[262]	[290]	[366]	[569]	[557]	
Part Time	1,123	1,287	1,478	1,628	1,909	
	[1,025]	[1,182]	[1,351]	[1,503]	[1,787]	
Total Non-degree Students						
	7,336	7,727	7,417	7,621	8,065	7,400 - 8,400
Day	362	349	351	363	396	
Evening	[6,974]	[7,378]	[7,066]	[7,258]	[7,669]	
Total Number of Students in Cambridge-Based Schools						
	24,827	25,547	25,821	26,609	27,476	25,500 - 28,500

1 Employment figures are as of May 31, 2019 and June 30, 2019 and include teaching assistants, graduate students, postdoctoral scholars, interns and other staff.

2 Postdoctoral scholars are included in staff totals reported in Cambridge Based Staff.

3 Counts as of October 15, 2018 for 2019.



Harvard’s academic programs and support services occupy over 16 million square feet of space in nearly 400 buildings located across the Cambridge campus. These facilities include classroom, laboratory, and library buildings that support core academic programs; dormitories and other residential buildings that house students and affiliates; and key infrastructure facilities which support the campus’ day-to-day operations.

FACILITIES AND LAND OWNED ¹

	2015	2016	2017	2018	2019	2024
Acres (Tax Exempt)	192.7	191.8	191.8	191.8	191.8	191.8
Acres (Taxable)	22.4	22.1	22.1	22.4	22.4	22.4
Number of Buildings	392	391	391	392	393	392
Dormitories						
Number of Buildings	75	75	75	75	75	75
Number of Beds	8,238	7,954	8,099	8,106	8,107	8,000 - 8,200
Size of Buildings (SF)	16.0M	16.0M	16.0M	16.1M	16.1M	16.1 - 16.3M
Assembly/Museum	1,084,879	1,026,278	1,026,278	1,026,278	1,026,278	
Athletic	210,780	210,780	210,780	210,780	210,780	
Classroom	877,524	877,524	877,524	958,214	958,214	
Commercial	185,453	185,453	185,453	185,453	185,453	
Healthcare	77,155	77,155	77,155	77,155	77,155	
Laboratory	2,587,479	2,587,479	2,587,479	2,587,479	2,587,479	
Library	1,097,644	1,097,644	1,097,644	1,097,644	1,097,644	
Office	3,087,995	3,164,256	3,164,256	3,164,256	3,164,256	
Residential	5,772,934	5,908,866	5,908,866	5,913,443	5,914,261	
Support	1,071,830	915,070	915,070	915,070	914,550	

PROPERTY TRANSFERS

Since the filing of the previous Town Gown Report, Harvard has not acquired or sold any properties, and there are presently no planned dispositions or acquisitions.

PARKING FACILITIES

Harvard University owns and maintains 4,585 non-commercial parking spaces in the City of Cambridge. These spaces constitute the University’s parking inventory and are used to support University operations and accommodate faculty, staff, student, and visitor parking. The inventory is updated and approved each December as part of Harvard’s annual PTDM Progress Report.

¹ All space data as of June 30, 2019.



FACILITIES





Harvard Square


River

REAL ESTATE OWNED AND LEASED IN CAMBRIDGE

Notes:

1. The following buildings owned or leased by Harvard are located outside the map coverage area:
 - 100 Edwin Land Boulevard
 - 33 Elmwood Avenue
 - 155 Fawcett Street
 - 625 Massachusetts Avenue
 - 784 Memorial Drive
2. Includes real estate that is vacant or leased to third party.
3. Buildings may be leased by Harvard in whole or in part

-  Harvard Owned - Institutional
-  Harvard Owned - Residential
-  Harvard Owned - Other ²
-  Leased - Institutional ³

- Land Parcels**
-  Harvard Owned

LEASED SPACE ¹

Real Estate Leased by Harvard	Sq. Feet	Use
One Bow Street	23,490	Office
One Brattle Square	75,576	Office
One Story Street	12,251	Classroom
10 Ware Street	1,738	Office
100 Edwin H. Land Blvd.	3,365	Office/greenhouse
104 Mt. Auburn Street	24,638	Office
114 Mt. Auburn Street	65,107	Office /Healthcare
125 Mt. Auburn Street	36,564	Office
1100 Massachusetts Avenue	17,989	Office
1280 Massachusetts Avenue	18,285	Office
1408-1414 Massachusetts Avenue	50,000	Office
1430 Massachusetts Avenue	11,265	Office
155 Fawcett Street	37,500	Warehouse
20 University Road	30,665	Office
25 Mt. Auburn Street	7,732	Office
44R Brattle Street	8,417	Office
50 Church Street	31,975	Office
625 Massachusetts Avenue	35,295	Office
784 Memorial Drive	61,000	Office
TOTAL	552,852	

¹ Data as of Spring 2019.

HARVARD RETAIL TENANTS

Most of Harvard’s properties located in the commercial areas of Harvard Square (for example those across Massachusetts Avenue from Harvard Yard) contain ground floor retail uses. Harvard shares the community’s interest in maintaining a unique retail environment in Harvard Square. When retail spaces become available, Harvard seeks tenants that will have active ground floor uses, offer goods or services that complement the retail mix in Harvard Square, and are compatible with other University uses in the building. Harvard’s ongoing commitment to maintaining a vibrant Harvard Square is illustrated by its leases with more than 30 businesses in the square, including long-time independent retailers such as the Grolier Poetry Book Shop, Leavitt & Peirce, and Harvard Book Store.

Harvard’s recently renovated Richard A. and Susan F. Smith Campus Center features a variety of welcoming, sustainable restaurants. These vendors include Pavement Coffeehouse, Bon Me, Saloniki, WholeHeart Provisions, Blackbird Donuts and Oggi Gourmet. All are experienced and locally-based food operators that complement each other and work well in the context of Harvard Square.

The ground floor retail space at the Harvard Law School’s building at 1607-1611 Massachusetts Avenue will soon be home to the Stoked Pizza Co. The fit-out of the new retail space will begin in winter 2019-2020 and the restaurant is expected to open in 2020.

HARVARD STREETS

Harvard University owns several streets and private ways on its Cambridge campus (see map below). These streets are all generally in good condition. Harvard has made ongoing improvements to streets and sidewalks as part of multiple construction projects that have been undertaken on adjoining properties in recent years.

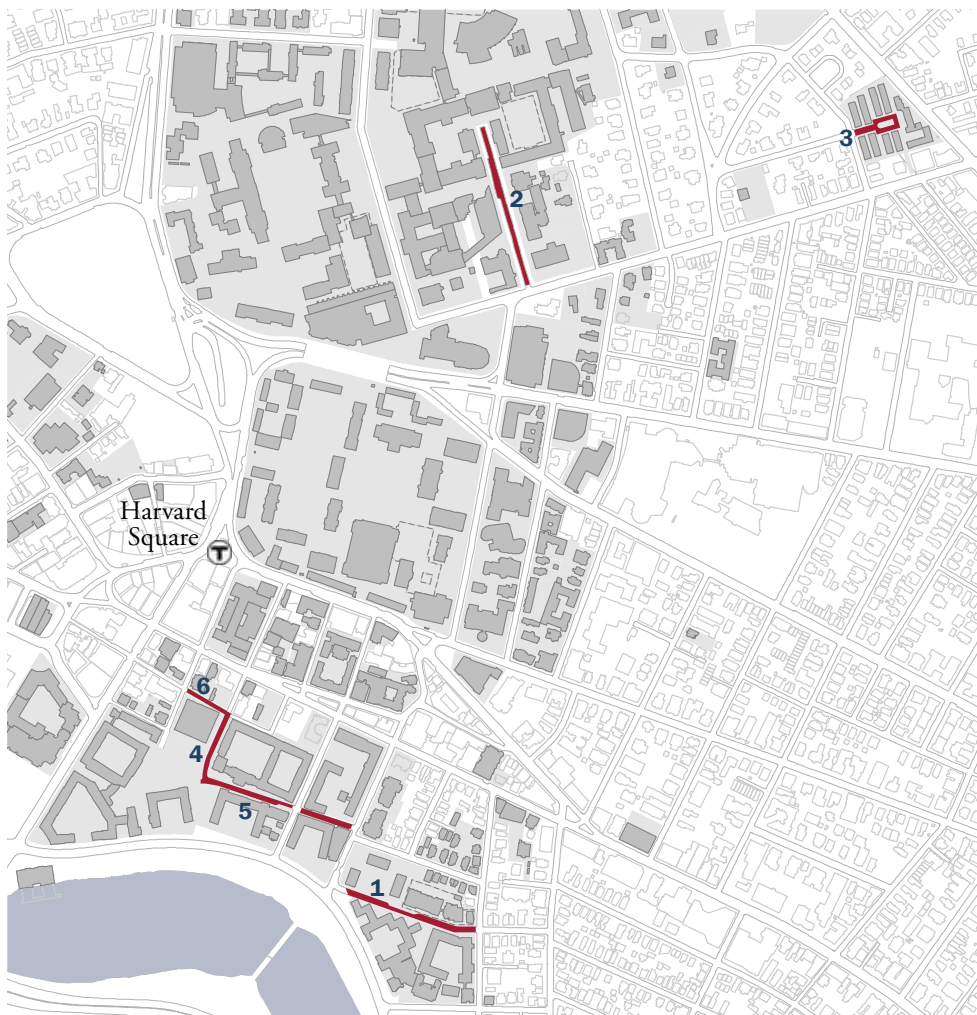
Most recently, Mill Street and portions of Holyoke Street have been upgraded through the installation of new sidewalks, repaving and new or rebuilt curbing as part of recent House renewal projects in the vicinity.

Harvard Campus Services performs maintenance, repairs and snow removal on Harvard-owned streets, or subcontracts out this work as necessary.

Temporary street closures (for maintenance or other activities including student move-in/out or commencement events) are coordinated with Cambridge DPW through the Harvard Parking Office.

As part of Harvard construction projects, adjacent streets and sidewalks are often improved. Harvard also contributes to the ongoing maintenance and improvement of both private and public streets and sidewalks adjacent to Harvard properties across the Cambridge campus, and closely coordinates this work with Cambridge DPW. When feasible, Harvard provides the city’s contractors with laydown areas to facilitate public realm construction projects.

During winter snow events, Harvard makes off-street parking available to residents and has also provided space for the City to unload plowed snow.



1. Cowperthwaite Street
2. Divinity Avenue
3. Holden Green
4. Holyoke Street
5. Mill Street
6. Winthrop Street
7. Shaler Lane*

* Shaler Lane is located outside of the map coverage area.

HOUSING

Ranging from dormitories to fully furnished apartments, the University's housing portfolio contains over 13,000 beds in 8,000 units. In fact, half of the buildings on Harvard's Cambridge campus are devoted to housing, comprising approximately 37% of all campus space. Harvard is continuing the system wide renewal of its undergraduate houses and making ongoing improvements across the affiliate housing portfolio.

Undergraduate Student Housing

Harvard has been a residential campus since its founding nearly four centuries ago and continues as such today. The University promotes a living/learning environment by offering on-campus housing for undergraduate and graduate students.

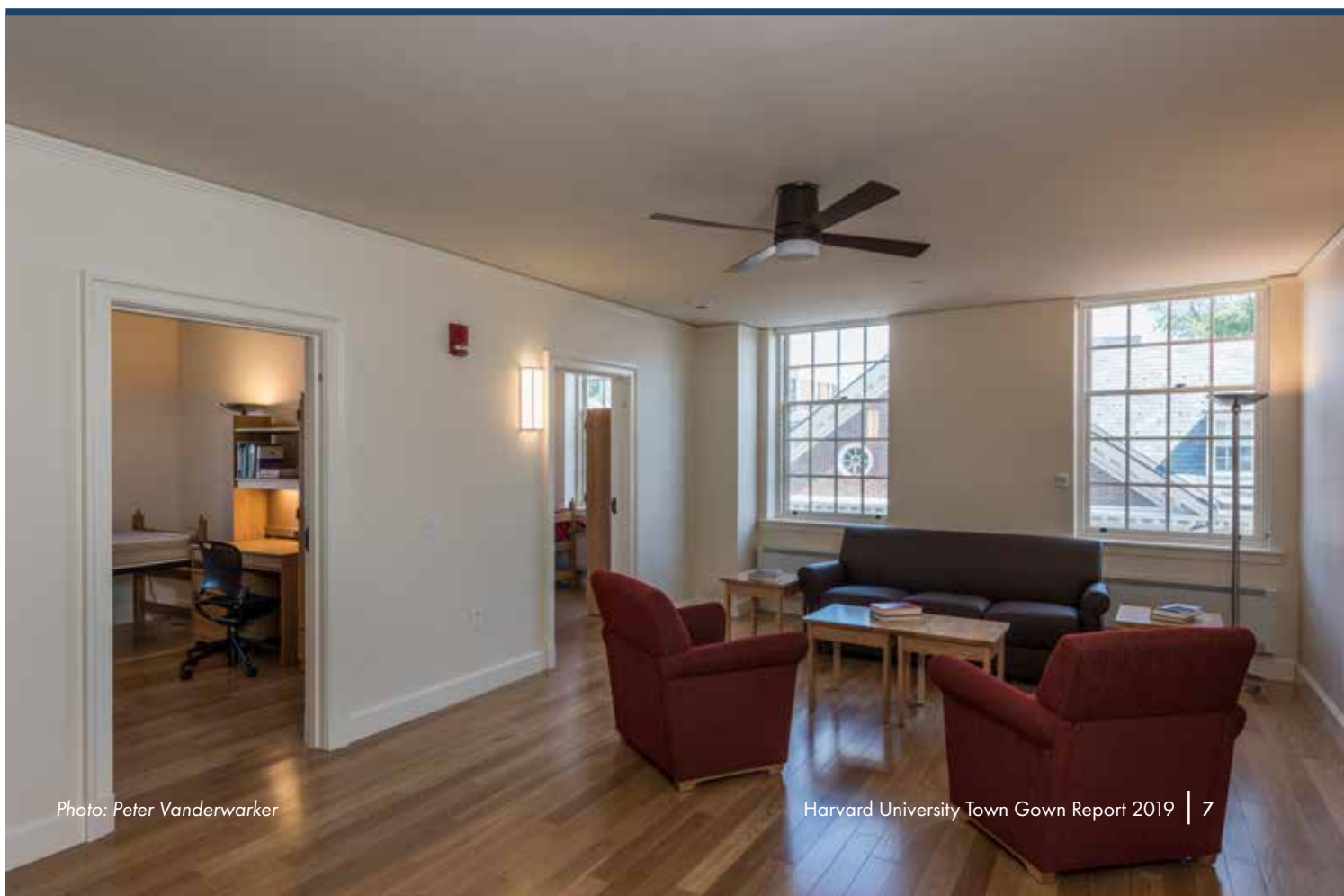
The College houses more than 98% of its undergraduate population on campus, promoting a residential campus as part of its core educational mission. The House system, which fosters small academic and social community within the larger context of the College, represents one of the most

distinctive and important features of a Harvard College education. In the late 1920s, President A. Lawrence Lowell envisioned that it would serve students of different backgrounds, resulting in learning that extended beyond the classroom.

