

2010
Harvard University's

Town Gown Report



for the
City of Cambridge

Submitted by:
University Planning Office

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Institution Name: President and Fellows of Harvard College
Report for Time Period: 2009 – 2010 Academic Year
(unless otherwise noted, data reflects June 30, 2010)
Date Submitted: December 15, 2010

I. EXISTING CONDITIONS

Please provide the following information about the current conditions and population at your Cambridge campus. Add clarifying comments as needed.

A. FACULTY & STAFF¹

	2007	2008	2009	2010
Cambridge Based Staff¹				
Head Count	11,647	12,017	12,027	11,444
FTEs	9,379	9,725	9,761	9,146
Cambridge Based Faculty				
Head Count	1,581	1,760	1,783	1,715
FTEs	1,440	1,590	1,621	1,572
Number of Cambridge Residents Employed at Cambridge Facilities				
	3,973	4,166	4,105	3,927
Number of Cambridge Residents Employed at Boston Facilities				
	693	732	720	747

Ten-year projection

Growth projections are influenced by many factors and no central University department has undertaken such projections for faculty and staff counts.

¹ Employment figures are as of June 30, 2010 and reflect voluntary retirements and staffing reductions which took place in the previous fiscal year FY10.

B. STUDENT BODY ²

Please provide the following statistics about your Cambridge-based student body:³

	2007	2008	2009	2010
Total Undergraduate Degree Students	7,100	7,081	7,156	7,181
Day	6,715	6,648	6,678	6,655
Evening	[385]	[433]	[478]	[526]
Full Time	6,880 [168]	6,837 [196]	6,890 [223]	6,869 [219]
Part Time	220 [217]	244 [237]	266 [255]	312 [307]
Total Graduate Degree Students	9,363	9,238	9,486	10,191
Day	8,773	8,538	8,557	8,730
Evening	[590]	[700]	[929]	[1,461]
Full Time	8,611 [95]	8,495 [147]	8,485 [126]	8,767 [220]
Part Time	752 [495]	743 [553]	1,001 [803]	1,424 [1,241]
Total Non-degree Students	5,623	5,653	6,172	6,525
Day	434	358	313	285
Evening	[5,265]	[5,300]	[5,859]	[6,240]
Total Number of Students in Cambridge	22,086	21,972	22,814	23,897³

Numbers in brackets represent students at the Extension School.

Ten-year projection

As is the case with faculty and staff counts, no central University department has undertaken projections regarding future student population.

² Counts as of October 15, 2009. Includes all non-degree students enrolled in day or evening classes, such as persons taking classes at Harvard Extension School.

³ Growth is primarily attributable to increases in students attending Harvard Extension School.

C. STUDENT RESIDENCES

	2007	2008	2009	2010
Number of Undergraduate Students Residing in Cambridge				
In dormitories ⁴	6,449	6,485	6,566	6,566
With cars garaged in Cambridge	26	33	17	22
In off-campus, affiliate housing	0	0	0	0
In off-campus, non affiliate housing	103	112	115	109
Number of Graduate Students Residing in Cambridge				
In dormitories	1,387	1,164	1,181	1,270
With cars garaged in Cambridge	155	132	208 ⁵	156
In off-campus, affiliate housing	1,356	1,546 ⁶	1,741 ⁷	1,706
In off-campus, non-affiliate housing	3,382	3,347	3,333	3,279

Ten-year projection

Harvard's housing stock is managed as a University-wide resource to accommodate the needs of the larger University community including students participating in executive education programs, junior faculty, and family members of affiliates.

⁴ These figures represent beds available for undergraduate students in Cambridge and include beds located at 10-20 DeWolfe Street. The actual number of students may differ from these numbers to some degree.

⁵ The increase in graduate students parking in Cambridge is due in part to provisions for student parking in the garages at the new graduate student and affiliate housing at the 5 Cowperthwaite Street and 10 Akron Street.

⁶ The completion of 5 Cowperthwaite Street and the Grant and Banks Street woodframe houses increased the availability of affiliate housing for graduate students in Cambridge.

⁷ The completion of 10 Akron Street and three woodframe houses on Hingham Street and Western Avenue increased the availability of affiliate housing for graduate students in Cambridge.

D. FACILITIES & LAND OWNED

	2007	2008	2009	2010
Acres (Tax Exempt) ⁸	201.13 ⁹	201.59 ⁹	201.59	201.59
Acres (Taxable)	25.34 ⁹	24.61 ⁹	24.61	24.61
Number of Buildings ¹⁰	304	395	395 ¹¹	388 ¹²
Dormitories				
Number of Buildings	79	77	80 ¹³	80
Number of Beds	7,834	7,791 ¹⁴	7,917	7,918
Size of Buildings (GSF)				
Assembly/Museum	949,190	884,536	884,536	997,167
Athletic	297,170	225,761	225,761	210,780
Classroom	484,979	482,330	866,512	866,512
Commercial	245,180	282,045	282,045	282,045
Healthcare	78,850	77,155	77,155	77,155
Laboratory	2,404,953	2,861,537	2,485,937	2,546,699
Library	1,175,987	1,117,081	1,122,453	1,154,716
Office	2,558,508	2,496,780	2,882,301	2,880,697
Residential	5,542,578	5,713,873	5,714,655	5,646,543
Support	924,419	923,487	886,349	881,041

⁸ As of January 1, 2010, as reported on Tax Report ABC submitted to the City of Cambridge.

⁹ As part of the Riverside housing development, a total of approximately three acres of land was transferred from taxable to tax-exempt status in 2007 and 2008. In addition to the parcels that contain Harvard's affiliate housing and the new affordable units developed by Harvard for the City, the exempt land includes the $\frac{3}{4}$ acre public open space for which Harvard granted a surface easement to the City of Cambridge. Harvard's taxable acres were further reduced by the transfer of the Blackstone Switch House to the City of Cambridge, after conversion of this structure into affordable housing units, and the sale of six residential properties.

¹⁰ Building counts for 2006-2007 include only tax-exempt properties. The number of buildings reported for 2008 and 2009 reflects all of Harvard's Cambridge buildings, both taxable and tax-exempt.

¹¹ As of June 30, 2009, Harvard acquired one new building, 15 Hawthorn Street, as a gift. However, the building count has not increased because: a) the garages at 10 Akron Street and 5 Cowperthwaite Street were counted as separate buildings in 2008; however, they are not separate structures and are not counted as buildings this year; b) 42 Oxford Street was demolished in 2003 but was incorrectly maintained in the University's building database; and c) two buildings were transferred from "leased" to "owned" (see footnote 15).

¹² The building count decreased because a) several of the buildings in the Holden Green residential complex which are located in Somerville are no longer included, b) one of the 33 Elmwood Avenue buildings was physically incorporated with another building on the property, and c) 18 Sumner Road (building only) was sold in 2009.