Harvard has a strong culture of undergraduate housing, with guaranteed housing for all undergraduates and an expectation that students will live on campus. The House system is central to the College, and the University is continuing to modernize and improve undergraduate housing through the House Renewal program.

Graduate Student and Affiliate Housing

While undergraduates are expected to live on campus, graduate students and other affiliates have a choice to live either on- or off-campus and they often have personal, professional, lifestyle and other reasons for requiring more flexibility in their housing options. Harvard manages thousands of graduate student and affiliate beds, both in dormitories and apartments, and has the capacity to house



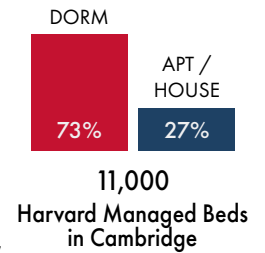
approximately 50% of its graduate students. This expansive housing portfolio is usually at or near full occupancy at the beginning of each academic year. The University remains committed to maintaining and expanding its residential portfolio investments. The provision of graduate student and affiliate housing not only supports the University's academic mission, but also relieves some pressure on the local housing market. HUH Faculty Real Estate Services supports the University's efforts to recruit prospective faculty and administrators by helping candidates find the community and home that meets their housing needs at a price they can afford.

Housing Demand/Supply and Affordability

Issues of housing demand and affordability are not confined to Harvard Square or the City of Cambridge and must be viewed within a regional context. The Boston area's numerous colleges and universities attract students but also draw businesses that want to locate near cutting edge research and

a pool of highly skilled local graduates ready for hire. In this context, Harvard sees healthy demand for its on campus graduate and affiliate housing. The University estimates that approximately 1,900 students from across the University, mainly doctoral candidates or graduate students involved in research initiatives around the world, live outside of Massachusetts, and therefore do not contribute to the demand for campus housing or impact the local housing market.

Since 2005, Harvard's housing initiatives have added nearly 1,000 beds in Cambridge and Boston to increase housing for graduate students. In recent years, Harvard has also made changes to how certain units are leased in order to encourage apartment sharing, resulting in a more efficient utilization of its housing inventory. The University continues to re-invest in



STUDENT AND AFFILIATE HOUSING	2015	2016	2017	2018	2019	2024
Number of Undergraduate Students Residing in Cambridge						
In dormitories	6,164	6,368	6,023	6,020	5,969	6,000 - 6,400
With cars garaged in Cambridge	10	5	6	3	8	
In Harvard affiliate housing ¹	386	304	650	648	655	400 - 700
In non-affiliate housing	92	68	99	115	188	
Number of Graduate Students Residing in Cambridge						
In dormitories	1,162	1,390	1,338	1,348	1,337	1,200 - 1,400
With cars garaged in Cambridge	152	139	99	94	84	
In Harvard affiliate housing	1,437	1,367	1,355	1,305	1,221	1,400 - 1,600
In non-affiliate housing	3,767	3,326	3,290	3,225	3,206	
Affiliate Housing - Tax Exempt						
Number of Units:	1,037	1,037	1,036	1,035	1,036	
Number of Buildings:	12	12	12	12	12	
Affiliate Housing - Taxable						
Number of Units:	892	892	889	889	889	
Number of Buildings:	55	55	54	54	54	

¹ The number of undergraduate students residing in Harvard affiliate housing includes 10-20 DeWolfe Street and students temporarily residing in "swing housing" to accommodate the House Renewal program.

existing graduate student housing stock, improving building systems, life safety, interior finishes and enhancing programmatic amenities. The multi-year, phased renovation of Soldiers Field Park in Allston is a current example of the ongoing effort to ensure that University-owned housing continues to be an attractive alternative to the private market for University affiliates. Harvard remains open to new opportunities and partnerships with private developers to expand housing offerings on and close to campus.

The rents for housing units in the Harvard University Housing (HUH) portfolio are set at prevailing market rates, in keeping with the University’s affiliated housing rent policy. This policy was established in 1983, after an internal faculty committee review that determined market rate pricing was the most equitable method of allocating and pricing rental units. The review also noted that establishing below-market rents for HUH would be a form of financial aid, which should be determined by each individual school, not via the HUH rent-setting process. Therefore, the cost of housing is considered when financial aid is determined by each academic unit. The HUH housing portfolio has efficient unit layouts so as to provide small, but comfortable living spaces, at a price point that is amenable to graduate student budgets.

Commitment to Affordable Housing Initiatives

Harvard’s commitment to create housing opportunities extends beyond the campus into the community. Together, the City of Cambridge and Harvard have enjoyed a long and successful record of working together to create more than 1,600 units of affordable housing in the City, the locations of which span every neighborhood. Nearly 50 units of Harvard’s housing units are occupied by non-Harvard affiliates that are former rent control tenants, who benefit from rent levels consistent with the rent control program.

In 2019 Harvard recommitted \$20 million to the Harvard Local Housing Collaborative, an initiative aimed at increasing the amount of affordable housing in Greater Boston. Harvard has partnered with three with local nonprofit community-development lenders to create and preserve affordable housing, build and revitalize healthy communities, and create economic opportunities for low- and middle-income residents throughout the region. The financing provided through this initiative is flexible, low-cost, and available at the critical, early-stages of development – such as during land acquisition and predevelopment, making it a particularly attractive – and oftentimes crucial element for developers.

Harvard Local Housing Collaborative



Harvard launched its program, formerly known as 20/20/2000, in 2000, initially committing \$20 million in low-interest, flexible loans. Since then, the fund has revolved more than two times, leveraging more than \$1.3 billion in housing development and creating more than 7,000 units of affordable housing regionally, and including more than 1,600 affordable units in Cambridge. The program's impact is felt throughout the region, and Harvard's recommitment ensures that funding that will continue for at least the next two decades.





HOUSE RENEWAL UPDATE

Harvard continues its multi-year effort to renovate and rehabilitate the undergraduate Houses as part of a broader system-wide renewal. The intent of the House Renewal program is to preserve the historic character of these buildings and to sustain the original vision of the Houses, while transforming them to meet the needs of today's students. Planning for this program began over 10 years ago.

The House Renewal program is being undertaken in phases. The initial focus is on the neo-Georgian River Houses set along the Charles River, most of which were constructed in the 1920s and 30s and have had only modest upgrades over the ensuing years. The Houses were also built at a time when building standards and the needs of the student body were very different.

Throughout the House Renewal process, Harvard is striving to maintain the same or greater bed capacity within the Houses while accommodating the many building upgrades that require the allocation of additional space. The long-term vision for undergraduate housing at Harvard remains centered on the First Year dorms in Harvard Yard and the Harvard Houses along the Charles River and the Radcliffe Quadrangle.

To facilitate renewal activities, Harvard is continuing to use existing University-owned buildings in and around Harvard Square to provide temporary accommodations to students displaced by House Renewal construction. The former Inn at Harvard (1201 Massachusetts Avenue), continues to serve as the central hub of the “swing house” and accommodates the dining, meeting, social, academic and a portion of the residential spaces for the House undergoing renewal. This is supplemented by several Harvard-owned residential buildings in the area: 8 Plympton Street and 1306 Massachusetts Avenue, which are currently in use for the Adams House Renewal, as well as 20- 20A and 22- 24 Prescott Street and 65 Mt. Auburn Street, which are available to provide additional residential space for displaced students as needed. The Faculty Dean's temporary accommodations are located at 8 Prescott Street. Together these properties meet the program needs of all the Houses, even those with the largest student populations. During academic years when these buildings are not needed for swing use, they are used as residences for other Harvard affiliates. Upon completion of the House Renewal program, the five Harvard-owned residential buildings will continue their long-standing role in providing housing to Harvard's graduate students and other affiliates. The long-term use of 1201 Massachusetts Avenue has not yet been determined, but it is anticipated to remain in institutional use.

Five renewal projects are fully completed – Stone Hall, McKinlock Hall, Dunster House, Winthrop House, and Lowell House. Renovation work at Adams House, the sixth House undergoing renewal, began at Claverly Hall in June 2019 and at Aphorpe House in late fall 2019. The subsequent phases taking place at Randolph Hall, Russell Hall, Library-Commons, and Westmorly Court will follow. The pace and sequence of House Renewal is subject to periodic review.



Harvard's planning and development activities on the Cambridge campus are informed by several key considerations including programmatic drivers, a distinct physical planning context and key campus planning principles.



PROGRAMMATIC DRIVERS

Several key programmatic drivers and objectives influence how the University will continue to meet its diverse facility and space needs over the coming years.

Fostering Inclusion and Belonging

Harvard's core values of diversity, inclusion, and belonging inform all aspects of University life, including campus planning. The planning process seeks to involve a broad range of campus constituencies with diverse backgrounds. Methods of engagement are tailored to be accessible to a spectrum of individual abilities, and provide multiple opportunities for input and feedback.

Advancing Research and Scholarship

As a modern research university in the 21st century, Harvard must continually strengthen its core academic and research mission through initiatives that support cross-disciplinary research, respond to changing pedagogies and technological innovations, and foster collaborative teaching and learning.

Investing in Science and Engineering

Recognizing the increasingly integrated and collaborative nature of scientific research, Harvard continues to support a wide array of interdisciplinary initiatives. Harvard has re-affirmed its academic commitment to engineering and technology through its development of a major new teaching and research facility for the John A. Paulson School of Engineering and Applied Sciences which is planned to move to Allston in 2020. Harvard's ongoing investment in capital projects supporting the sciences includes both new construction and the renovation of existing facilities to respond to new initiatives in scientific research.

Supporting the Arts and Humanities

Harvard remains committed to a strong liberal arts education which goes beyond delivering a

body of knowledge but seeks to cultivate a deeper intellectual transformation of each student. This commitment is demonstrated in new academic programs such as Theatre, Dance and Media which supports art-making and research across a range of performance and media-based disciplines, and in the reinvention of facilities such as the Sackler Building which foster cross-disciplinary study in art, architectural history, design, and art-making.

Housing Harvard's Affiliates

Harvard was founded as a residential campus and continues to be a living/learning academic environment today. Fundamental to the undergraduate experience is House life, which has been strengthened by the ongoing commitment to revitalizing the Harvard Houses. Harvard also remains committed to maintaining and improving its affiliate housing by addressing deferred maintenance, enhancing life safety and upgrading living units.

Enhancing the Campus Experience

Harvard recognizes that the experience of campus life is greatly enhanced by its common spaces, landscape, and cultural amenities. Through Harvard's Common Spaces program, which was established in 2008, the University has created new campus spaces that bring the diverse Harvard community together for interaction, collaboration, and the sharing of ideas. The completion of the Richard A. and Susan F. Smith Campus Center marked a major achievement in the Harvard Common Spaces initiative. Harvard will continue to identify additional opportunities to enhance the quality of campus life through future planning and development projects.

CAMPUS PLANNING PRINCIPLES

The University implements its plans through development that strives to meet the following planning principles in a balanced way.

CREATE A SUSTAINABLE CAMPUS

Advance plans and projects that reduce energy use, encourage high-performance and healthier buildings, and adapt to the challenges of future climate change.

RESPECT COMMUNITY CONTEXT

Ensure that new campus development is sensitive to the surrounding built environment, recognizes neighborhood context, and contributes to the broader public good.

SUPPORT ONGOING FACILITY RENEWAL

Invest in renewal activities that address deferred maintenance, upgrade building systems and critical campus infrastructure, and undertake improvements for life-safety and accessibility that will extend the life expectancy and increase the utility of its facilities.

ENHANCE CAMPUS CONNECTIVITY

Enhance and improve connectivity through projects that incorporate a multi-modal approach to connecting the people, places and activities on the campus.

PRESERVE HARVARD'S HISTORIC CHARACTER

Preserve the character-defining fabric of the historic campus while also accommodating and celebrating forward-thinking contemporary architecture for the 21st century.

MAXIMIZE THE UTILIZATION OF EXISTING FACILITIES

Maximize the utilization of its existing facilities through renovation, adaptation and re-programming as an alternative to new construction where feasible.

DEMONSTRATE A COMMITMENT TO DESIGN EXCELLENCE

Promote a built environment that addresses the University's needs and larger purpose through design that is of its time and place and is informed by current societal needs, technology, sustainability, and design dialogues.

MAINTAIN AND ENHANCE CAMPUS OPEN SPACE

Preserve and enhance campus open spaces and landscape elements, improving pedestrian orientation, and identifying key opportunities to continue to green the campus.

PROMOTE BUILT FORM IN THE CONTEXT OF EXISTING CAMPUS CHARACTER

Promote built form which recognizes the relationship between buildings and open space, acknowledges the distinct physical character of different parts of the campus, and strengthens landscape and pedestrian networks.

PHYSICAL CONTEXT

Harvard’s Cambridge campus has an iconic physical identity that encompasses Harvard Square, Harvard Yard, and the Charles River edge to create an experience that is particular to the University. Walls and gates around Harvard Yard distinguish the historic core campus from its busy urban context, and a fine-grained scale of streets and blocks reflects historic settlement patterns. The mix of wood frame, multi-story brick, and modern high-rise buildings gives the Cambridge campus a unique character with varied materials and scales that developed incrementally over four centuries.

To support the University’s academic mission, Harvard seeks to preserve its strong sense of place and provide a welcoming environment through

campus-level planning strategies that respect the existing physical context while acknowledging the need for flexibility and adaptability to accommodate future change.

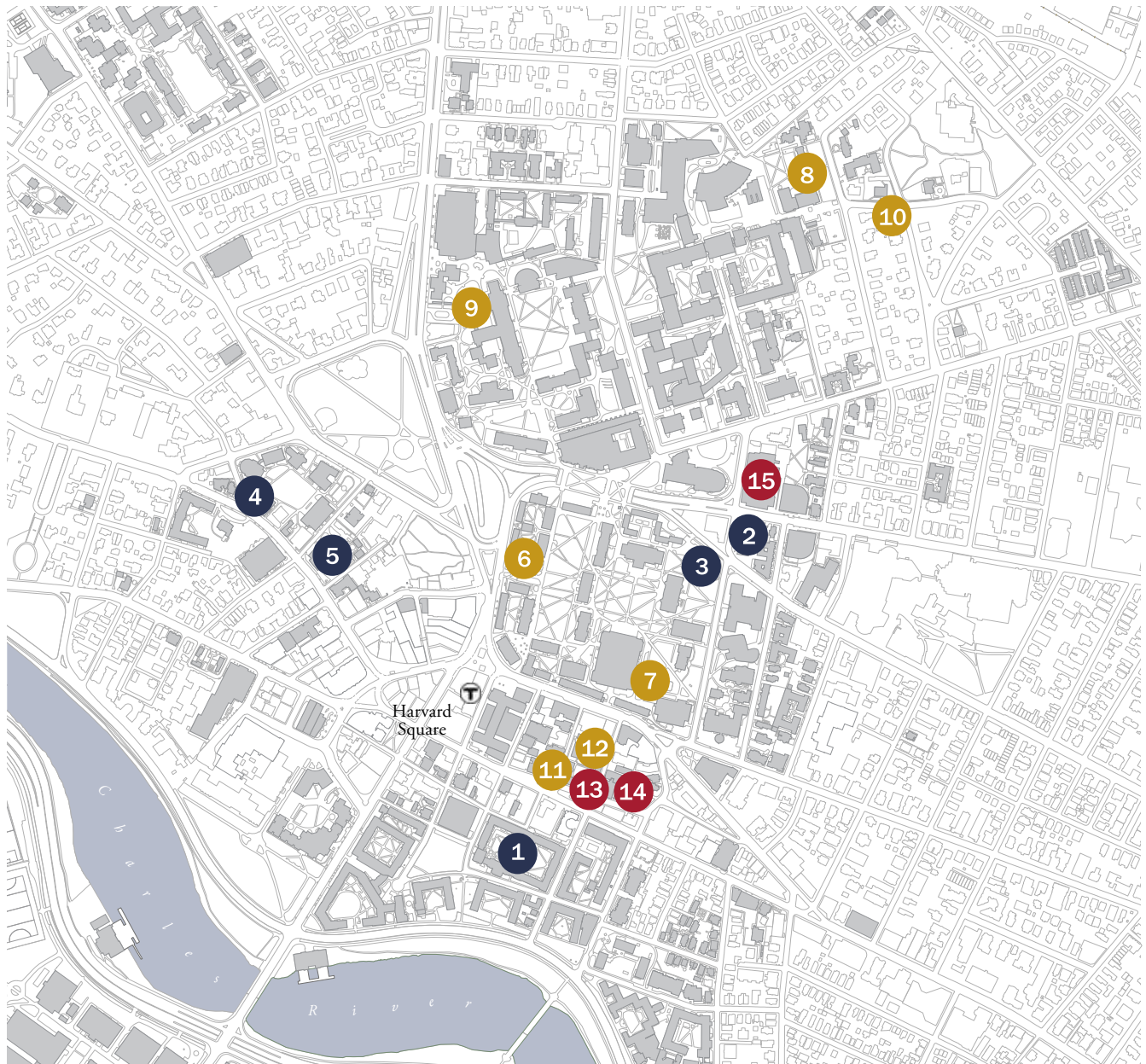
These strategies include the coordination of campus systems and networks (such as, connectivity, open space, infrastructure and sustainability); the balance of renewal and deferred maintenance priorities (facility condition assessments); and the careful study of existing conditions (urban design guidelines and site-specific planning principles) which ensure that future development continues to produce a coherent, attractive, sustainable and well-maintained campus.



Photo: Peter Vanderwarker

HARVARD CAPITAL PROJECTS

Harvard's programmatic drivers, physical context, and planning principles help shape the University's capital projects outlined on the following pages.



● Recently Completed

● Currently in Construction

● Projects in Planning

- 1. Lowell House
- 2. Sackler Building
- 3. Robinson Hall
- 4. Schlesinger Library
- 5. Gutman Conference Center

- 6. Harvard Hall
- 7. Houghton Library
- 8. Swartz Hall
- 9. Lewis International Law Center
- 10. 109 Irving Street
- 11. Claverly Hall
- 12. Apthorp House

- 13. Randolph Hall
- 14. Russell House/ Westmorly Court
- 15. Gund Hall



Recently Completed

LOWELL HOUSE – HOUSE RENEWAL

Renovation

Architect

KieranTimberlake

Total Square Feet

220,000 GSF (renovation)

Programmatic Driver

Renew undergraduate House life

Sustainability Features

Targeting LEED Gold

The newly renovated Lowell House blends its historic character and respect for tradition with a commitment to meeting the needs of a new generation of students. The completed project features new common spaces, reconfigured residential areas, and the transformation of two basement levels from utility and storage spaces into areas for student use, all with a focus on sustainability and accessibility. Lowell's buildings and courtyards received extensive electrical, mechanical, and structural upgrades, including the restoration of the House's 56 chimneys and energy-efficient upgrades to 1,100 windows.

Inside the House, the project provides reconfigured living space for undergraduates, with accessible bathrooms and updated common areas. Four new elevators were installed across the House, including one leading to the Tower Room just below Lowell's iconic Russian Bells, which ring out every Sunday. Lowell House's long-standing commitment to fostering creativity guided the design of seven music practice rooms, including space for opera and bell-ringing practice, an art studio, and a new makerspace featuring a 3D printer, computer stations, hand tools, and building supplies.



The landscape of the central courtyard was restored to something more closely resembling its original appearance. The existing configuration of pathways was largely retained, however they were modified slightly to reflect new building circulation patterns and re-graded for accessibility and to restore proper site drainage.



The wood-paneled library on the second floor, one of Lowell House's most elegant spaces, has been restored to its previous luster.



In the first-floor Junior Common Room, where students regularly gather with staff and faculty, the original French scenic wallpaper, *Views of the American War of Independence*, had been damaged beyond repair. The wallpaper was recreated using the centuries-old technique of wood-block printing.



Lowell House Dining Hall



Screening Room



Private Dining Room

LOWELL HOUSE – HOUSE RENEWAL

The Lowell House dining hall, also known as Lee Hall, has been restored to its grand character and will once again host the annual Lowell House Opera. The private dining room features the original scenic Chinoiserie wall paper which was repaired as part of the overall restoration of this historic room. In the lower level of what was a former squash court, a new 64-seat tiered screening room has been created as a space for lectures, films, and small live performances.



Recently Completed

ARTHUR M. SACKLER BUILDING

Renovation

Architect
designLAB

Total Square Feet
52,500 GSF (renovation)

Programmatic Driver
Address deferred maintenance and
accommodate new program

Sustainability Features
LEED Gold, Harvard Green Building
Standards and Harvard Healthier
Building Materials Academy pilot

Harvard Real Estate completed the renovation of the Sackler Building in early 2019. The project included the renewal of key building envelope and mechanical systems, including roof replacement and HVAC upgrades. Additionally, the project repurposed former gallery spaces within the building for new academic uses.

The Arthur M. Sackler Building, designed by noted British architects James Stirling and Michael Wilford, opened in 1985. The building originally housed collections of the Harvard Art Museums, which were relocated to 32 Quincy Street upon completion of that building's renovation in 2014. The Sackler Building's former gallery spaces provide new program space for the Faculty of Arts and Science's History of Art and Architecture Department, the Graduate School of Design, and the arts program known as The Annex. The project includes new common spaces, classroom and meeting spaces, design studios, art making spaces and offices. The renovation of the Sackler Building has resulted in a vibrant space for the study of art, architecture, design and arts making at Harvard.

Recognizing the Sackler Building's design significance, the project retains the building's key design elements, including the restored entry lobby murals by the artist Sol LeWitt and the monumental main stair which incorporates fragments of historic architectural elements and sculpture.



Recently Completed

ROBINSON HALL

Renovation

Architect

Symmes Maini & McKee Associates

Total Square Feet

N/A

Programmatic Driver

Improve access for persons with disabilities, upgrade life safety systems

Sustainability Features

Harvard Green Building Standards and sustainability priorities

The Faculty of Arts and Sciences completed a renovation project at Robinson Hall in early 2019 that significantly improved access for persons with disabilities. The building was constructed in 1904 as the home of Harvard's Department of Architecture, and today houses the Department of History.

The project's primary component was the installation of a new passenger elevator serving all levels of the building and a sprinkler fire-suppression system. Other accessibility improvements included renovated accessible toilet rooms, an improved accessible egress, and new handrails at the existing entrance ramp and stairs. The project also involved the renovation of existing spaces necessary to accommodate construction of the new elevator.



Recently Completed

SCHLESINGER LIBRARY

Renovation

Architect

Kennedy & Violich Architecture

Total Square Feet

16,000 GSF (renovation)

Programmatic Driver

Improve library facilities and restore building exterior

Sustainability Features

Healthier building materials focused on interior products including furnishings

The Radcliffe Institute for Advanced Study has completed a renovation project at Schlesinger Library that positions the library as a continued leader in special collections libraries, and makes it a more accessible and engaging resource for its users and visitors. The project's interior renovations have reimagined existing library spaces to foster interactive access to library collections. Among these spaces is the new Lia and William Poorvu Gallery, an expanded exhibit space which features improved lighting, casework, and A/V specifically designed for the display of library collections. The project also includes a comprehensive restoration of the library exterior that undertook needed repairs to the building envelope, and window restoration and replacement.



Recently Completed

GUTMAN CONFERENCE CENTER

Renovation

Architect
Shepley Bulfinch

Total Square Feet
16,500 GSF (renovation)

Programmatic Driver
Provide additional convening space and improve layout and function of existing conference center.

Sustainability Features
LEED CI v4 Gold; Harvard Green Building Standards and Harvard Healthier Building Materials Academy pilot

The Harvard Graduate School of Education (HGSE) has completed the renovation of the Gutman Conference Center located on the lower level of the Gutman Library building. The newly renovated space will significantly improve the school's ability to convene practitioners, policy makers, and researchers to further its academic mission.

HGSE has created a space where the community can work, teach, and learn that is healthy, welcoming and promotes sustainability. From energy and water conservation to increased access to natural light and waste reduction, the Gutman Conference Center renovation incorporated many environmentally conscious improvements. In addition to the sustainable improvements, all of the furniture and carpet meets the HH-Healthy Interiors Standard.

The additional convening space will support the School's goal of developing closer working relationships with the education sector. The renovated Gutman Conference Center will also provide additional teaching and collaboration space to support the degree and professional education programs.



Currently in Construction

HARVARD HALL

Renovation

Architect

Jones Architecture
(classroom renovation)

Bruner Cott (exterior renewal)

Total Square Feet

13,766 GSF (renovation)

Programmatic Driver

Upgrade teaching facilities and
address needed exterior repairs

Sustainability Features

Harvard Green Building Standards
and sustainability priorities

The Faculty of Arts and Sciences is nearing completion of a renovation project at Harvard Hall that includes the renovation of several classroom spaces, and repair and restoration work on the building's exterior. Constructed in 1766, Harvard Hall is one of the oldest surviving buildings on Harvard's campus and among its most architecturally and historically significant – as possibly the first collegiate building in America built solely for academic use.

The exterior work at Harvard Hall includes the repair and replacement of the building's brownstone base, moldings and cornice elements; brick repair and repointing; recladding and painting of the cupola; and eave and roof repairs. As part of the restoration work, a detailed historic paint analysis was undertaken, and the building's wood windows, trim and cupola are being re-painted in a period color corresponding to the building's final expansion in 1870. All exterior work is being undertaken in close consultation with staff at the Cambridge Historical Commission and required the Commission's approval.

The classroom renewal component of the project includes new flooring, paint, window treatments, furnishings and seating. Additionally, classroom infrastructure will be upgraded with new audiovisual equipment, lighting and HVAC systems. The Harvard Hall classroom renovation project continues the Faculty of Arts and Sciences' ongoing efforts to renew its teaching and instructional spaces.



Currently in Construction

HOUGHTON LIBRARY

Renovation

Architect

Ann Beha Architects

Landscape Architect

Michael Van Valkenburg & Associates

Total Square Feet

4,564 GSF (renovation)

Programmatic Driver

Enhance library presence in Harvard Yard, improve library functionality and accessibility.

Sustainability Features

Harvard Green Building Standards and sustainability priorities

The Faculty of Arts and Sciences has begun a renovation project at Houghton Library that will significantly improve the library’s functionality and access to its collections and exhibition space. The project includes a reorganization of first floor spaces to improve circulation, enhance lobby exhibition space, and add visitor amenities. Significant accessibility improvements are being made throughout the building and include site and landscape modifications that will make the front entrance accessible to persons with disabilities, the installation of a new passenger elevator serving all public floors of the building, and renovated toilet rooms.

The Houghton Library was completed in 1942, and was designed by Perry, Shaw and Hepburn. The library is a premier example of the mid-twentieth century Georgian Revival style and features several finely detailed interior spaces. The building is Harvard’s principal repository for rare books and manuscripts, literary and performing arts archives, and other special collections. In addition to its collections, which make it a destination for students and scholars, the Houghton Library hosts exhibitions and events that are open to the public. The current project will improve both physical and programmatic accessibility to the Library’s outstanding collections.

Renovation of the Houghton Library is expected to be completed by fall 2020.



Currently in Construction

SWARTZ HALL

Renovation and Addition

Architect
Ann Beha Architects

Total Square Feet
53,327 GSF (renovation)
3,723 GSF (addition net new)

Programmatic Driver
Renew building

Sustainability Features
Targeting LEED CI v4 Gold;
Harvard Green Building Standards;
and a Harvard Healthier Building
Materials Academy pilot with
extensive healthier building materials
goals

Harvard Divinity School has begun the renovation of Swartz Hall (previously Andover Hall), which serves as the school's center of academic, administrative and student life. The project will renew the building overall and includes long needed repairs to the building's envelope, upgrades to building systems and improvements to physical accessibility. In addition the project includes the creation of new spaces that will accommodate school gatherings, teaching and instruction, and multifaith worship. Existing classrooms will be renovated and will have added multimedia capacity.

Swartz Hall was constructed in 1911 and is part of a building complex that also includes the Harvard-Andover Theological Library, constructed in 1961. The project improves the connections and functional relationships between these elements. A new two-story addition linking these buildings will contain student common space on the ground level and a multi-purpose classroom and convening space at the first level to accommodate symposia and speakers. The south wing of Swartz Hall will be reconfigured, creating the new multifaith worship space and offices for student services.

The renovation project is anticipated to be completed in early 2021.



Currently in Construction

LEWIS INTERNATIONAL LAW CENTER

Renovation

Architect

Deborah Berke Partners

Total Square Feet

37,959 GSF (renovation)

12,489 GSF (addition)

Programmatic Driver

Reprogram spaces in the building, address deferred maintenance, accommodate growing research programs and improve accessibility.

Sustainability Features

Targeting LEED NC v4; Harvard Green Building Standards; and a Harvard Healthier Building Materials Academy pilot

Harvard Law School is renovating the Lewis International Law Center to renew and expand the building for new office and academic uses. An addition on the west facade will provide an improved building entrance while also adding new academic space on the 2nd, 3rd, and 4th floors. A new 5th floor will be a light and glassy addition, emphasizing transparency and views to the campus. Its painted metal facade will be complimentary but distinct from the building's original limestone facade. The project will also address deferred maintenance, including repair of the exterior envelope, improvement to major building systems, and upgrading of all utility infrastructure.

The Lewis International Law Center was built in 1957 and designed by Shepley Bulfinch Richardson & Abbott. The building is linked to Areeda Hall via a bridge, which connects to Langdell Library and Griswold Hall.



Currently in Construction

109 IRVING STREET

Renovation

Architect
Austin Architects

Total Square Feet
7,440 GSF (renovation)

Programmatic Driver
Renovation of historic house for continued residential use

Sustainability Features
Targeting LEED Homes certification;
Harvard Green Building Standards

Harvard is renovating 109 Irving Street for continued single-family residential use as the Harvard Law School Dean's residence. The project includes restoration and renovation of the interior spaces; installation of new utility services; restoration of the building's exterior and roof; and replacement of the rear addition with a one-story porch.