¹³ The increase in dormitories is due to the change in use from office to dormitory of the three Harvard-owned wood-frame houses (1637 Mass Ave, 3 Mellen Street and Baker Hall) that were moved to the Harvard Law School campus.

¹⁴ Beds reported in 2008 included 5 Cowperthwaite Street, which is affiliate housing. The number has been updated.

¹⁵ The majority of the apparent increase in SF is due to the reclassification of 124 Mount Auburn Street (370,381 SF) and 14 Story Street (26,056 SF) to "owned assets." Harvard holds long-term leases on these two buildings with ownership transferring to Harvard at the end of the lease term. These two buildings previously were included in the University's "leased assets" inventory and, therefore, not reported in as owned buildings in earlier Town Gown reports. Harvard has acquired 15 Hawthorn Street (6,000 SF) as a gift.

¹⁶ The decrease in tax-exempt affiliate housing from 2007 reflects two units that were converted to childcare use at Peabody Terrace.

Parking Facilities

This section refers to parking spaces maintained in Cambridge only. Provide figures for the Campus as a whole and for each sub-area/precinct. Attach additional information as necessary.

Harvard University owns and maintains 4,576 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. When Harvard submitted its Parking and Transportation Demand Management Plan, which was approved by the City of Cambridge in July 2003, it also submitted a detailed inventory of Harvard's parking spaces. Harvard updates this inventory annually in December.

Housing (Do not include any information about dormitories in this table.)

	2007	2008	2009	2010
Affiliate Housing - Tax Exempt				
Number of Units	880	878 ¹⁶	1,047 ¹⁷	1,047
Number of Buildings	8	8	12 ¹⁷	12
Affiliate Housing - Taxable				
Number of Units	734	891 ¹⁸	889	889
Number of Buildings	46	53 ¹⁸	53	53
Other Housing - Tax Exempt				
Number of Units	None	None	None	None
Number of Buildings	None	None	None	None
Other Housing - Taxable				
Number of Units	None	None	None	None
Number of Buildings	None	None	None	None

¹⁷ The increase in the number of exempt affiliate units and buildings from 2008 is due to the construction of new buildings and units at 10 Akron Street, 28 Hingham Street, 30 Hingham Street, and 387 Western Avenue. (Two basement units were removed at other locations).

¹⁸ In 2008 two single-family houses were sold (to private buyers) and six basement units were removed. The increase in the number of taxable affiliate units and buildings from 2007 is due to the construction of new buildings and units at 5 Cowperthwaite Street and the Banks-Grant Street housing. (Note: the number of buildings was incorrectly reported as 54 in the 2008 report; the number has been corrected in the 2009 report).

Property Transfers:

Please list Cambridge properties purchased since filing your previous Town Gown Report:

- 9 Ash Street
- 20 Sumner Road
- 40 and 42 Kirkland Street
- 1791 Massachusetts Avenue (purchased in 2000 subject to a life estate, which terminated in 2010 with the death of the estate holder)

Please list Cambridge properties sold since filing your previous Town Gown Report:

- 18 Sumner Road (building only)

Please describe any planned dispositions or acquisitions:

None

E. REAL ESTATE LEASED

Please attach to the report a table listing of all real estate leased by your educational institution within the City of Cambridge. Include the following for each lease:

- Street address
- Approximate area of property leased (e.g., 20,000 SF, two floors, entire building, etc.)
- Use (e.g., institutional/academic, student activities/athletic, housing, etc.)

If your institution does not lease any real estate within the City of Cambridge, you may omit this section.

Real Estate Leased by Harvard	Square Feet	Tenant	Use
One Bow Street	8,450	FAS	Office
One Brattle Square	18,737	HKS	Office
One Kendall Square	27,000	HMS	Laboratory
One Story Street	6,125	DCE	Classroom
10 Ware Street	2,000	UIS	Office
104 Mt. Auburn Street	12,312	FAS	Office
104 Mt. Auburn Street	7,166	Provost	Office
125 Mt. Auburn Street	36,564	HLS	Office
1408-1414 Massachusetts Ave	50,000	FAS	Office
1430 Massachusetts Avenue	5,656	FAS	Office
1430 Massachusetts Avenue	2,600	GSAS	Office
155 Fawcett Street	34,000	FAS/ART	Warehouse
25 Mt. Auburn Street	7,732	LASPAU	Office
28 Wendell Street	6,080	HLS	Residential
44 Brattle Street	10,193	GSE	Office
44R Brattle Street	8,417	GSE	Office
50 Church Street	22,680	GSE	Office
625 Massachusetts Avenue	41,141	FAS	Office
Total:	306,853		

F. PAYMENTS TO CITY OF CAMBRIDGE:

	2007	2008	2009	2010
Total Payments	\$15,175,870	\$13,388,612	\$13,366,092	\$14,282,663
Real Estate Taxes Paid	\$4,605,164	\$4,806,268	\$4,906,603	\$5,065,482
Payments in Lieu of Taxes (PILOT)	\$2,105,490	\$2,173,492	\$2,248,730	\$2,575,890
Water and Sewer Fees Paid	\$5,646,457	\$5,159,149	\$4,994,405	\$5,258,274
Other Fees and Permits Paid	\$2,816,752	\$1,249,703	\$1,216,354	\$1,383,017

Ten-year projection:

In 2005 Harvard and the City of Cambridge renewed the PILOT agreement for a fifty-year period with annual escalators.

G. INSTITUTIONAL SHUTTLE INFORMATION

Please include information about all regularly scheduled shuttle services operated by your institution within the City of Cambridge or between Cambridge and other municipalities:

Route Name	Description	Frequency	Hours of Operation
Weekday Service – Morning			
Radcliffe Quad (Stadium)	Quad, Square, River Houses, Allston Campus	30 minutes	5:30 am to 7:15 am
Soldiers Field Park (II)	Allston Campus, Square, Quad, Square, Allston Campus	20 minutes	7:15 am to 10:30 am
Weekday Service – All Day			
Mather Express	River Houses through Square to Kirkland St.	10 minutes	7:30 am to 4:30 pm
Radcliffe Quad (Express)	Quad, Square to Kirkland St.	10 minutes	7:30 am to 5:00 pm
Weekday Service – Evenings			
Extended Overnight	River Houses through Square, up Garden St. to Kirkland St. to River Houses	30 minutes	7:30 pm to 4:00 am
Radcliffe Quad-Yard Express	Quad, Square, Quad (up Garden St.)	25 minutes	4:15 pm to 1:00 am
River Houses A, B, & C	River Houses through Square, up Garden St. to Kirkland St. to River Houses	35 minutes	4:15 pm to 1:00 am
Soldiers Field Park (III)	Allston Campus, Square, Kirkland St., Square, Allston Campus	35 minutes	4:00 pm to 12:45 am
Weekend Service			
Crimson Campus Cruiser	River Houses through Square, up Garden St. to Kirkland St. to River Houses	35 minutes	12:00 pm to 4:30 pm
1636'er	River Houses through Square, up Garden St. to Kirkland St. to River Houses	20 minutes	4:00 pm to 1:00 am
Soldiers Field Park (I)	Allston campus, Square, Quad, Square, Allston Campus	30 minutes	4:30 pm to 8:00 pm
Extended Overnight	River Houses thru Square up Garden St. to Kirkland St. to River Houses	30 minutes	12:00 am to 5:00 am

See map on page 43.

Harvard's Passenger Transport Shuttle fleet includes three 35-foot buses and five 29-foot buses (each of the eight buses has 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 a morning bus operates between Cambridge and Allston until 10:30 am. In the summer, limited weekday Shuttle service is provided on the Soldiers Field Park route.

Additionally, Harvard's Passenger Transport Van fleet includes five, ten-seat passenger vans and two wheelchair passenger vans. On weekdays, two of the vans run from 7:30 am -7pm; on weekends the vans run from 12 pm-7p m. These vans provide service to individuals with mobility impairments or medical conditions on an as-needed basis. On weeknights, an evening van service is designed to transport faculty, staff and students safely about the campus area as a supplement to the shuttle bus system. The evening service operates between 7:00 pm and 12:30 am, seven days a week throughout the entire year, including summer and break periods.

All of the shuttle vehicles operate on B-20 biodeisel. Using biodeisel is considered a best practice in this industry and has reduced emissions by 15%. On an annual basis, emissions are reduced by on 96,725 lbs per bus fleet and 43,091 lbs per van fleet. Harvard's Transport Service Department keeps the fleet on a short life cycle to ensure that the best technology available is being used and practices proactive maintenance on all vehicles.

Schedules are very precise and do not allow for more than three minutes of idling, less than the five minutes allowed by anti-idling regulations.

Please provide ridership data, if available, and describe efforts both to coordinate shuttle system with other institutions and to streamline shuttle services.

Total passenger ridership for all Harvard shuttle routes in FY2010 was 874,568.

Harvard's Passenger Transport Service Department collaborates with the Cambridge Traffic, Parking and Transportation Department in the planning of University shuttle routes. Harvard also works closely with the Cambridge Department of Public Works during construction and events that may require re-routing of Harvard Shuttles. Most recently, during the re-design of Harvard Square, several Harvard shuttle routes were altered in order to help alleviate traffic delays and congestion in the area. Harvard and the City work together during snow events to clear shuttle stops.

Harvard has developed a good working relationship with the Cambridge Police Department in dealing with the safety needs of the streets that we share and have been partners in mitigating issues such as over-crowding caused by tourist buses on Massachusetts Ave.

The University has partnered with the MASCO shuttle bus and, in addition to providing financial support for this system, shares ShuttleTracker technology (a real-time tracking system developed for PTS that shows the location of buses on their routes). This coordination has limited service overlap within Cambridge and eliminates the need for a dedicated Harvard shuttle traveling to the Medical Area in Boston. Opportunities for collaboration with other institutions have been limited due to the liability of having non-Harvard affiliated passengers riding on our vehicles.

II. FUTURE PLANS NARRATIVE

On page 12 of the 1991 Report of the Mayor's Committee on University-Community Relationships, the members of the Town-Gown Committee agreed that "Universities should offer statements of their future needs to the city and plans responding to those needs. These plans should include specific statements about known development projects and their status; forecasts of faculty, staff or student population growth; and identified needs that do yet have solutions... These plans should address known concerns of the community, such as parking and/or tax base erosion."

Describe your institution's current and future physical plans:

- To provide context, describe campus development efforts over the past five years;
- Employ a future planning horizon of ten years;
- State your institution's specific planning goals for this period;
- Describe the goals and needs that you address through your plans;
- How do you see your campus evolving to address your institution's strategic goals and objectives;
- Identify and describe plans for future development of the sub-areas/precincts of your campus, being certain to address the institution specific information requests and questions found in Section VI (coordinate with Map 4 in Section IV);
- Identify future development sites on your campus (coordinate with Map 4 in Section IV);
- Include in your discussion the relationship of planned and projected institutional development to adjacent residential districts within Cambridge and any impacts that might result;
- Include in your discussion the relationship of planned and projected institutional development to adjacent retail and commercial districts within Cambridge and significant impacts that might result (e.g. loss or relocation of retail space, etc);
- Include in your discussion efforts to support and encourage "green" development on your campus, including sustainability planning and LEED certification of campus buildings;
- Include in your discussion a description of existing facilities for housing your faculty and staff and any plans for increasing such housing.

A. DEVELOPMENT OVER THE PAST 5 YEARS

Harvard continues to make strategic investments on the Cambridge campus to further its academic mission. This work includes the renovation of buildings and spaces to meet changing academic needs, improve life safety, upgrade building systems, and meet sustainability goals. The primary drivers of physical planning and development on the Cambridge campus continues to be: supporting academic programs and research; housing Harvard affiliates; enhancing the campus experience; promoting sustainability campus-wide; and improving campus infrastructure.

Supporting Academic Programs and Research

Academic Buildings, Centers, and Support for Core Academic Functions



*The H.C. Fung Library
opened in 2005 as part of
the Center for Government
and International
Studies complex.*

Support for academic and research programs has been the primary driver for Harvard's physical planning and development. Changing pedagogies, the introduction of new technology and fields of research, and growing interdisciplinary collaboration have required that Harvard's capital and physical plans respond to evolving programmatic needs. Over the past several years there has been substantial investment in the development of new and renovated facilities that support academic study and research. Significant projects include:

Wasserstein Hall, Caspersen Student Center, and Clinical Wing (Harvard Law School) – Scheduled for completion in 2011, this building will establish a new focus for the Law School campus and will provide over 200,000 square feet of classrooms, academic and clinical offices, and a student center.

Byerly Hall – The re-purposing and comprehensive renovation of this historic former classroom building was completed in 2008 and provides a new home to the Fellows of the Radcliffe Institute for Advanced Study, and strengthens scholarly research in Radcliffe Yard.

90 Mt. Auburn Street – This building, completed in 2006, houses administrative offices for the Harvard University Library system and a state-of-the-art conservation laboratory providing for the care and treatment of rare and valuable materials in Harvard’s special collections.

New Directions in the Sciences

Over the past several years Harvard has made major investments in new and renovated science and engineering facilities to strengthen research and teaching in such key areas as stem cell research, systems biology, nanotechnology, and advanced computing. These investments respond to new initiatives and the increasingly integrated and collaborative nature of scientific research and have competitively positioned the University in a dynamic and rapidly changing scientific environment. Significant projects include:

Sherman Fairchild Building – The comprehensive interior renovation of this building which is scheduled for completion in 2011 will provide a new home for the Department of Stem Cell and Regenerative Biology (SCRB) supporting its research in areas of stem cell research and regenerative medicine. This project will bring together researchers from across the University, some of whom are now housed in affiliated hospital buildings.