109 Irving Street was designed by William Pitt Wentworth and constructed in 1893.



Currently in Construction

CLAVERLY HALL, ADAMS HOUSE

Renovation

Architect
Beyer Blinder Belle

Total Square Feet
Approximately 59,000 GSF
(renovation)

Programmatic Driver
Renew undergraduate House life

Sustainability Features
Targeting LEED CI v4 Gold;
Harvard Green Building Standards;
Harvard Healthier Building Materials
Academy pilot

Harvard commenced the renewal of Adams House with a full renovation of Claverly Hall, which was originally constructed in 1892 as off-campus student housing. The project involves a comprehensive renovation of the interior spaces and a restoration of the exterior, with entrances sensitively altered for accessibility. Updates will include new residential layouts, a secondary entrance on Linden Street, and new common spaces for students. Two new elevators and one lift will provide accessibility to all levels. Significant historic interiors, such as Claverly's main entry lobby and main stair hall will be carefully preserved and restored. The sustainability goals for the project include an energy efficient envelope and windows, new MEP systems, and LEED certification. Work at Claverly Hall has received public approvals from the Cambridge Historical Commission and the Cambridge Board of Zoning Appeal. The project is anticipated for completion in summer 2020.



Currently in Construction

APTHORP HOUSE, ADAMS HOUSE

Renovation

Architect

Beyer Blinder Belle

Total Square Feet

Approximately 11,000 GSF
(renovation)

Programmatic Driver

Renew undergraduate House life

Sustainability Features

Harvard Green Building Standards:
Harvard Healthier Building Materials
Academy pilot

Harvard will be restoring and renovating Apthorp House as part of the second phase of Adams House Renewal. Apthorp House, a significant example of high-style Georgian architecture, was built in 1760 as the private residence of Reverend East Apthorp, the first Anglican missionary to Cambridge. This Colonial era house notably served as lodging for troops and the headquarters of American General Putnam during the Revolutionary War. Its use as a private residence transitioned to student renters in 1902, until its current use as the Adams House Faculty Deans' Residence was established in the 1930s.

The renovation includes the repair and restoration of the building's historic exterior including windows, envelope, chimneys, slate roof, and copper gutters and downspouts. A new accessible entrance will be added to the north (rear) elevation. The landscaped pathways will be modified to improve accessibility through the courtyard shared with Randolph Hall.

Work at Apthorp House has received a Certificate of Appropriateness from the Cambridge Historical Commission. The project is anticipated for completion in 2021.



Projects in Planning

RANDOLPH HALL, ADAMS HOUSE

Renovation

Architect
Beyer Blinder Belle

Total Square Feet
Approximately 66,000 GSF
(renovation)

Programmatic Driver
Renew undergraduate House life

Sustainability Features
Targeting LEED CI v4 Gold;
Harvard Green Building Standards

Adams House Renewal includes a comprehensive renovation of Randolph Hall, which was constructed in 1897 as a Gold Coast private student residence before it was incorporated into Harvard's Adams House in the 1930s. This eclectic 5-story brick and granite Jacobean Revival building is distinguished by its bays, shaped gables, turrets, and chimneys.

Renewal at Randolph Hall will fully restore the building's exterior envelope while making targeted modifications to create accessible entries. A new mid-block entrance on Plympton Street will also be introduced. The interior renovation will include new residential layouts and student common spaces, enhanced circulation, and restoration of traditional interior spaces.

The Cambridge Historical Commission granted a Certificate of Appropriateness for the work at Randolph Hall. Work will begin on the project in 2020 as part of the second phase of renewal activities at Adam's House.



Projects in Planning

RUSSELL HALL - WESTMORLY COURT, ADAMS HOUSE

Renovation

Architect

Beyer Blinder Belle

Total Square Feet

Approximately 106,000 GSF
(renovation)

Programmatic Driver

Renew Undergraduate House Life

Sustainability Features

Targeting LEED CI v4 Gold;
Harvard Green Building Standards

Harvard has begun planning for the third and final phase of its Adam House Renewal project which will address the east block located between Plympton and Bow Streets. Three connected buildings – Russell Hall (1931), the Library-Commons Building (1930), and Westmorly Court (1898 – 1902) provide residential and common spaces for the Adams House community. The project scope, which is still in development, will include a comprehensive renovation of the interior spaces and a restoration of the exteriors in a manner that respects the buildings' historic character, improves their overall accessibility, and supports a twenty-first century educational experience.

This project will require approvals from the Cambridge Historical Commission. The project is anticipated to start construction in 2021.



Projects in Planning

GUND HALL

Renovation and New Construction

Architect
Herzog & de Meuron

Total Square Feet
162,000 GSF (renovation)
TBD GSF (new construction)

Programmatic Driver
Foster collaboration and innovative teaching; expand teaching facilities

Sustainability Features
TBD

Harvard University Graduate School of Design (Harvard GSD) has selected the architectural firm Herzog & de Meuron as design consultant, and New York-based Beyer Blinder Belle (BBB) as architect of record, to design a significant transformation of the School's primary campus building, Gund Hall, into a twenty-first century center of design education and innovation. The proposed expansion will include new space to be integrated into the heart of the School's existing structure. The reimagined facility will embody the School's visionary and cross disciplinary work at the intersection of design, pedagogy, research, and practice.

The proposed project will encourage new forms of cross-disciplinary collaboration by creating an anchored point of intersection -- a critically-needed "hub" -- among the School's current studio workspace, faculty and departmental offices, seminar rooms and classrooms, research library, production and fabrication facilities. This hub will provide new interior spaces designed for informal meetings, social gatherings, and public programs. Because this planned addition is integrated, it will add only minimally to Gund Hall's existing physical footprint, thereby preserving Harvard GSD's valuable green space and basketball court. Planning for this project is in the early stages and is continuing under the leadership of a newly appointed GSD Dean.

PROJECT LIST

Project	Programmatic Goal	Sustainability Features
Recently Completed		
1. Lowell House	Renew undergraduate House life	Targeting LEED Gold. Dynamic Energy Suite pilot project, targeting many energy conservation measures with real-time data provided to occupants, and Harvard Healthier Building Materials Academy pilot project targeting healthier building materials (e.g., furnishings, non-vinyl flooring) throughout the project.
2. Sackler Building	Address deferred maintenance and accommodate new program.	LEED Gold, Harvard Green Building Standards and Harvard Healthier Building Materials Academy pilot
3. Robinson Hall	Improve accessibility for persons with disabilities, upgrade life safety systems	Harvard Green Building Standards and sustainability priorities
4. Schlesinger Library	Improve library facility and restore building exterior	Healthier building materials focused on interior products including furnishings
5. Gutman Conference Center	Provide additional convening space and Improve layout and function of existing conference center	LEED CI v4 Gold; Harvard Green Building Standards; and Harvard Healthier Building Materials Academy pilot
Currently in Construction		
6. Harvard Hall	Upgrade teaching facilities and address needed exterior repairs	Harvard Green Building Standards and sustainability priorities
7. Houghton Library	Enhance library presence in Harvard Yard and improve interior functionality and accessibility	Harvard Green Building Standards and sustainability priorities
8. Swartz Hall	Renew building	Targeting LEED CI v4 Gold; Harvard Green Building Standards; and a Harvard Healthier Building Materials Academy pilot with extensive healthier building materials goals
9. Lewis International Law Center	Reprogram spaces in the building, address deferred maintenance, add floor area to accommodate growing research programs and improve accessibility.	Targeting LEED NC v4 Gold; Harvard Green Building Standards; and a Harvard Healthier Building Materials Academy pilot
10. 109 Irving Street	Renovate for continued residential use	Targeting LEED Homes certification; Harvard Green Building Standards
11. Claverly Hall	Renew undergraduate House life	Targeting LEED CI v4 Gold; Harvard Green Building Standards; and a Harvard Healthier Building Materials Academy pilot
12. Apthorp House	Renew undergraduate House life	Harvard Green Building Standards; Harvard Healthier Building Materials Academy pilot
Projects in Planning		
13. Randolph Hall	Renew undergraduate House life	Targeting LEED CI v4 Gold; Harvard Green Building Standards
14. Russell Hall / Westmorly Court	Renew undergraduate House life	Targeting LEED CI v4 Gold; Harvard Green Building Standards
15. Gund Hall	Foster collaboration and innovative teaching; expand teaching facilities	TBD

ALLSTON UPDATE

Project and Planning Updates

Science and Engineering Complex (SEC)

The new building for the John A. Paulson School of Engineering and Applied Sciences will open in the Fall of 2020. The building will include academic programs in computer science, materials and mechanical engineering, biomedical engineering, robotics, and electrical engineering. Slightly more than half of the faculty of the Harvard John A. Paulson School of Engineering and Applied Sciences will relocate to the Allston campus. In all, the new Allston complex will support on either a full-time or part-time basis more than 1,800 researchers, students, faculty, and staff. The move will free up space on the Cambridge campus, for which the University is examining alternatives for future institutional use.



District Energy Facility (DEF)

The 55,000 SF District Energy Facility will be completed this year and will house energy production, energy conversion, and energy distribution equipment. The building is being constructed with equipment and distribution infrastructure installed in phases to coordinate with future Harvard development projects. The new facility has combined heat and power systems that generate hot water and electricity, and a 1.3 million gallon tank for storing chilled water produced off-peak, when electricity is less expensive, that is distributed during daytime hours to buildings as needed for cooling. The new facility is fully



integrated with the existing steam infrastructure at Blackstone and has been designed to incorporate resiliency measures to address the regional impacts from future climate change. The building will be screened by a wrapper of metal fins set at varying degrees of openness to reveal or conceal the various equipment areas within. On the public face of the building, the fins are raised above the ground so passersby can see the main equipment.

Harvard ArtLab

The recently completed Harvard ArtLab, a one-story building of approximately 9,000 SF, is located along North Harvard Street just southwest of Ohiri Field. The new art making facility provides experimental working space for faculty and student artists fostering new connections and creative enterprises. The ArtLab provides additional opportunities for the development of new programs designed to spur collaboration within the arts community at Harvard.

Enterprise Research Campus

The Harvard Allston Land Co. (HALC) has issued a request for proposals (RFP) for the initial phase of the Enterprise Research Campus (ERC) in Allston. The RFP focuses on the 14-acre portion of the ERC on Western Avenue, adjacent to the new Science and Engineering Complex slated to open in the fall of 2020, and across the street from Harvard Business School.

Harvard envisions an ERC that will complement the cutting edge institutional research taking place on its campus and throughout the region. It will seamlessly integrate into the emerging corridor of creativity along Western Avenue and will contribute to a thriving community in a neighborhood that combines academia and education, engaging public and community spaces, and the arts and sciences, in ways that drive economic growth and innovation.

Planned as a mixed-use development — including office, lab, research, residential, retail, enhanced public realm, publicly accessible open spaces, and public art projects — the ERC will be a cornerstone of Harvard’s commitment to enhance the area in support of its teaching and research mission. It will increase the interconnectivity between the Harvard campus, the neighborhood, and the Greater Boston region.

American Repertory Theater

Harvard is in the preliminary stages of planning and design for a new home for the American Repertory Theater (A.R.T.). The new building – to be located adjacent to the athletic facilities on North Harvard Street in Allston - will anchor the University’s arts presence on its developing Allston campus. The new state-of-the-art research and performance center will complement existing arts programming offered through the Harvard Allston Ed Portal, the Office for the Arts’ ceramics studio on Western Avenue, and the recently opened ArtLab, and will enhance the arts community at Harvard as well as in Greater Boston.

At the Loeb Drama Center, the A.R.T.’s existing main theatre on Brattle Street in Cambridge, the Faculty of Arts and Sciences will be initiating planning studies to assess possible programmatic options for the building’s continued institutional use.

Transportation Links

Harvard Transportation Services is designing a flexible and responsive shuttle solution to service the Allston campus. Transportation Services will have the ability to adjust shuttle capacity to meet heavy demands such as those experienced during peak transit times. Harvard will closely monitor usage and capacity data to determine whether additional adjustments are needed. The University is committed to providing safe and accessible bike and pedestrian pathways between the Cambridge and Allston campuses. As part of this effort, Harvard is also planning additional campus wayfinding signage to facilitate pedestrian access to the Allston campus. The University is in ongoing conversations with the cities of Boston and Cambridge, and relevant state agencies to ensure that path maintenance is well coordinated along the routes.

I-90 Allston Interchange Project

The Massachusetts Department of Transportation’s (MassDOT) I-90 Interchange project is a generational opportunity to transform and modernize neighborhood circulation, create an urban street grid, introduce new urban and regional rail service, remove obstacles that have divided communities for decades, and create new mixed use development. Harvard continues to work closely with the Baker Administration, along with dozens of stakeholders, through participation in I-90 Task Force meetings and through meetings with MassDOT, the City of Boston and other stakeholders to help maximize the potential benefits the project may deliver. Among the many important elements of the project, Harvard maintains that West Station is a critical and essential element to the Interchange project, supported the inclusion of West Station in the MassDOT plan, and has committed financial support to help ensure its implementation.

CONSTRUCTION MITIGATION

Harvard recognizes the interconnectedness of its Cambridge campus with Harvard Square and its surrounding neighborhoods and seeks to minimize potential construction impacts resulting from University projects by developing comprehensive construction mitigation programs. Harvard has a robust construction mitigation office that works closely with local businesses, and neighborhood representatives, as well as the City of Cambridge, to help minimize any disruptions on each project across campus. Depending on the nature of the construction project and its location, the mitigation measures for projects may include the following:

- Relocating existing retail and commercial tenants impacted by construction in Harvard owned buildings to other Harvard Square locations so they can continue operating during construction.
- Minimizing impacts to retail businesses that remain in Harvard buildings during construction.
- Maintaining access to Harvard owned commercial parking areas as much as possible to continue to provide parking for visitors to the University and Harvard Square.
- Maintaining existing loading zones wherever possible and working with local businesses to accommodate deliveries during scheduled street closures.
- Ensuring compliance with the City of Cambridge noise ordinance's provisions pertaining to construction sites and developing additional noise mitigation measures as may be necessary.
- Installing perimeter protection and ample directional signage to facilitate continued pedestrian access to adjacent sidewalks and local business.
- Keeping street and sidewalk closures to a minimum to ensure that vehicular and pedestrian access is maintained on streets surrounding the project site.
- Installing signage or banners at the perimeter of project sites impacting commercial areas to highlight that local businesses remain open during construction.
- Working with Harvard's office of Environmental Health and Safety to develop appropriate pest control programs that may be necessary.

The Harvard Mitigation Office implements these measures and serves as the key liaison to those potentially affected by University construction projects. The office communicates on a regular basis with project



abutters about any expected construction impacts and serves as the point of contact for registering complaints or concerns. The office addresses abutter concerns promptly and to the best of its ability.

In addition to the mitigation measures designed to minimize impacts to local business, Harvard projects support commercial areas by bringing many construction workers to Harvard Square and its vicinity on a daily basis who frequent local restaurants, stores and services.