Northwest Building – Completed in 2008, this new facility houses over 500,000 gross square feet of interdisciplinary science research and teaching space, providing a new focus of scientific research in the North Campus. Interior fit-outs are ongoing to accommodate research labs and collections storage.

Laboratory Renovations – Harvard continues to renovate existing research and laboratory space as needed to support new science initiatives, to accommodate new faculty appointments, and to foster interdisciplinary research.

Housing Harvard’s Affiliates

In 2008, with the completion of new graduate student and affiliate housing in Riverside, Harvard reached its goal of having the capacity to house 50% of its graduate, professional, and medical students. Over the past several years the University has also made significant improvements across its existing housing portfolio to enhance housing for students and affiliates. This investment has included life safety and building system upgrades, and interior renovations in more than 40 buildings. Significant projects include:

Riverside Housing - With 500 new beds of graduate student and affiliate housing, the completion of the Riverside Housing project fulfilled a major commitment to housing Harvard’s affiliates. This project included the development of two new graduate student dormitories, new and renovated affiliate housing units, and the creation of 33 affordable homeownership units in the historic Switch House, and 6 units of affordable housing in new woodframes.

Undergraduate Houses and House Masters’ Residences - Life safety improvements including installation of sprinkler systems have been a key priority over the past several years.

83 Brattle Street – Major building system upgrades and renovation of 31-unit affiliate apartment building.

Harvard's ongoing investment in its housing portfolio has included life safety, building systems and accessibility improvements at Holden Green, an affiliate apartment complex.



Holden Green – Phased renovations to improve life safety including new fire protection and alarm systems and building electrical systems.

***Enhancing
the Campus
Experience***

The University has undertaken many projects over the past several years that contribute to an improved campus environment. These projects have included improvements in non-academic facilities for students and affiliates, investments in the campus' artistic and cultural resources, and the enhancement of the campus landscape.

Campus Life

The student run Harvard Community garden provides hands-on experience in urban gardening.



Harvard has invested in facility improvements and other initiatives that contribute to the quality of campus life for students, faculty and staff. These projects include:

Harvard Community Garden – Opened in 2010, this urban garden features raised planting beds for growing produce, accessible paths and planters. Harvard students are responsible for garden operations such as ongoing maintenance, funding, and identifying potential market opportunities for garden produce.

Common Spaces – The Fall 2009 pilot project to enhance the experience of the Harvard campus has been continued with tables and chairs in Harvard Yard and a series of open-air performances highlighting the talents of Harvard affiliates.

Gymnasium Renovations (Malkin Athletic Center and Hemenway Gym) – Renovation and redesign of fitness facility to add equipment and improve usability.

Arts and Culture

Harvard's wealth of cultural programs and facilities are an integral part of the University experience, not only supporting academic programs in the arts and humanities but providing an outstanding cultural amenity to the larger community. Recent projects which support the arts and culture on the Cambridge campus include:

32 Quincy Street – This project will create a renovated and expanded home for the Harvard Art Museums, providing the University with a state-of-the-art facility for teaching, research, and exhibition.

New College Theatre – Completed in 2007, the renovation of the former Hasty Pudding building included exterior restoration and the creation of a new theater and rehearsal space.

Landscape Improvements



The landscaped quad at Harvard Divinity School has created a new focal point for the School.

Over the last five years, Harvard has made significant improvements to the campus landscape. Among the most significant changes has been the replacement of surface parking lots with below-grade parking structures, creating space for new academic facilities, improved pedestrian circulation, and new landscape spaces for the campus and the community. Where projects have occurred at the edges of the campus, Harvard has collaborated with neighbors and abutters to create developments that are better integrated with the rest of the campus and that provide a more welcoming and landscaped interface with adjacent neighborhoods. Recent projects include:

Placing parking underground (5 Cowperthwaite, 10 Akron, 52 Oxford, 10 Everett)

These projects replaced surface parking and aboveground garages with underground parking to create development sites for new academic and residential buildings and significantly improved the campus with the creation of new landscapes. Most recently, the City of Cambridge completed the new Riverside Park located on a surface easement given as part of Harvard's Riverside development, creating a vibrant new neighborhood open space.

Rockefeller Hall Landscape – The Harvard Divinity School converted a former parking area into a landscaped quad creating a more cohesive identity for the Divinity School and a new neighborhood open space.

Radcliffe Sunken Garden – The Radcliffe Institute's restoration of this space reestablishes and builds upon the garden's character while improving accessibility for all users.

***Promoting
Campus-wide
Sustainability***

Harvard has had a formal sustainability program for nearly a decade, and the University has continuously demonstrated its commitment to addressing the challenges of climate change and environmental sustainability. The creation of a healthier, more sustainable campus is driven by three core University-wide commitments, administered through the Office for Sustainability and in partnership with the Schools and Central Administration:

- **Greenhouse Gas (GHG) Reduction Goal** to reduce emissions 30% below a 2006 baseline by 2016, including growth (adopted in 2008). University-wide GHG emissions have declined by 7% from FY06-FY09, including growth. When growth is excluded, emissions declined by 14% in the same time period.
- **Comprehensive Green Building Standards** for capital projects, renovations and building system upgrades that require a smart design process incorporating life cycle costing, integrated design, and energy modeling when applicable. (Adopted 2009, building on the 2007 Green Building Guidelines).
- **Campus-wide Sustainability Principles** that provide a broad vision to guide University operations and planning (adopted in 2004).

In addition to these core commitments, Harvard's Office for Sustainability has also focused on changing the culture of how our community works, lives and learns to reduce the University's environmental footprint. Thousands of students, staff and faculty throughout the University are working together to implement innovative, economically-viable solutions that reduce waste, cut energy use and conserve resources.

*Over the past decade
Harvard has established
itself as a leader in campus
sustainability efforts.*



Key sustainability indicators include:

- As of November 2010, Harvard had 85 building projects that have achieved or are in the process of achieving LEED green building certification. 40 of these projects have been certified and 56 are located in Cambridge.
- Almost 60% of the square footage in the University has undergone energy audits and over 1,000 cost-effective energy conservation measures have been identified, with over 600 implemented to date.
- The University's main campus has achieved a 55% recycling rate, installed small-scale renewable energy projects, introduced composting in residential and commercial dining halls, and initiated an organic landscaping project in Harvard Yard that to date covers 30 acres.
- Harvard has an outstanding single-occupancy vehicle (SOV) rate in Cambridge of 11.3% in 2010 (reduced from 27.4% in 2003).

Harvard has been recognized by several third-party university sustainability ranking organizations that consistently rank Harvard at the top of their lists: including being recognized by Princeton Review as one of the top 18 schools on its 2011 Green Honor Roll; a top-ten ranking from the Sierra Club Magazine in its 100 “Cool Schools” list; and achieving an A- (the highest score allotted) for five consecutive years from the Sustainability Endowment Institute.