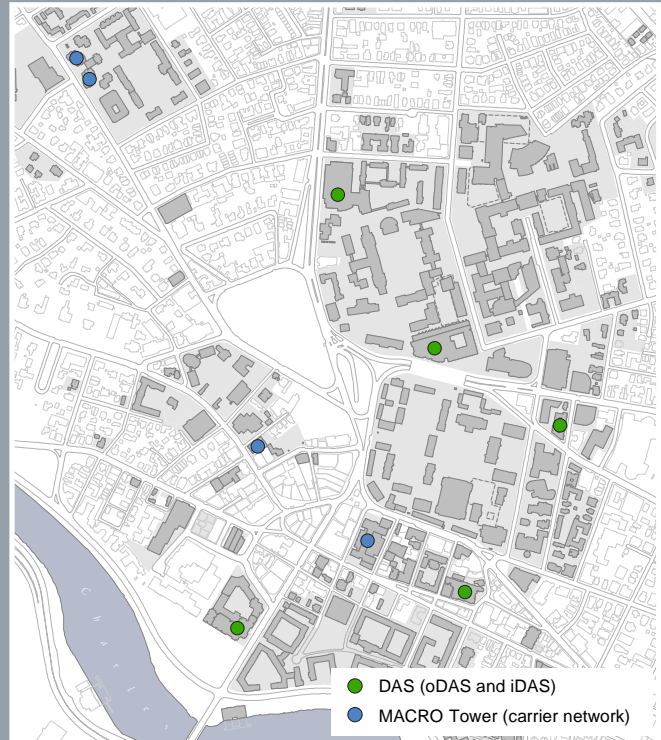
ANTENNA INSTALLATIONS

The use of wireless, web-based, and remote platforms for instruction and collaborative research continues to increase demand for cellular and wireless services, resulting in the need for improved coverage, signal strength and capacity. To meet this technological demand, the University must continue to coordinate system improvements across multiple cellular and wireless service provider platforms.

DISTRIBUTED ANTENNA SYSTEM (DAS)

Harvard continues to implement its neutral host Distributed Antenna System or DAS that enables the University to provide better coverage within its buildings and campus, and which facilitates the coordination of antenna system improvements across multiple service providers. Because the DAS network can serve multiple carriers, it allows the University to significantly reduce the number of antenna installations typically required to provide high-quality coverage across multiple providers' systems.

The DAS network is comprised of strategically located antenna nodes connected to a common signal source accommodating multiple service providers. Each antenna node distributes carrier signals to clusters of campus buildings, providing high quality micro level coverage to the University's end users. To date Harvard has completed five DAS installations in Cambridge, with additional potential sites under consideration.



MINIMIZING VISUAL IMPACTS

Where exterior antenna and equipment installations are required, the University works with its DAS consultants to minimize their visual impacts to the greatest extent possible. Harvard has generally sought to exclude exterior antenna installations from its most architecturally significant and iconic campus buildings. Where possible, antennas are mounted on mechanical penthouses, chimneys, vents or other existing building rooftop elements that can help to conceal or minimize the visibility of exterior equipment.

In some instances, antennas and other required equipment can be camouflaged to visually blend in better with its surroundings. This can

include creating the appearance of brick or other building materials on antenna panels; enclosing equipment in false chimneys, vents or other roof top elements that simulate existing building features; or screening the equipment in extensions of existing mechanical penthouses.

In meeting its regulatory obligations, Harvard and its consultants work with City of Cambridge planning and design staff to review proposed installations to identify appropriate locations and visual treatment options. Installations proposed within historic districts or neighborhood conservation districts are also reviewed with the staff of the Cambridge Historical Commission.

CAMPUS TREE RESOURCES

A key element of Harvard’s Cambridge campus is the diversity of trees woven into the campus landscape that creates a unique space within the urban context of Cambridge. The type and placement of trees help to define campus spaces through their canopy, spatial structure, and visual characteristics. Harvard has long recognized the importance of its tree resources not only as a character-defining element but for its critical role in ensuring the broader liveability and resiliency of the campus and City of Cambridge.

Harvard is the steward of nearly 23,000 local trees, approximately 5,000 of which are on the Cambridge campus. Harvard University maintains an inventory of tree resources, which contains information on the

8,000+ trees which are located on our campuses in Cambridge and Boston. (Trees at the Arnold Arboretum are separately managed.) This comprehensive inventory, completed in 2019, tracks a range of information including tree location, species, general condition, approximate age, height, and diameter at breast height (DBH). Harvard also maintains a tree data layer as part of its GIS system.



Photo: Stephanie Mitchell/Harvard University

The University’s tree inventory confirms that Harvard meets the industry best practices for managing tree resources.

BEST PRACTICES	HARVARD’S TREES
<p>50%+ trees on an urban campus should be in good condition</p>	<p>More than 60% of Harvard’s trees in Cambridge are in good health.</p>
<p>Remove trees that pose unacceptable risk or are beyond remediation</p>	<p>In instances of a tree that poses a high risk, Harvard will remove the tree. Harvard carefully plans for replacement trees that will contribute to the overall landscape design and are well suited to the environment.</p>
<p>Promote diversity of age and climate appropriate species</p>	<p>Harvard's trees have a distribution of ages. A balance between young and mature trees helps to ensure future succession.</p> <p>Harvard's campus has 126 species of trees. This diversity helps to minimize the impacts of disease, pests, and the effects of climate change. Of note, many species of oak, Chinese elm, Japanese maple, and ginkgo are doing very well on campus, while others, such as sugar maple, white ash, flowering dogwoods, and black cherry, are faring less well.</p>
<p>Have a prioritized plan for the care of each tree</p>	<p>Harvard’s Landscape Services department works with a team of professional arborists and horticulturists who maintain campus trees, shrubs and other plantings. Their work, and those of Harvard’s landscape contractors, includes scheduled pruning and other maintenance, ongoing assessment of tree condition, health, and recommended care.</p>
<p>Have a long-term strategy for tree management</p>	<p>The long-term viability of Harvard’s trees relies on careful maintenance of existing trees and planning for the future. In addition to maintaining its existing tree resources, the University seeks to increase the number of trees on its campus through ongoing landscape maintenance and as part of capital projects. For example, the many new trees that were planted in Harvard Yard in 2019 represent succession planting to ensure a mature tree canopy in the Yard well into the future. Where trees are proposed for removal as part of new development plans, the viability of transplanting trees is assessed. In 2019 Harvard transplanted numerous trees that were re-located from the Harvard Divinity School campus.</p> <p>Harvard evaluates new landscape designs to ensure that they advance the University's sustainability goals by incorporating tree and plant species that are more adaptive to future environmental change, foster biodiversity, assist with stormwater management, and contribute to the reduction of the urban heat island effect.</p>



HARVARD CAMPUS TREE LOCATIONS

The day-to-day function of Harvard's campus requires a high degree of connectivity which encompasses pedestrian networks, public transportation, bicycle networks and the accommodation of vehicles. Harvard seeks to enhance and improve connectivity through projects that incorporate a multi-modal approach to connecting the people, places and activities on its campus.



A Harvard University shuttle bus on Massachusetts Avenue in Harvard Square outside Harvard University at dusk.
Staff Photo by Rose Lincoln / Harvard News Office

SUSTAINABLE COMMUTING

85% of Harvard employees commute to the Cambridge campus via a sustainable mode, and the University remains a leader among Cambridge's large employers for its low Single Occupancy Vehicle (SOV) rate.



HOW HARVARD COMMUTES:



36.7%
TRANSIT
average distance
8.5 Mi



23.5%
WALK
average distance
2.8 Mi



16.1%
BIKE
average distance
2.5 Mi



14.9%
DRIVE ALONE
average distance
17 Mi



5.1%
TELECOMMUTE/
FLEX



3.2%
CARPOOL
average distance
12 Mi



0.3%
RIDE HAIL



0.2%
ELECTRIC
SCOOTER/
SKATEBOARD

PTDM PLAN

Harvard's sustained low SOV rate (14.9% in 2019) is the result of the ongoing implementation of the University's proactive Parking and Transportation Demand Management (PTDM) Plan. The PTDM, which was first approved by the City of Cambridge in 2003, includes programs and incentives offered through Harvard's CommuterChoice Program that encourage alternatives to private automobile trips to campus. A copy of Harvard University's PTDM Plan is available at: <https://home.planningoffice.harvard.edu/pages/reports>.

COMMUTERCHOICE PROGRAM

The CommuterChoice Program provides Harvard's affiliates with commuter information and resources across multiple transportation modes including public transit, cycling, walking and ride share programs. Program offerings include:

- **Transit**
50% subsidy for MBTA monthly pass and private transit users
- **Carpools**
50-75% annual parking discount
- **Vanpools**
free annual parking and 50% subsidy of vanpool costs
- **BlueBikes and Zipcar**
discounted annual memberships
- **Bike Benefit**
up to \$240 annually for bike expenses for bicycle commuters
- **Emergency Ride Home**
for eligible transit or other green commuters.
- **Conversation Board**
internal discussion board around various topics related to commuting and transportation

SHUTTLES SERVING THE HARVARD CAMPUS

Harvard Transit operates shuttle and van services that offer safe, reliable and convenient transportation across Harvard's Cambridge and Allston campuses. Harvard's Shuttle fleet includes seven 35-foot buses and five 29-foot buses, each with a capacity of 37 passengers. During the academic year, two buses provide service for the River Houses area; three buses serve the Radcliffe Quad area; and two buses operate between Cambridge and Allston. Harvard Transit also operates five, ten-seat passenger vans providing service to individuals with special mobility needs on an as-needed basis, and a late evening weeknight van service which transports faculty, staff and students safely around campus as a supplement to the shuttle bus system.

Total shuttle and van ridership is approximately 657,000 passengers annually. Ridership is continually tracked on all routes in order to maximize efficiency and align ridership with the size of shuttle vehicles used, and the frequency

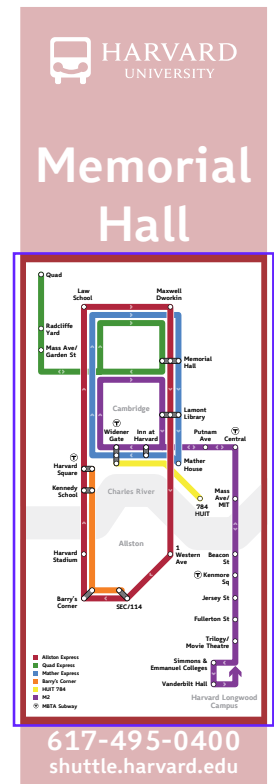
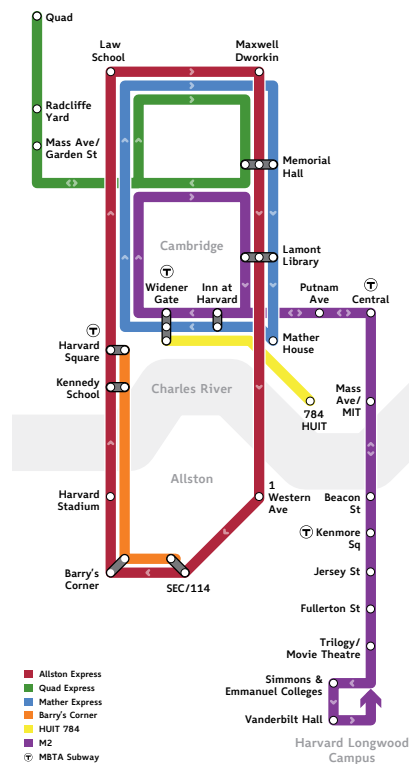
of service during different times of the day. In 2018 Harvard launched a new Evening Van app to provide a more efficient and convenient rider experience. The University is currently exploring how similar apps can be utilized to maximize the efficiency of peak time shuttle services.

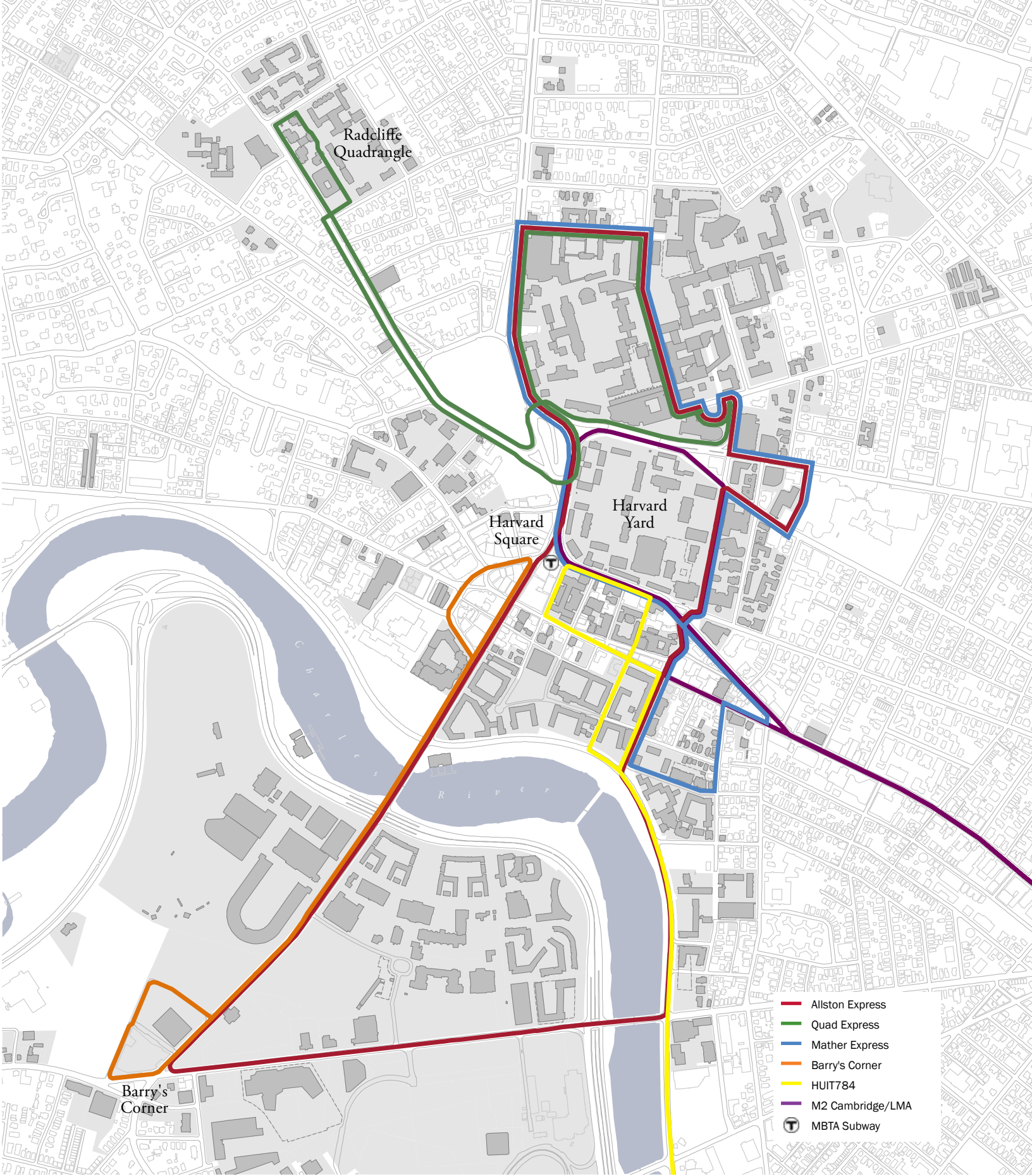
The University continues to partner with MASCO in providing the M2 shuttle bus, linking Cambridge and the Longwood Medical Area in Boston. In addition to serving Harvard affiliates, this shuttle is available to others, including members of the public, with the pre-purchase of a ticket (see: www.masco.org/directions/m2-cambridge-harvard-shuttle).