Improving Campus Infrastructure

The continual upgrade and expansion of the University’s centralized utility infrastructure and parking facilities is essential to support Harvard’s new and existing development. Over the last five years there has been a significant investment in critical campus infrastructure including the following projects:

Blackstone Project (Renovation of 46 Blackstone and Blackstone Steam Plant)

University Operations Services (UOS) completed renovation of the complex of historic buildings at 46 Blackstone Street. The project, which received LEED Platinum certification, has enabled the consolidation of UOS departments including the Operations Center, Facilities Maintenance, Engineering & Utilities, and Environmental Health & Safety. Ongoing investments at the adjacent Blackstone Steam Plant have included installation of a high-efficiency, gas-fired boiler and backpressure turbine to generate electricity as a byproduct of steam production. These improvements have significantly reduced the University’s GHG emissions.

Satellite Chilled Water Plant (Northwest Science Building) – The development of the Northwest Science Building included the construction of a 7,500-ton satellite chilled water plant. This new satellite, along with the Central Plant at the Science Center, provides chilled water for space conditioning and process cooling to approximately 75 buildings on the Cambridge campus.

Parking Garages - Oxford Street, 5 Cowperthwaite Street, 10 Akron Street (Riverside), 10 Everett Street – As part of the re-development of existing campus sites, Harvard has included the construction of underground parking garages. These facilities have replaced surface parking areas and created opportunities to improve pedestrian access and circulation.

In addition to the ongoing renewal of campus infrastructure, Harvard assesses opportunities to coordinate campus infrastructure improvements with public works projects being undertaken by the City of Cambridge, such as the Cambridge Street Underpass Rehabilitation Project and the Infrastructure Renewal on Western Avenue.

B. CAPITAL PROJECTS

Planning **Fay House**



Architect:	Venturi Scott Brown and Associates
Total Square Feet:	20,600 GSF renovation
Green Attributes:	Targeting LEED Gold

The Radcliffe Institute for Advanced Study is completing planning for the comprehensive renovation of Fay House which contains many of the Institute's administrative offices. The interior of this historic structure will be re-configured to optimize the building's functionality and improve its efficiency while retaining the building's historic character.

Specific project components include: making the building accessible; addressing building life safety with new egress stairs, and new fire detection and suppression systems; improving occupant comfort and efficiency by updating heating, cooling, plumbing, electrical, and telephone/data systems; and undertaking repairs to the building exterior. Construction is expected to begin in June 2011.

Radcliffe Landscape Master Plan



Landscape Architect:	Stephen Stimson Associates
Total Square Feet:	Approximately 1.2 acres landscape
Green Attributes:	improved site drainage, maintenance of existing tree canopy

The Radcliffe Institute for Advanced Study is planning the continued implementation of its Landscape Master Plan for the Radcliffe campus. To date Radcliffe has undertaken landscape improvements contained in the Master Plan as part of the renovation of Byerly Hall in 2008, and completed the restoration of the “Sunken Garden” at the corner of Garden Street and Appian Way in 2009.

The final phase of implementation, to be undertaken after the completion of the Fay House renovation project, includes improvements to Radcliffe Yard which will preserve its character and enhance its role as the principal organizing space connecting the Institute’s buildings and activities. Key project goals include: the improvement of site drainage and addressing soil compaction; improving the character of the transition areas between the perimeter path and building entrances; improving pedestrian circulation by clarifying way-finding for visitors to Radcliffe Yard; and pruning and general maintenance of the tree canopy to improve tree health and strengthen the open character of the space.

*Currently in
Construction*

Sherman Fairchild Building (Interior Renovation)



*The renovated Sherman
Fairchild Building will
house the Department of
Stem Cell and Regenerative
Biology.*

Architect:	Payette Associates
Total Square Feet:	90,000 SF renovation
Programmatic Driver:	Interdisciplinary research and teaching
Green Attributes:	Targeting LEED Gold or Platinum

Construction is underway on the renovation of the Sherman Fairchild Building to house the Department of Stem Cell and Regenerative Biology (SCRB). This renovation will include a complete replacement of the building's 30 year old infrastructure, and a reconfiguration of the laboratory layouts to better support present-day concepts of open, flexible laboratory design.

To accommodate the relocation of researchers from Sherman Fairchild during the project, several laboratory and office renovation and fit-out projects in the Biological Laboratories and the Northwest Science Building have also been completed. A portion of SCRB and laboratories associated with the Harvard Stem Cell Institute are now housed in renovated space in the Bauer Laboratory.

The Department of Stem Cell and Regenerative Biology (SCRB) was established in April 2007 as the first cross-school department located in both the Faculty of Arts and Sciences (FAS) and Harvard Medical School (HMS). The department's research in the areas of developmental biology, regenerative medicine and tissue engineering will help to inform the understanding of human diseases and their treatment.

The project team is utilizing an integrated design approach to optimize building performance. Potential design options have been evaluated using energy modeling and life cycle costing to identify decisions which are best for Harvard and the environment.

The team has fully embraced the Harvard Green Building Guidelines and is using the project to evaluate potential improvements to the guidelines. The renovation of Sherman Fairchild is striving to incorporate best practices from around the University and hopes to be a model for green laboratory renovations at Harvard and beyond. At present, project planners anticipate that the design will achieve LEED Gold certification; the design will target LEED Platinum, if possible within the constraints of the program.

Engineering Science Laboratory (Interior Renovation)



Architect: Douglas Okun Architects
Total Square Feet: 11,000 SF of renovated space
Programmatic Driver: Interdisciplinary teaching and research
Green Attributes: Targeting LEED Gold

The School of Engineering and Applied Sciences is undertaking a renovation of the Engineering Science Laboratory at 58 Oxford Street. The main driver of this project is renovation of several interior lab spaces to accommodate new research laboratories for the Wyss Institute for Biologically Inspired Engineering and SEAS Faculty. The project includes the installation of new fire alarm and protection systems and water service. The project also calls for limited exterior improvements, most notably the creation of a new accessible walkway at the Oxford Street entrance, as well as entrance upgrades, an improved loading dock, and landscaping upgrades.

The Harvard Art Museums: 32 Quincy Street (Renovation and Expansion)



Architect:	Renzo Piano Building Workshop (Architect of record: Payette Associates)
Total Square Feet:	204,000 GSF (includes 50,000 GSF demolition, 104,000 GSF renovation, 100,000 GSF new construction)
Programmatic Driver:	Address facility deficiencies; expand and restore to meet Harvard Art Museums' programmatic needs
Green Attributes:	Targeting LEED Gold

The Harvard Art Museums' project to renovate and expand its facilities located at 32 Quincy Street is well underway. The project will bring together the Harvard Art Museums' three constituent museums—the Fogg Museum, the Busch-Reisinger Museum, and the Arthur M. Sackler Museum—in one state-of-the-art facility. The new facility will enhance the teaching and research mission of the Art Museums and create far more accessibility to their renowned collections through additional exhibition space, as well as an expanded object-based study center complex where visitors can view and study works of art that are not on display. Visitor amenities such as a café and museum shop will also be included.