Harvard University Information and Technology offices at 784 Memorial Drive are also served by a landlord-operated shuttle service (HUIT784) that provides building tenants with frequent service to Harvard Square.

Shuttle Signage

Harvard will introduce new shuttle signs in 2020 as part of larger wayfinding improvements to its campus.





HARVARD CAMPUS SHUTTLE ROUTES

HARVARD CAMPUS SHUTTLE ROUTES SCHEDULE

Route Name	Description	Frequency	Hours of Operation
WEEKDAY SERVICE - DAYTIME			
Radcliffe Quad (Stadium)	Quad, Square, River Houses, Allston Campus	30 minutes	5:30am – 7:15pm
Mather Express	River Houses through Square to Kirkland St.	10 minutes	7:30am – 4:30pm
Quad Express	Quad, Square, to Kirkland St.	10 minutes	7:30am – 5pm
Allston Campus Express	Allston Campus, Square, Mass. Ave., Oxford St., Square, Allston Campus	15 minutes	7am – 4pm
Barry's Corner (AM)	Square, JFK St., North Harvard St., Barry's Corner	20 minutes	7am – 10am
WEEKDAY SERVICE - EVENING			
Extended Overnight	River Houses through Square, up Garden St. to Kirkland St. to River Houses	30 minutes	7:30pm – 4am
Radcliffe Quad-Yard Express	Quad, Square, Quad (up Garden St.)	25 minutes	4:15pm – 1am
River Houses A, B, & C	River Houses through Square, up Garden St., to Kirkland St., to River Houses	35 minutes	4:15pm – 1am
Allston Campus Express	Allston Campus, Square, Mass. Ave., Oxford St., Square, Allston Campus	15 minutes	4pm – 12:30am
Barry's Corner (PM)	Square, JFK St., North Harvard St., Barry's Corner	20 minutes	4:30pm – 7:30pm
WEEKEND SERVICE			
Crimson Campus Cruiser	River Houses through Square, up Garden St., to Kirkland St. to River Houses	35 minutes	8:30am – 4:30pm
1636'er	River Houses through Square, up Garden St., to Kirkland St., to River Houses	20 minutes	4pm – 1am
Allston Campus Weekend Express	Allston campus, Square, Quad, Square, Allston Campus	30 minutes	5pm – 8pm
Extended Overnight	River Houses thru Square, up Garden St., to Kirkland St., to River Houses	30 minutes	12am – 5am

BICYCLING

Cycling is a significant part of Harvard's campus transportation system and the University supports a range of programs that encourage cycling as a healthy and sustainable transportation choice. Harvard also continues to make investments in its bicycle facilities on campus and to participate in collaborative planning efforts for local and regional cycling initiatives. Ongoing efforts include the following:

Bicycle Facilities

Harvard continues its ongoing efforts to improve existing facilities through upgrade and replacement of racks and to identify opportunities to add additional cycling amenities to the Cambridge campus.

- **Bicycle Parking** - Harvard's recently updated parking inventory now has approximately 5,700 outdoor rack spaces and 1,300 secure spaces (located inside buildings or bike lockers) serving the Cambridge campus.
- **Repair Stations** - Eleven bicycle repair stations are located across the campus.
- **Bike Facility Map** - An updated interactive map of Harvard's bicycle facilities is available on the CommuterChoice website (www.commuterchoice.harvard.edu). The map provides locational information on bike routes, parking areas, and key attributes such as rack type, number of spaces and whether parking is sheltered.

Bicycle Programs

The CommuterChoice Program offers a range of programs to promote cycling on campus:

- **Events** - special events such as workshops on visibility and safety, bike maintenance and winter cycling; and community gatherings during Bike Week that celebrate cyclists and cycling.
- **Safety and Repair Classes** - employee reimbursement of expenses associated with taking bicycle safety or repair classes at local bike shops.
- **Cycling Gear** - discounts on cycling helmets and bike light sets.



BlueBikes

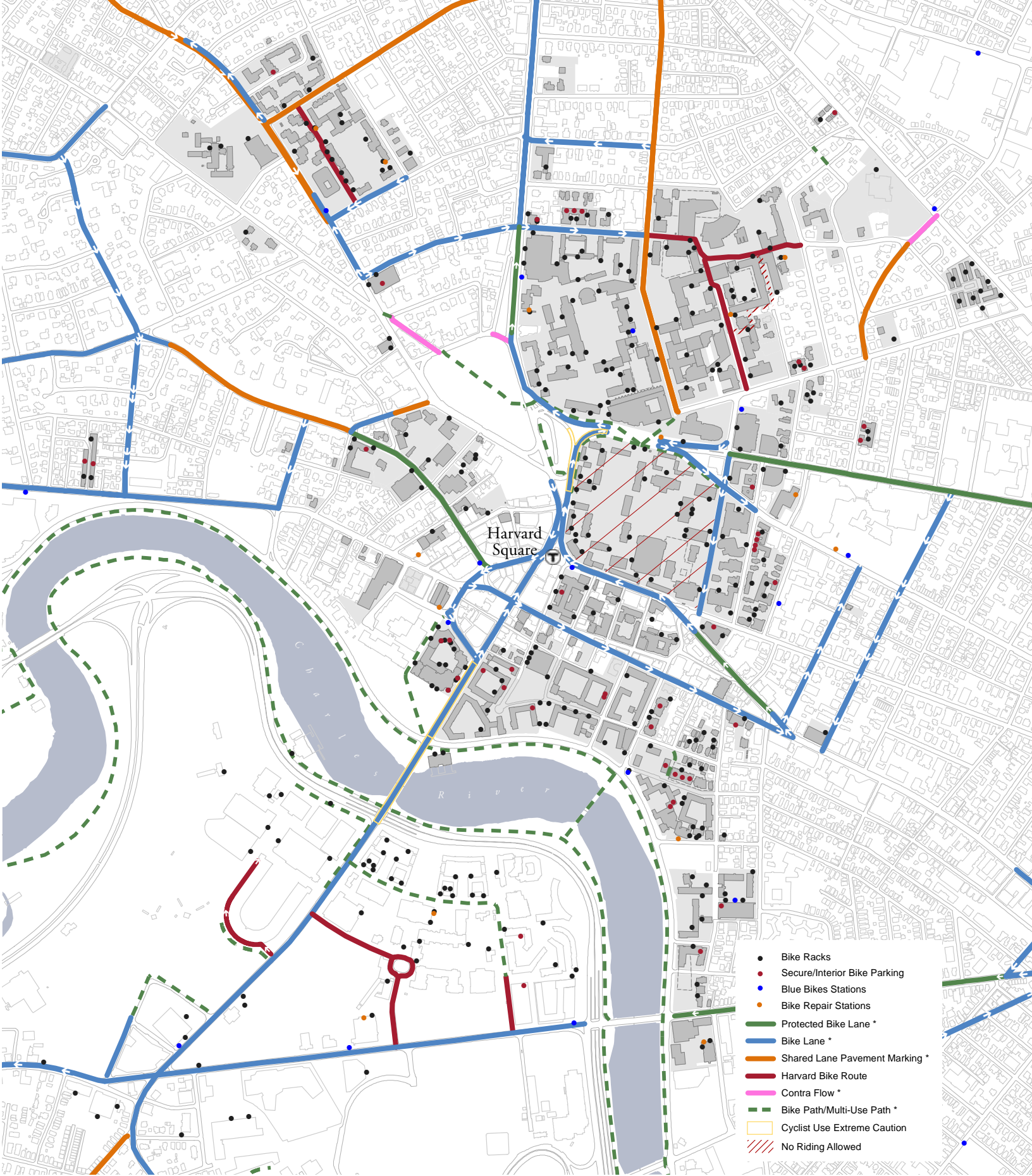
Harvard continues to collaborate closely with the cities of Cambridge and Boston to support the regional bike-sharing program, BlueBikes. The University currently supports seven Cambridge stations. Harvard offers its affiliates a 30% discount on annual membership. As of September 2019, this includes 1,037 active BlueBikes members who have taken about 96,000 trips over the last year.

Planning for Cycling Networks

Harvard is committed to improving its existing campus bicycle network and to identifying opportunities to work with local and state governments to strengthen regional networks. These efforts include:

- Campus networks - Examining Harvard's existing bicycle network on the central campus and identifying areas for potential improvements.
- Municipal efforts - Collaborating with local governments on municipal bicycle initiatives including planning for improved bicycle facilities on Quincy Street, Bow Street, and DeWolfe Street in Cambridge, and the installation of new on-street bike lanes in Boston connecting Harvard's Allston and Cambridge campuses.
- State Projects - Working with MassDOT to plan for new bike facilities as part of the Allston Interchange project and advocating for inclusion of new bike lanes as part of bridge renovation and other state projects.





HARVARD CAMPUS BICYCLE FACILITIES

Notes: Data Source: * Routes located in Cambridge defined by the City of Cambridge. All other routes defined by Harvard University CommuterChoice Program. Bicycle rack data as of July 2019



Views of Harvard's capstone Earth Week event on the Charles River at Harvard University.
Staff Photo Kris Snibbe / Harvard News Office

Harvard continues to be a leader in advancing campus sustainability, seeking to transform the University into a healthy, thriving, sustainable community that contributes positive social, economic, and environmental benefits. The University’s vision is rooted in a shared responsibility to build and operate a campus that contributes to the well-being of our community—and ultimately to the health of the planet.

CLIMATE LEADERSHIP AWARD

In March 2019, Harvard was awarded the Climate Leadership Award for Excellence in Greenhouse Gas Management: Goal-Setting Certificate in recognition of Harvard’s leadership in setting ambitious goals to be Fossil Fuel-Free by 2050 and Fossil Fuel-Neutral by 2026.

Harvard was the only University to be recognized at the Climate Leadership Conference, an important platform to share with leading corporations, cities, and other large organizations the science and rationale behind Harvard’s holistic goals to address the full social damages of our energy choices.

A FOSSIL FUEL-FREE FUTURE

In 2016, Harvard achieved its first-generation climate goal to reduce absolute greenhouse gas emissions by 30%, even as square footage increased 12% (3 million square feet). This equated to an overall reduction of emissions in our existing buildings by 40% without factoring in growth. Of the 30% net reduction, 6% was met through the purchase of offsite renewable energy purchases.

In 2018, Harvard set a bold, second generation, science-based climate goal to be fossil fuel-free by 2050 and fossil fuel-neutral by 2026. With these new goals, the University continues to track greenhouse gas emissions against the original 2006 baseline and maintain the 30% net reduction achieved in its first generation goal. Harvard’s emissions inventory was one of the first in higher education to be third party verified by The Climate Registry.

These ambitious University-wide climate action goals – along with Harvard’s University-wide Sustainability Plan released in 2015 - provide the framework for collective action. These commitments provide a unique opportunity to use the campus to directly engage faculty, students, and staff in addressing the difficult questions and pressing challenges posed by climate change and sustainable development.



BUILDING FOR HEALTH AND CLIMATE CHANGE

Harvard is partnering with its researchers, businesses, manufacturers, and non-profit organizations to reduce exposure to harmful chemicals by making it easier to identify and purchase healthier building products. Harvard’s Healthier Building Materials Academy (HBMA) focused on optimizing for long-term health in the built environment and throughout supply chains. HBMA was an inaugural recipient of the Harvard President’s Administrative Innovation Fund in 2016.



Healthier Building Materials Academy Progress

40⁺ Capital projects	100's Manufacturers
3M⁺ sq. ft.	10K⁺ Products researched
35⁺ HPDs per project	20⁺ Product types

CAMPUS SERVICES COLLABORATION AND SUCCESS:

Sustainable Biofertilizer

This project, which grew from an internal Harvard Campus Sustainability Innovation Fund Grant in 2018, piloted the use of a healthier, more sustainable fertilizer option, which had been created through faculty research. The Sustainable Biofertilizer project recently received additional funding from the Harvard President's Administrative Innovation Fund and the Climate Change Solutions Fund further demonstrating how University support can catalyze change.

The Office for Sustainability continually drives efforts to identify research projects to pilot and scale. Harvard Facilities Maintenance Operations (FMO) has also been a thought leader in the landscaping industry starting with their piloting of organic landscaping with "compost teas" in 2009.



Kris Stribbe/Harvard University

HARVARD'S CAMPUS AS A LIVING LAB

Harvard is using its campus as a living lab to serve as a model for how organizations can help accelerate the transition to a healthier, fossil fuel-free future. Faculty and students are collaborating with staff to translate research into practice on campus, in the local community, and in our built environment by piloting and proving exciting new solutions that can be scaled up on the local, regional, and global levels.

- **Climate Change Solutions Fund (CCSF)**

The Harvard University Climate Change Solutions Fund was established in 2014 to propel scientific, technological, legal, behavioral, policy, and artistic innovations needed to accelerate progress toward cleaner energy, and improved human and planetary health.

- **Campus Sustainability Innovation Fund (CSIF)**

Established in 2016, this \$700,000 donor supported fund supports research projects that tackle challenges faced directly on-campus or in the community, and that lead to the application of new sustainability strategies to address global sustainability challenges. To date, 16 projects have been funded. 2019 projects include:

- Piloting a new technology to recycle #2 plastics that are no longer accepted by recycling companies in Massachusetts;
- Testing locations on campus that have had healthier furniture and carpeting installed;
- Deploying an artificial intelligence energy demand strategy to reduce emissions; and
- Research on pollinator food sources in the Arnold Arboretum near the recently-installed 450 KW solar array with battery storage technology, a first in Boston.

- **Climate Solutions Living Lab Course**

Formed in partnership with the Office for Sustainability, this multidisciplinary course led and designed by HLS faculty brings together students from seven graduate schools. Interdisciplinary teams apply their legal, business, public policy, public health, medical, engineering, and design training to propose innovative renewable energy and other impactful climate mitigation strategies that can help expedite the transition to a fossil fuel-free future economy.