Construction began at the site in January 2010 with selective demolition and abatement. Excavation along Prescott Street began this fall to make way for new below-ground space and will proceed over the next few months. Construction of new above-ground space is expected to begin next year. The new facility is projected to be completed in late 2013.

Architect Renzo Piano, with local design partner Payette Associates, developed a design that respectfully preserves the original 1927 building, including its historic façades on Broadway and Quincy Street and the iconic interior courtyard. The design requires the removal of later additions to the original 1927 structure to allow for new construction that will provide functional space for a world-class art institution and support its new program. A new gallery addition will be constructed along Prescott Street that will provide the community with a second entrance of equal significance to the existing entrance on Quincy Street. A new glass rooftop addition will allow important natural light to filter into the museums' conservation labs and the study center complex, as well as the courtyard below. The expansion is designed to minimize impact upon the historic structure, is distinct in its architectural expression, and respects the residential neighborhood and the historic Carpenter Center. The Carpenter Center's ramp along Prescott Street has been protected and is structurally isolated to preserve it in its current state through construction. New landscaping will also enhance the public realm with more usable green space and bicycle parking. The project is designed to follow the University's sustainability initiatives with the intention of attaining LEED Gold certification.

Skanska USA Building Inc. is managing construction of the project. Removal of material from demolition has been achieved with a recycling rate of 97%. The original building's envelope has been braced with heavy steel members to provide structural integrity until the new structural system is in place.

This project has received approvals from the Cambridge Board of Zoning Appeal, the Cambridge Historical Commission and the Massachusetts Historical Commission. The Arthur M. Sackler Museum at 485 Broadway remains open during the construction on Quincy Street and has been reinstalled with representative works from the collections of all three museums.

Wasserstein Hall, Caspersen Student Center and Clinical Wing (New Building)



Architect:	Robert A.M. Stern Architect
Total Square Feet:	235,000 GSF (additional 223,000 GSF in garage)
Programmatic Driver:	Replacement of inadequate academic facilities and student activity space; relocation of parking underground
Green Attributes:	Targeting LEED Gold

Construction of the Law School's new building, Wasserstein Hall, Caspersen Student Center, and Clinical Wing project (formerly referred to as the Northwest Corner Building Project) at the corner of Everett Street and Massachusetts Avenue is expected to be complete and ready for occupancy in December 2011. Once complete, the new building will improve the environment for teaching and learning, providing new classrooms, academic and clinical offices, and new spaces for student activities.

The new building complex will house three centers:

Wasserstein Hall, bordering Massachusetts Avenue, will feature a range of classrooms and other learning spaces designed for 21st century legal education.

Caspersen Student Center, adjacent to Harkness Commons, will be a central gathering place for students and will serve as a home for student organizations, journals, and social activities.

Clinical Wing, on the Everett Street side of the site, will house the School's expanding clinical programs — the educational ground where theory and practice meet.

In addition to responding to programmatic and student needs, the project will provide major physical improvements to the area benefiting both the Harvard campus and adjacent neighborhoods. These improvements include a building design that recognizes the site's important interface with Massachusetts Avenue and the community. By placing parking underground and improving pedestrian connections, the building will create an

attractive and more welcoming northern gateway to the Law School and to the Harvard University campus from adjacent neighborhoods.

The project also features a 695-car below-grade parking garage that replaces the demolished Everett Street garage and surface lots displaced by the project. Construction of the garage component was completed in August, 2010, and the garage is now operational.

Associated Landscape Improvements: As noted in the 2006 Special Permit application to the Planning Board for this project, the Law School is furthering its study of a related project that calls for the creation of a new central Law School Yard (landscaped courtyard) to be an outdoor focal point and gathering space for the Law School. This new courtyard would be located directly opposite the new public pedestrian entrance along Massachusetts Avenue, and would involve the demolition of the east wing of Pound Hall. Creation of this courtyard would allow for a series of linked landscaped areas connecting public pedestrian zones along Massachusetts Avenue to the route to Harvard Yard through the interior of the campus.

Recently Completed

Vanserg/Shannon Child Care Center (Interior Renovation)



Interior view of the newly renovated child care center in the Vanserg Building.

Photo Credit: Keitaro Yoshioka Photography

Architect:	D.W. Arthur Associates Architects
Total Square Feet:	12,000 GSF
Programmatic Driver:	Improve the quality and increase the capacity of child care options
Green Attributes:	Targeting LEED Gold

Harvard's Office of Work/Life Resources recently completed the renovation of two childcare centers - the Harvard Yard Child Care Center in the lower level of Vanserg Building and the Oxford Street Daycare Cooperative on the ground floor of Shannon Hall. The projects included new mechanical systems, egress modifications for code compliance, more efficient floor layouts, and playground improvements. The renovation work has been designed to achieve LEED gold certification. These two projects support the University's ongoing commitment to improve child care on campus.

Harvard Community Garden



Designer:	Harvard Graduate School of Design students
Total Square Feet:	Approx. 14,000
Programmatic Driver:	Provide experiential education in sustainable urban agriculture and food
Green Attributes:	Composting of garden waste, 100% organic gardening practices

In the Spring of 2010, students and University partners celebrated the opening of the Harvard Community Garden an accessible, raised bed garden at 27 Holyoke Place in the heart of Harvard Square. The student-run Garden includes a mix of raised planting beds for growing food, perennial borders, accessible pathways, patio space for classes and events, and open green space. Open work days, tours, cooking demonstrations, and seminars allow community members to get involved year-round. Produce grown in the Garden is bought and used by Harvard University Dining Services and is also donated to the Cambridge Community Center that serves low-income Cambridge youth.

The Garden project is an ongoing collaboration between students, faculty, and administrators at Harvard University, including the Center for Health and the Global Environment at the Harvard Medical School, Environmental Action Committee, the Office for Sustainability, the Food Literacy Project of Harvard University Dining Services, Landscape Services, Energy & Utilities, Environmental Health & Safety, the University Planning Office and the Faculty of Arts & Sciences. The Garden is staffed during the summer by two full-time undergraduate interns, and during the academic term by the undergraduate Steering Committee.

Undergraduate House Renewal

The undergraduate House system has been a defining feature of Harvard College since the system was first established by President A. Lawrence Lowell in 1930. The undergraduate Houses formalize Harvard's centuries-old tradition of learning and living together. The University has begun planning for the comprehensive renewal of the Houses.

From 2009 to 2010, Harvard has studied how the programmatic needs would fit in the context of renewed House buildings. Harvard has continued the planning phase by testing and revising the House space program.

The timing and phasing of House renewal will depend on funding, and will also be considered in the context of the University's overall capital plan, which is currently under review in light of economic circumstances.

Cambridge Street Overpass (Surface Treatment)

In consideration of the tunnel repair work being undertaken by the City of Cambridge, Harvard is examining possible options for improving the surface treatment of the Cambridge Street overpass.

C. SUSTAINABILITY

Harvard is dedicated to confronting the challenges of climate change and global sustainability through academic research and by translating that research into action on campus.

Academics: Research & Teaching

Harvard students and faculty are confronting the energy-climate challenge, with programs in research and education across nearly all of Harvard's Schools and departments. Hundreds of faculty are brought together at Harvard's Center for the Environment, where faculty, researchers and students can come together to discuss, debate and create new ideas for how we will navigate the challenges ahead. For more information about the Center visit <http://www.environment.harvard.edu/>.

Goals and Actions

The University's commitment to building a healthier, more sustainable campus continues to be driven by its goals to reduce greenhouse gas emissions 30% by 2016, including growth; Sustainability Principles to guide operations and planning; and comprehensive Green Building Standards for all capital and renovation projects.

The University's sustainability commitments are on track with all Schools and departments engaged and making progress across the campus in key areas including:

- **Reducing the environmental impact of existing buildings:** Almost 60% of the University has undergone energy audits and over 1600 cost-effective energy conservation measures have been identified, with over 600 implemented to date.
- **Building and renovating healthier, more sustainable and energy efficient buildings and offices for occupants to work, live and learn:** Comprehensive, University-wide Green Building Standards apply to all capital projects at Harvard. As of November 2010, the University had 85 LEED Registered projects, including 40 certified, the highest number of any higher education institution in the world according to the U.S. Green Building Council (USGBC), which oversees the LEED third-party certification program.
- **Creating a green culture at Harvard focused on reducing waste, cutting energy use and conserving resources:**
 - » Occupant engagement programs provide training and resources to thousands of students and staff at all levels of the University.
 - » University-wide meetings and workshops to share best practices and encourage coordination.
 - » Green Teams and Green Office initiatives engage staff in all Schools and units. OFS launched a new Green Team Leaders Network program in 2010 to harness the ideas and best practices across the University and to have this group of leaders help OFS set and track future goals, share ideas and best practices, and provide resources and tools to support School programs.
 - » \$12 million revolving Green Campus Loan Fund has funded ~200 projects with an average ROI of ~30%; together, these projects yielded \$4M in FY09 energy savings.

- » Launched Student Sustainability Grants program in 2010 to provide seed grants to fund creative sustainability projects on campus proposed by graduate and undergraduate students.
- » Hosted the first annual University-wide Green Carpet Awards in 2010 to bring together faculty, students and staff from throughout Harvard to recognize green leaders and celebrate creative solutions to campus environmental challenges
- » OFS, in partnership with the Schools, hires and manages over 45 student interns each year (paid for by the Schools) and supports a Sustainability Student Advisory Group.

President Drew Faust joins Resource Efficiency Program Students at Freshman Move-In Day to help promote the University's sustainability efforts.



Greenhouse Gas Emissions Reduction Goal

Harvard is making progress on its GHG reduction goal. This goal, set in 2008, seeks to reduce campus GHG emissions 30% below a 2006 baseline by 2016, including future growth. This goal was based on the recommendations of the University Task Force on Greenhouse Gas Emissions, which was made up of faculty, students, and senior administrators.

In April 2010, Harvard announced that University-wide GHG emissions have declined by 7% from FY06-FY09, including growth. When growth is excluded emissions declined by 14% in the same time period.

The GHG Reduction Goal Implementation Process has involved over 200 participants from all Schools & major units since the end of 2008, including staff, faculty, and students. This work is overseen by Vice President for Campus Services Lisa Hogarty and is led by an executive committee of senior faculty and administrators, co-chaired by Executive Vice President Katie Lapp, Robert Kaplan, Professor of Management Practice at Harvard Business School and Jeremy Bloxham, Dean of Science, Faculty of Arts and Sciences.

A University-wide Sustainability and Energy Management Council (SEMC) launched in 2010 brings together facilities leaders with financial, HR and operations staff to review existing policies and procedures, share best practices, create technical trainings, and propose future policies and protocols.

Achievements and interim milestones for the GHG Reduction Implementation Process include:

- Sustainability & Energy Management Council
- GHG Inventory Framework & Reporting Format
- Life cycle costing (LCC) to help assess the benefits and costs of conservation measures as part of project rankings
- Demand Response Program and Green IT Programs
- Staff training for green building standards, LCC and other tools
- University-Wide Temperature Policy
- Bi-Annual community outreach meetings.
- Continual auditing of Central Energy Plants to identify additional efficiencies

The Office for Sustainability continues to coordinate the University-wide effort to develop a GHG Reduction Strategy that will set a path toward achieving Harvard's GHG reduction goals. Every school and major unit has created a specific GHG Reduction Plan consisting of a list of energy conservation measures and other planned sustainability initiatives.

OFS is working with the capital planning and budget offices to analyze and aggregate the school and unit GHG Reduction Plans, which will form the basis of the University-wide GHG Reduction Strategy. The Office for Sustainability will continue to work collaboratively with the schools and units, the GHG Reduction Executive Committee and the Office of the President to ensure that the Strategy emphasizes cost-effective GHG reduction opportunities.

Greener, Healthier Buildings

Leadership in Environmental and Energy Design (LEED) certification recognizes buildings that have selected and improved a sustainable site, improved water efficiency, minimized energy use, selected environmentally preferred building materials, provided an improved indoor environmental quality, and utilized innovative strategies to improve building performance. These standards include LEED for New Construction, LEED for Commercial Interiors (which applies to interior renovation in existing buildings) and LEED for Homes.

As of November 2010, 85 Harvard projects, 56 of them in Cambridge, have received or are seeking certification with the U.S. Green Building Council (USGBC). Some of the most recent LEED certified projects include the renovation of the Harvard Employees Credit Union, the renovation of the Harvard Hip-hop Archives, and the complete renovation of the Jacobsen Lab on Oxford Street in Cambridge. The Office for Sustainability's Green Building Services team has posted case studies for each LEED certified project on the Green Building Resource website at: <http://green.harvard.edu/theresource/>. The website also provides resources and tools to the Harvard community and others to support implementation of pragmatic Green Building Standards.

Weatherization of Phillips Brooks House



Harvard students pitched in to help with weatherization projects at Phillips Brooks House.

On May 2, 2010 more than 50 Harvard students took a break from studying for finals and picked up caulk guns to help improve the energy efficiency of the Phillips Brooks House in Harvard Yard. The Phillips Brook House Association, Environmental Action Committee, Office for Sustainability, and the Faculty of Arts and Sciences partnered to organize Harvard students to help reduce energy and greenhouse gas emissions while learning how to weatherize an older, historic building. In aggregate, the projects are expected to save the University over 18,000 pounds of carbon dioxide equivalent greenhouse gasses and \$3,750 in utility costs annually out of a current \$24,000 total annual energy budget. In October Harvard received a Campus and Student Sustainability Award from the Association for the Advancement of Sustainability in Higher Education (AASHE) in the “Best Campus Case Study” category for the Phillips Brooks House Student Weatherization Project.