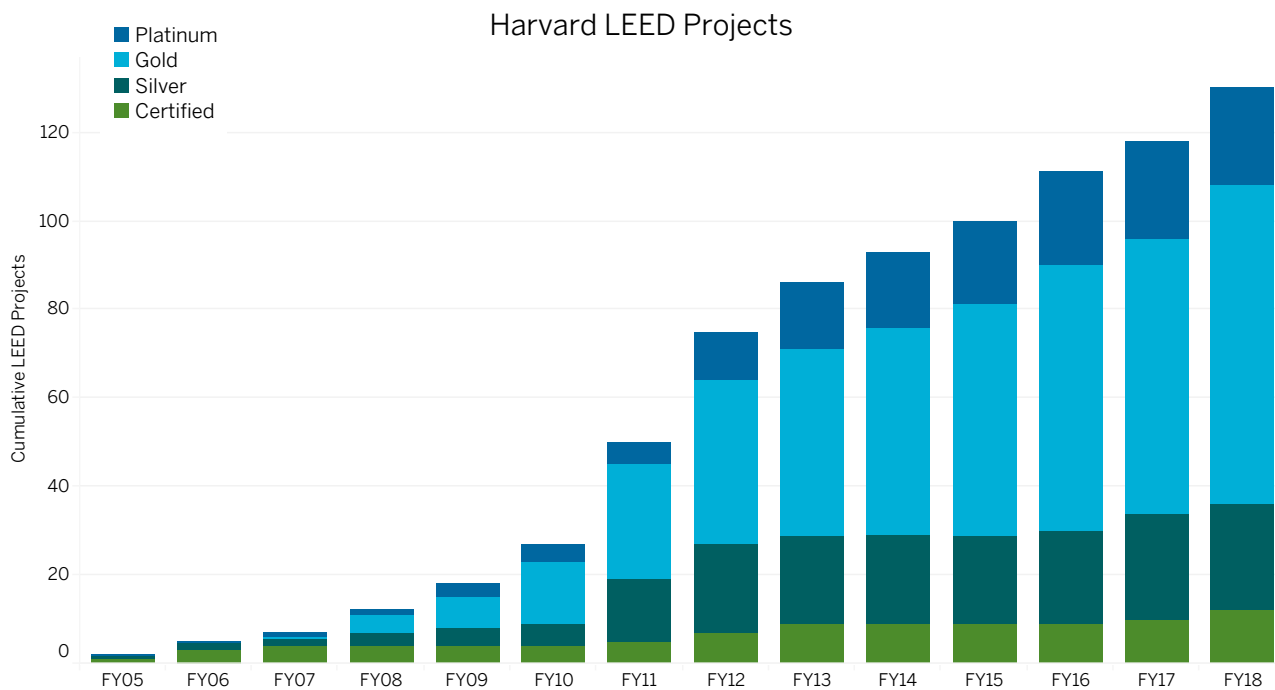


Rose Lincoln/Harvard University

CONTINUED SUSTAINABILITY PLAN PROGRESS

Harvard's 2018 Sustainability Report details the progress made toward the goals, standards, and commitments in the University's Sustainability Plan released in 2015. Harvard is committed to transparency in its sustainability reporting, and in 2018, the Harvard Office for Sustainability launched new interactive graphs developed with cutting-edge data analytics and visualization software. The public, interactive dashboard aggregates internal data sets to visualize and track Harvard's sustainability progress. The underlying robust data sets are available to students, staff, and faculty for use in research projects and benchmarking, and to inform decision making and drive continual improvements in how the University operates its campus.

Interactive Sustainability Dashboard



GREENER FACILITIES AND OPERATIONS

Harvard continues to make its buildings and operations more sustainable through the continued University-wide application of its Green Building Standards and Sustainability Guidelines. Significant achievements include the following:

- LEED Projects**

134 LEED-certified spaces across campus (over 100 in Cambridge), including the first and second LEED v4 commercial interiors projects in Massachusetts. Harvard has its own Green Building Standards since 2009.

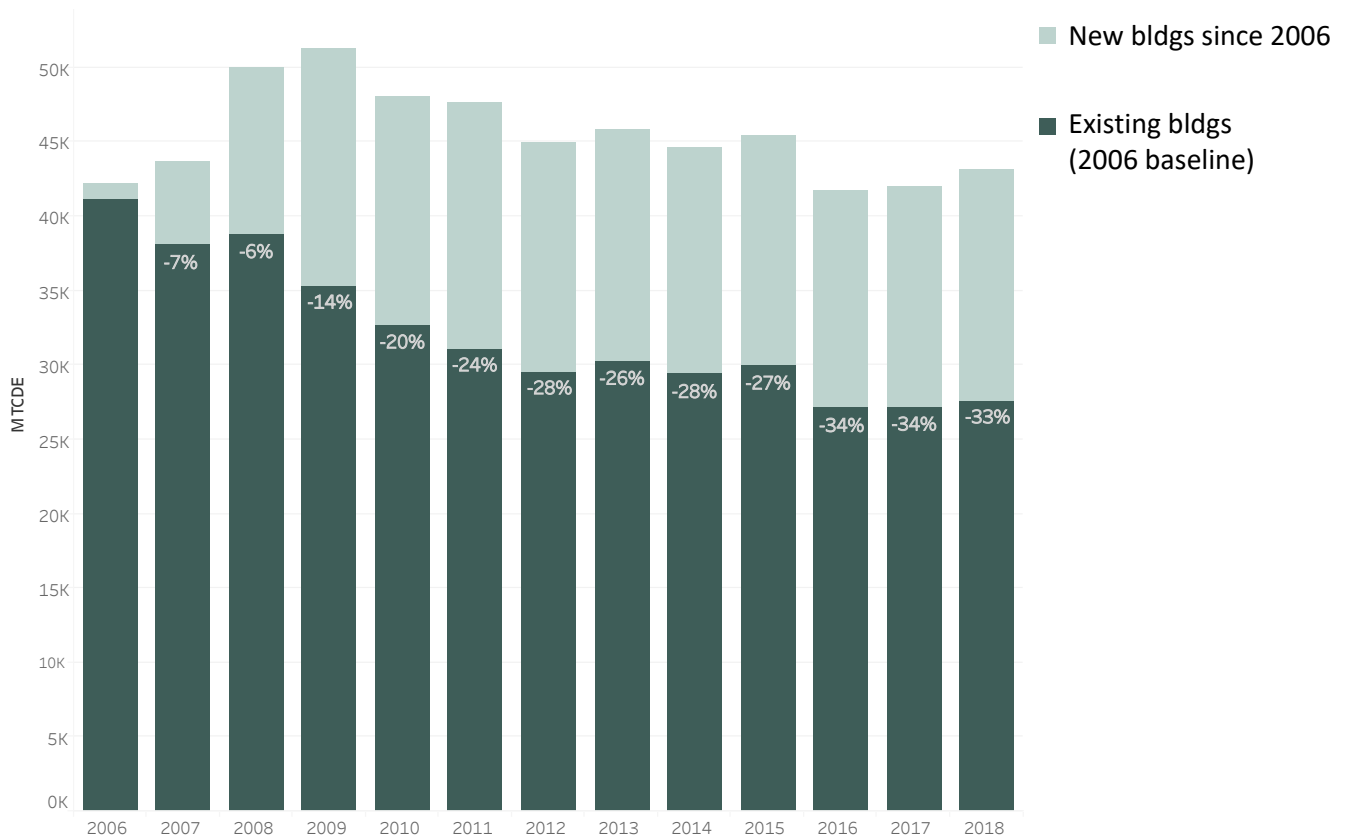
- Solar Power**

Nearly 2.1 MW of on site solar projects have been installed on Harvard’s rooftops (0.8 MW in Cambridge) including 0.45 MW installed storage. In addition to on-campus solar installations, Harvard implemented other types of on campus renewable energy sources including: co-generation (combined heat and power), roof-mounted wind turbines, geothermal energy (ground-source heat pumps), solar hot water, and energy storage.

- Reducing Lab Energy Use**

Harvard's Office for Sustainability continues to further advance lab sustainability efforts through its Green Lab Program established in 2008, including an innovative collaboration with Harvard Environmental Health and Safety which shows that the pilot lab building is on track to show a 10-20% reduction in annual energy use. The graph below tracks emissions reductions (33%) in Harvard's existing lab buildings, which have helped to neutralize the impact of growth in research, lab, and teaching spaces.

GHG Emissions Trends in Harvard Lab Buildings



TRANSFORMING HOW WE WORK AND LIVE

A multidisciplinary Harvard faculty committee, together with the Office for Sustainability, the Council of Student Sustainability Leaders, and experts in the field, developed and launched Harvard's innovative Sustainable and Healthful Food Standards in April 2019. The standards are designed as a model to:

- Measurably increase access to sustainable and healthful food offerings;
- Reduce wasted food;
- Enhance food literacy;
- Optimize the impacts of food choices on people, animals, and the planet.

Harvard signed onto the Cool Food Pledge, a global coalition committed to reducing food-related greenhouse gas emissions collectively by 25 percent by 2030. The Cool Food Pledge, launched by the World Resources Institute (WRI) at the 2019 United Nations Climate Action Summit, includes diverse organizations such as major cities (e.g., the City of Milan), global companies (e.g., IKEA, Hilton), and the World Bank. Together, the Cool Food Pledge signatories serve over 800 million meals annually – and the coalition continues to grow.



BUILDING A MORE RESILIENT CAMPUS

Harvard's Resiliency Working Group is developing a process for continual assessment and planning for risks and vulnerabilities associated with future climate changes such as extreme heat, stormwater surge from increased rainfall events, and sea level rise. This work is being closely coordinated with local, state and federal agencies.

Climate resiliency planning has been integrated into business continuity planning as well as major capital projects on campus, most notably in the Harvard Kennedy School expansion, House Renewal initiative, and Allston development.

CREATING TRANSFORMATIONAL OPPORTUNITIES

A few examples of Harvard's collaboration with the City of Cambridge include:

- Harvard artists contributed to the City of Cambridge's art exhibit "Untold Possibilities at the Last Minute," which was on display from June-October 2019, and has been extended into 2020. Amanda Gorman (Harvard College '20), the first US Youth Poet Laureate, contributed her poem "Earthrise," which was portrayed beautifully in the gallery. David Buckley Borden and Aaron M. Ellison's "Warming Warning" visualized global temperature rise and carbon dioxide emissions in a three-dimensional exhibit.

"Warming Warning", a public climate art sculpture displayed on The Plaza.

Kris Snibbe / Harvard Staff Photographer



WELD HILL SOLAR PROJECT

Spanning 1.2 acres, the recently completed Weld Hill Solar plus Storage Project at the Harvard Arnold Arboretum provides 450 KW energy capacity, up to 30 percent of the energy needed by the Weld Hill Research and Education Building. The installation includes 1,152 ground-mounted solar panels and a 145-panel solar awning that protects a pollinator meadow. The project's "smart system" proactively stores energy on Harvard's first high-capacity battery array to provide clean energy during high-demand periods when the regional grid shifts to less-efficient, more polluting power sources. This is an especially important feature for Weld Hill, which includes energy-intensive laboratories, greenhouses, and plant growth chambers.

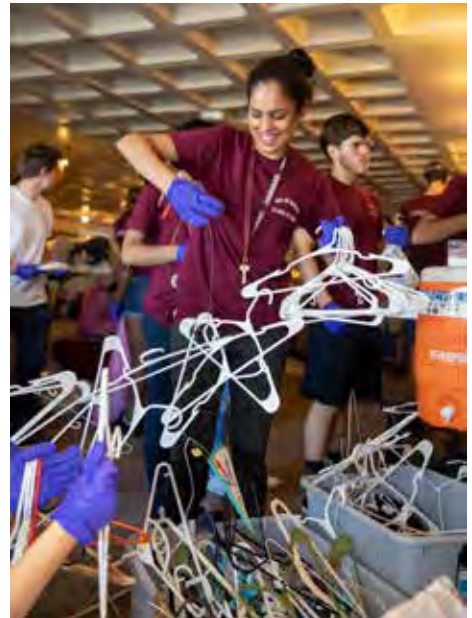


- Harvard's Public Schools Partnerships Program and the Office for Sustainability worked with science teachers who are leading the Cambridge Rindge and Latin School's Climate Justice Program. Students from Harvard's Council of Student Sustainability Leaders and Climate Leaders Program met with CRLS teachers on innovative ways to integrate climate and sustainability examples into the classroom.
- Cambridge Compact for a Sustainable Future: The Harvard Office for Sustainability continues to serve as Vice Co-Chair leading the Cambridge Compact for a Sustainable Future, as well as serving on the Board and Executive Committee. The committee includes 20 members from the business and higher education sectors.
- Net Zero: The Office for Sustainability chairs the Cambridge Net Zero Labs Working Group. This year, the group is working on the second round of an innovative corporate and higher education lab benchmarking study to assess energy use and help generate solutions for lab operations.
- Harvard staff actively participate in many sustainability related stakeholder groups and meetings through the year, including:
 - Building Energy Use Disclosure Ordinance stakeholder sessions
 - Cambridge Carbon Fund Study
 - Cambridge Climate Resiliency Zoning Task Force
 - Urban Forest Master Plan Task Force
 - Net Zero Action Plan, Article 22 Green Building Requirements and other stakeholder meetings
 - Resiliency and Renewable Thermal Project Steering Group



On the Harvard campus, students creatively and collaboratively advanced sustainability in service to the community:

- For Earth Day 2019, students from the Office for Sustainability's Undergraduate Resource Efficiency Program (REP) developed a sustainability themed Escape Room in the Smith Campus Center that attracted over 100 attendees. In this fun and educational event, "trapped" participants solved a series of sustainability based puzzles to prevent sea level rise, while a countdown clock and flooding projection map juxtaposed the urgency of the game with the urgency of climate change. Students from Cambridge Rindge and Latin School helped beta-test the activity to inform their own version.
- 1,500 first-year College students, led by 200 Harvard staff, volunteered at 64 community sites through the Phillips Brooks House Center for Public Service and Engaged Scholarship's 2019 Day of Service.
- Seeded with funding from the Office for Sustainability's Student Grant Program, Harvard launched a Climate Leaders Program for Professional Students to help students engage across the University around the topic of climate change. This student led, faculty advised program was developed in partnership with the Harvard University Center for the Environment.



Kris Snibbe/Harvard University



Photo: Stephanie Mitchell/Harvard University



Cambridge is the historic heart of Harvard University, and we are proud to be part of this community, and to contribute in ways that make Cambridge a stronger, more vital and vibrant city. To this end, Harvard has developed extensive and ongoing community partnerships that advance educational opportunities, support economic development, and address a range of community needs in Cambridge.

RELATIONSHIP WITH CAMBRIDGE PUBLIC SCHOOLS

Harvard University is committed to partnerships and programs designed to ensure that all Cambridge Public School (CPS) students have opportunities to achieve academic success. Harvard programs are available in every CPS school in Cambridge, including elementary schools, upper schools, and the Cambridge Rindge and Latin School (CRLS). University programming ranges from curriculum-based programs, to summer school, to enrichment programs for all grade levels and interests. In addition to student programs, Harvard also seeks to leverage University-wide resources and create opportunities for CPS educators to access professional development, academic coursework, and workshops.

The following pages provide examples of the University's continually evolving engagement with the Cambridge Public Schools which encompasses all corners of the Harvard campus.

Elementary Schools

Mind Matters: Families Make a Difference

Developed by Harvard University, Mind Matters is a 20-hour hands-on learning series that equips Cambridge parents and families of 3 to 8-year-olds with practical tools to build their child's social, emotional, and intellectual skills.

Alewife Stormwater Wetland Field Study

As part of this CPS field study program, 5th graders use mobile devices to deepen their understanding of scientific concepts they're simultaneously learning in the classroom. Harvard Graduate School of Education (HGSE) researchers recently began collaborating with the CPS Maynard Ecology Center to develop virtual science experiences for students. This new technology allows students to explore an engineered wetland designed to address polluted stormwater in Cambridge.

Upper Schools

EcoMUV

The EcoMUV curriculum, developed by researchers at the HGSE, is utilized as part of the CPS 6th grade science studies and uses immersive virtual environments to teach students about ecosystems and causal patterns.

Harvard Museums of Science & Culture

Each year, CPS 6th graders attend the "Foragers to Farmers" school program at Harvard's Peabody Museum of Archaeology & Ethnology where they learn about the rise of agriculture.

Project Teach: Harvard's Official College and Career Program

Students begin making decisions about their college and career aspirations as early as middle school. Project Teach provides resources and support for CPS students that help them make informed decisions about their post-secondary options and develop a college-going identity. Program activities have included the following.

6th Grade

All students had an opportunity to attend Harvard Athletics 2019 Education Day at Women's Basketball, where they participated in conversations with student athletes about playing sports and being a student.

7th Grade

A key component of Cambridge's college awareness curriculum includes a day-long visit to the Harvard campus for all 7th graders where they participate in programs tailored to their academic interests. Additionally, a new Project Teach website provides teachers access to pre- and post-visit activities to use in the classroom.

8th Grade

Project Teach was recently expanded through the launch of Level-Up: How to Succeed in High School and Beyond. This Harvard program helps students in starting their transitioning to high school. Harvard College students visit their schools and discussed identity, self-advocacy, study skills and strategies for next steps on their pathway to success.



8th Grade Science and Engineering Showcase

In a program co-developed by the CPS Science Department and Harvard John A. Paulson School of Engineering and Applied Sciences (SEAS), all CPS 8th grade students develop a science project during a semester long class which culminates in a spring showcase hosted on Harvard's campus.

Civics Engagement in Our Democracy and CPS 8th grade

Harvard researchers are working with CPS to pilot a new year-long 8th grade civics curriculum, "Civic Engagement in Our Democracy."

Cambridge Rindge and Latin School

Crimson Summer Academy

The Crimson Summer Academy is a rigorous enrichment program that provides academically talented, but financially challenged, high school students with the skills and financial support to thrive and excel in college.

Cambridge Harvard Summer Academy

Launched in 2001, the Cambridge Harvard Summer Academy (CHSA) is a free six-week program that serves as Cambridge's official summer school for high school students. CHSA offers students both enrichment and remedial classes to address achievement and opportunity gaps, as well as to help prevent summer learning loss.



Project Teach for High School Juniors

Piloted this past spring, the Reimagining Identity, Self, and Excellence (RISE) program brought a group of CRLS juniors onto Harvard's campus to discuss what life after high school might mean for them. The RISE students talked about racial identity, securing financial aid, and how to handle adversity.

Harvard Marine Science Internships

CRLS Marine Biology students can apply to be placed in Harvard research labs as interns.

Harvard Life Sciences Outreach Program

In partnership with Harvard's Life Sciences Outreach Program, nearly 500 CRLS students visit Harvard teaching labs each year. CRLS biology teachers utilize Harvard laboratories, equipment and expertise to lead students through the wet lab portion of the Mitochondrial DNA PCR lab. The program is supported by the Amgen Biotech Experience (ABE) Program.

Life Science Lab Apprenticeship Program

This program introduces students to laboratory work and possible career opportunities associated with biotechnology and research science. Students learn laboratory and workplace skills, and are then placed in paid, six-week summer apprenticeships where they experience a laboratory workplace and the responsibilities of a technician.

Harvard Smithsonian Center for Astrophysics (CfA)

CfA partners with CPS in developing programs for a variety of grade levels. Programs include ThinkSpace (Thinking Spatially about the Universe), which blends the use of hands-on and computer-based tools in the classroom. CfA also offers a mentoring program, providing opportunities for high school juniors and seniors to work on independent research projects in astrophysics under the guidance of a CfA astrophysicist.

Harvard Extension School Scholarships

Harvard offers CRLS students fully-funded scholarships for advanced courses at the Harvard Extension School that are either not available at CRLS, or that help them earn future college credit. In addition, students can access funding for 50% of the cost of one class a semester through the Lowell Scholarship.

Summer Youth Employment Program

The Summer Youth Employment Program (SYEP) provides valuable work experiences to local youth from Cambridge and Boston. SYEP offers a unique six-week experience which assists local youth in developing positive work habits, gaining professional experience, and increasing their motivation to further their education and pursue career options.



Project Zero Professional Learning Programs

Project Zero, a research center at HGSE, hosts professional development workshops for educators to explore ways to deepen student engagement, encourage learners to think critically and creatively, and make learning and thinking visible. 51 Cambridge educators recently took part in six different workshops.

CRLS Tuition Waivers

The Harvard Division of Continuing Education provides scholarships to CRLS students to take courses at the Harvard Extension School. Eleven students received \$25,500 in scholarship aid in FY18.

Internships for High School Students

Every year, SEAS hosts seven to nine student-interns from CRLS as part of its Science & Engineering Research course.

Design Discovery: Young Adult

This intensive four-week summer architecture and design program at the Graduate School of Design immerses local high school students in the world of design. Six Cambridge students recently took part in the program.

Professional Development & District Wide Engagement

Center on the Developing Child, Science-Based Innovation Training

This program at HGSE provides a one-day training for professionals working with young children and/or families. The Center focuses on processes for developing, testing, deploying, and iterating early childhood programming. Fourteen Cambridge educators recently received professional development training through the Center.

Professional Development for Classroom Educators

HGSE supports CPS educators in identifying and accessing various professional development classes on campus.

James Bryant Conant Fellowship

Through the HGSE's James Bryant Conant Fellowship, CPS teachers and administrators admitted to HGSE receive full-funding for a master's degree.

Out-of-School Time Learning Community (OSTLC)

The OSTLC program provides a series of workshops for Cambridge out-of-school time educators that highlight promising practices and tools for engaging students and families. Workshop topics include supporting social, emotional and intellectual growth, immigration, race and equity, and project management.

Supporting the Superintendent

During the past year, Harvard funded a doctoral student from HGSE to work in the office of Cambridge Superintendent Kenneth Salim to assist him with advancing district goals and priorities.

Harvard Museums of Science & Culture

Each year, thousands of CPS students and teachers visit the Harvard Museums of Science & Culture, and all CPS schools have access to free programming. Educators from the museums routinely work with members of the CPS Department of Science on ways to best align museum programs with curriculum standards.

Harvard Art Museums

In partnership with CRLS, students at HGSE are hired every year as graduate student teachers at the Harvard Art Museums for a year-long museum education training and teaching program.

American Repertory Theater (A.R.T.)

Every year, hundreds of CPS students attend performances at the A.R.T. free of charge.

Creative Computing Lab, ScratchEd Meetup

The Creative Computing Lab at the Harvard Graduate School of Education supports K-12 teachers in designing computer science learning experiences that highlight creativity, self-expression, and problem solving, including through the program's ScratchEd Meetup component, a

creative approach to professional learning for educators who are interested in teaching with Scratch. Approximately 100 Cambridge students and families recently took part in the experience.

Cambridge Students Attending Harvard

Twenty-four students from Cambridge, including 18 from CRLS, were accepted to Harvard College for this past academic year. Cambridge schools have historically been pipelines to Harvard, as 111 Cambridge residents, 73 of them CRLS graduates, were admitted during the last five years.

ECONOMIC IMPACT

Harvard helps attract hundreds of millions of dollars in research funding to Massachusetts, fueling science, medical discoveries and spending in the local economy.

- \$887 million in research funding attracted by Harvard
 - \$353.8 million of those research dollars received were spent on purchases and salaries in Massachusetts.
 - \$324.4 million of which supported researchers and staff.
 - \$29.4 million of which was used to purchase goods and services from companies located in Massachusetts. \$4.6 million of which supported companies in Cambridge through purchasing.
- In FY18, Harvard spending totaled \$6.4 billion.
 - Harvard personnel expenses totaled \$2.5 billion.

- \$3.9 billion to purchase supplies, maintain and expand physical plant, and to run the University.
 - \$1.9 billion of that was spent in Massachusetts. \$151.4 million of that was spent in Cambridge on purchasing, supplies, services and construction.
- In 2019 Harvard recommitted \$20 million to the Harvard Local Housing Collaborative. Since 2000, this initiative has leveraged over \$1.3 billion for affordable housing development in the Greater Boston area.
- Harvard University’s stable presence has been cited by bond rating agencies as contributing to the City of Cambridge’s AAA bond rating
- Harvard has been the largest employer in the City of Cambridge for 20 consecutive years.
 - In 2019 Harvard employed 4,811 Cambridge residents
- Harvard is the 5th highest tax payer in the City of Cambridge.
- As America’s oldest university, Harvard remains one of the top tourist destinations in Massachusetts, stimulating the local economy and cultural life.
 - As an anchor of Harvard Square, the University’s historic campus helps to draw more than 8 million visitors each year.
 - Harvard’s museums attract more than 650,000 local, national, and international visitors.

PAYMENTS TO CITY OF CAMBRIDGE ¹

	2015	2016	2017	2018	2019
Total Payments	\$16,858,585	\$18,472,321	\$18,677,526	\$16,899,350	\$23,338,790
Real Estate Taxes Paid	\$5,582,340	\$5,672,860	\$5,834,926	\$6,010,184	\$6,179,991
Payment in Lieu of Taxes (PILOT)	\$3,646,380	\$3,850,071	\$3,955,056	\$4,131,391	\$4,274,476
Water & Sewer Fees Paid	\$5,425,369	\$5,078,739	\$6,157,131	\$5,620,934	\$6,595,420
Other Fees & Permits Paid ²	\$2,204,496	\$3,870,651	\$2,730,413	\$1,136,841	\$6,288,904

¹ Payments made FY2019 (July 1, 2018 to June 30, 2019).

² Amounts reported include some but not all building permit and other construction related fees paid by Harvard to the City of Cambridge.

COMMUNITY ENGAGEMENT

Clinical and Pro Bono Legal Programs

Harvard Law School (HLS) serves the community through 18 in-house clinics and 11 student-run volunteer groups (known as student practice organizations). In FY18, HLS students provided free legal help to residents on issues ranging from housing, family law, domestic violence, taxes, consumer protection, government benefits, criminal defense, special education, immigration, and bankruptcy. Nearly 400 low-income Cambridge residents received pro bono legal assistance in FY18.

Science and Cooking for Kids

This two-week day camp offered by SEAS is built on the idea that time in the kitchen and the laboratory is a great opportunity for children to explore their natural curiosity and to learn science, math, and healthy habits.

Science and Cooking Public Lecture Series

Through this program, also offered by SEAS, members of the public learn about the scientific

side of the culinary arts. This popular lecture series pairs Harvard professors with celebrated food experts and renowned chefs to showcase the science behind different culinary techniques.

Cambridge Senior Luncheon

Every summer Harvard welcomes hundreds of senior citizens to Harvard Yard for the annual Harvard Cambridge Senior Luncheon. Guests enjoy dancing and mingling with friends in Harvard's historic Tercentenary Theatre. Harvard hosted its 44th luncheon this summer.

Food for Free and Harvard University

Harvard partners with Cambridge nonprofit Food for Free to address chronic hunger in the Greater Boston area. Through the Harvard Food Donation Program and the Harvard Family Meals Program, any untouched, surplus food is given to Food for Free, which distributes it to local families. In a typical week during the academic year, Harvard may donate up to 1,200 pounds of food that was never served. Each week, around 1,000 nutritious meals are donated to families in need.



Photo: Stephanie Mitchell/Harvard University

ACCESSING HARVARD RESOURCES

As one of the world’s pre-eminent institutions of higher-education and research, Harvard has a vast constellation of resources that are available to the larger community. To help navigate the myriad opportunities for accessing the University, the following web-sites provide great starting points for exploring all that Harvard University has to offer!


Event Calendars

- Harvard University – Events
 Highlighting upcoming events across the University with links to Events Calendars at Harvard’s schools, research centers and academic departments.
www.harvard.edu/events
- Harvard in the Community – Events
 View upcoming events on Harvard’s campus that are open to the public. Use the filters to search by location, event type, interest, and free or paid admission.
www.community.harvard.edu/events



- The Harvard Gazette – Events
 Featured events, links to dozens of other event calendars across the University, and an interactive Events Calendar to search by date and specific areas of interest.
www.news.harvard.edu/gazette/harvard-events/events-calendar
- Common Spaces – Events
 Harvard's Common Spaces program coordinates events and activities that invite people to feel alive, at home, and part of the larger fabric of the University.
<https://commonspheres.harvard.edu/events>

Museums

- Harvard Art Museums
 Free to Cambridge residents, the outstanding collections and public programs of the Harvard Art Museums—the Fogg Museum, Busch-Reisinger Museum, and Arthur M. Sackler Museum—are dedicated to advancing the understanding and appreciation of art.
www.harvardartmuseums.org
- 
- Harvard Museums of Science and Culture
 Four museums (Peabody Museum of Anthropology & Ethnology, Harvard Museum of Natural History, Semitic Museum, and Collection of Historical Scientific Instruments) provide interdisciplinary exhibitions, events and lectures, and educational programs on the natural world, science, and human cultures.
www.hmsc.harvard.edu
 - Digital Collections
 Several University museums have on-line digital collections. Browse and explore Harvard’s diverse and extensive collections in art, science and human culture.
 - Harvard Art Museums
www.harvardartmuseums.org/collections
 - Peabody Museum of Anthropology & Ethnology
<https://pmem.unix.fas.harvard.edu:8443/peabody>
 - Collection of Historical Scientific Instruments
www.chsi.harvard.edu/waywiser

Arts and Culture

- Harvard in the Community – Arts & Culture
Spanning museum exhibitions to live performances and hands-on art-making activities, Harvard regularly brings arts and culture opportunities—from across the country and around the world—to its neighbors in Cambridge, Boston, and across Massachusetts
www.community.harvard.edu/arts-culture

- Office for the Arts at Harvard – Events
Upcoming arts events across the University plus links to the Harvard Box Office and other campus box offices.
www.ofa.fas.harvard.edu/events

Libraries

- Harvard University Library – Visitor Access
Not a Harvard affiliate but interested in using Harvard’s libraries? There are plenty of opportunities for visitors to experience our collections. Discover what you can do.
<https://library.harvard.edu/visitor-access>



- Harvard University Library – Public Events and Exhibits
Harvard’s libraries host numerous public events and exhibits throughout the year that tell the unique stories associated with their diverse collections.
<https://library.harvard.edu/events>
<https://library.harvard.edu/collections-exhibits/exhibits>

Distance Learning

- HarvardX – Free Online Courses
Explore new interests and career opportunities with courses in computer science, biology, engineering, architecture, data science and more.
www.edx.org/school/harvardx

Athletics

- Harvard Athletics - Ticketed Events
Cheer on the Harvard Crimson football, basketball, hockey and Lacrosse teams!
<https://tickets.gocrimson.com>



- Harvard Athletics – Varsity Sporting Events
Harvard University sponsors 42 varsity teams, the most of any Division I athletic department in the country. Varsity sporting events have free admission and no ticket is required.
<https://gocrimson.com/composite>

Tours

- Harvard University Visitor Center – Student Led Walking Tours
Learn about Harvard University and its history in a free walking tour of Harvard Yard. Student guides also provide a unique insight into individual experiences at Harvard.



- Harvard College Admissions – Virtual Tour
This Virtual Tour allows you to discover spaces that aren't even available on an in-person campus tour, such as classrooms, laboratories, residence halls, and more. Even better, it's available 24 hours a day, seven days a week.
<https://college.harvard.edu/admissions/explore-harvard/virtual-tour>



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