Alternative Energy Projects

Harvard University invests in renewable energy alternatives in two ways: through our power purchasing decisions and by investing in on-site renewable energy installations.

In 2010, 17.5% of Harvard’s electricity needs were met through clean, renewable sources, most of which is purchased energy. In November 2009, Harvard, in accordance with our regulatory Renewable Portfolio Standard obligation, signed a contract with First Wind to purchase Renewable Energy Credits (RECs) plus energy from a large wind farm in northern Maine. The contract will account for more than 10 percent of the electricity consumed on the Cambridge and Allston campuses.

In addition, small-scale on-site renewable wind and solar energy installations located across the Harvard campus produce 600kW of power, serve as testing sites for new technologies and raise awareness about renewable energy alternatives. Projects include:

- Solar thermal and heat recovery installations produce hot water for several University buildings, reducing reliance on natural gas and fossil fuels. In 2010, the University completed installation of a solar thermal and steam tunnel heat recovery project on the freshman dormitory Canaday Hall. The more than 3,200 square feet of solar panels on the roof and a steam tunnel heat recovery fan will provide at least 60% of the domestic hot water for all buildings in Harvard Yard.
- A 500 kW solar installation at the Arsenal Complex in Watertown, the largest institutional solar project in New England. Completed in December 2009, this project consists of 1,616 panels and is expected to produce 635,272 kWh of electricity each year.
- Additional test solar panels have been installed on several Harvard buildings and rooftop wind turbines on Harvard Real Estate Services properties at Holyoke Center and Soldier's Field Park Garage (Boston).
- Many University vehicles, including all the shuttle buses, are fueled with a blend of Biodiesel and Ultra-low Sulfur Diesel. Biodiesel is made from renewable resources like soybeans. Ultra-low Sulfur Diesel is cleaner- burning and produces far fewer particulate emissions than conventional diesel.



The new solar thermal installation on the roof of Canaday Hall is one of many alternative energy projects at Harvard.

Changing the Culture of How We Work, Live and Learn

In addition to building and facilities projects, OFS and sustainability staff in the Schools and units are focused on building a culture of environmental responsibility at Harvard. These programs work with students and staff to educate, change behaviors, and inspire individual action. Programs use community-based social marketing techniques such as competition and incentives, getting commitments, and building social norms to bring about lasting change in behaviors. Programs include:

- **The Green Office Program** started in 2008 is an internal rating system developed by OFS to help green Harvard offices. The program provides a step-by-step checklist-style process for reducing environmental impacts in an office environment. For more information visit the Green Office Program website at <http://green.harvard.edu/greenoffice>.
- **Green Living Programs** hire students from the College, Harvard Business School and Harvard Law School to run peer-to-peer education campaigns which promote Harvard's University-wide Sustainability Principles, our Greenhouse Gas Reduction Goal, and resource efficiency. The programs use emails, web and bulletin board postings, tabling, film screenings, themed events, newspaper articles, and competitions, to foster more sustainable behaviors.
- **Student Sustainability Grants**, launched in 2010, provide seed grants to fund creative sustainability projects proposed by graduate and undergraduate students. Projects supported last year included the Harvard Community Garden, an undergraduate bike sharing program, and the "mobile ethnic garden," a set of moveable raised planter beds designed by grantee Christina Cho of the Graduate School of Design. This project was featured on the popular environmental blog Treehugger.
- **Green Teams** have emerged as an effective tool for Schools and departments to build community support for sustainability initiatives. Green Team members run outreach campaigns, lead Green Office efforts for their departments, and work with their facilities departments to identify energy and resource conservation opportunities. A Green Team Leaders Network brings green teams from across the University together to share best practices and develop metrics for tracking and reporting. For more information, visit: <http://green.harvard.edu/green-teams>.
- **Harvard Green Carpet Awards** were held for the first time in 2010 to honor and recognize Harvard staff, students and faculty who have made significant contributions to sustainability. Hundreds of employees and students from across the University were nominated for both Individual and Team Project Awards, a testament to the extent that green efforts are embedded in departments across campus. The event honored 160 Individual Award winners and 5 Team Project Award winners and featured a Special Achievement Award. The top two films from Harvard's first-ever Green Video competition were also announced and screened at the event. For more information visit: <http://green.harvard.edu/greencarpet>.

Community Sustainability Initiatives and Projects


In August and September 2010 the Harvard University Faculty of Arts and Sciences Green Program partnered with the Cambridge Energy Alliance to host the **Taking Action on Climate Change** art exhibit on campus at Fisher Family Commons on Cambridge Street. The exhibit displayed the many ways Cambridge residents and students can conserve energy and get connected to efficiency programs and resources. The project was developed to inform the public about climate change and its impacts, carbon emissions in Cambridge, and how local citizens can make a difference. Specifically, the poster series highlights actions that can be taken on an individual scale to address our personal environmental impacts, from making your home more energy efficient to greening your transportation choices.

One of the posters displayed at the "Taking Action on Climate Change" art exhibit co-sponsored by Harvard University and the Cambridge Energy Alliance.


Stop Climate Change.
Starting right here
in Cambridge.

T

Whenever possible, take public transportation.



Walk or bike—there's over 37 miles of bike lanes in Cambridge.




Shop local and eat local to reduce your carbon load.

Cambridge is rated the 4th best walking city in the US, yet almost 20% of the city's emissions still come from fossil-fuel burning vehicles.

If you're serious about reducing CO₂ emissions inside and outside your home, start by addressing the 50% of energy

wasted due to poor home insulation with affordable window insulation kits.

To further reduce your carbon footprint, join NSTAR Green and half or all of your electricity use will support wind power. Go to www.nstaronline.com for more details and get involved in your community!

 CAMBRIDGE ENERGY ALLIANCE
Save Money. Save the Planet.

The Harvard Community Garden which opened in the Spring of 2010 features a number of sustainable features including raised planting beds for more efficient water use, on-site composting of garden waste, the use of untreated wood for beds, and 100% organic gardening practices. Open work days, tours, cooking demonstrations, and seminars allow community members to get involved with Garden activities year-round.

*Flowers in bloom
at the Harvard
Community Garden*



Photo: Acacia Matheson

The Harvard Farmers' Market hosted by Harvard University Hospitality & Dining Services' Food Literacy Program continued in 2010 on the lawn between the Science Center and Memorial Hall. The market featured fresh, locally grown produce, baked goods, cheese, maple syrup, chocolate, flowers, and crafts. The Market also hosted free cooking demos and special events for the community, and welcomed SNAP/food stamps, WIC, and SFMNP coupons. Additionally, 35-70% of produce on Dining Services menus is grown within 250 miles of their kitchens, depending on season.

Organic Landscaping Pilot Program

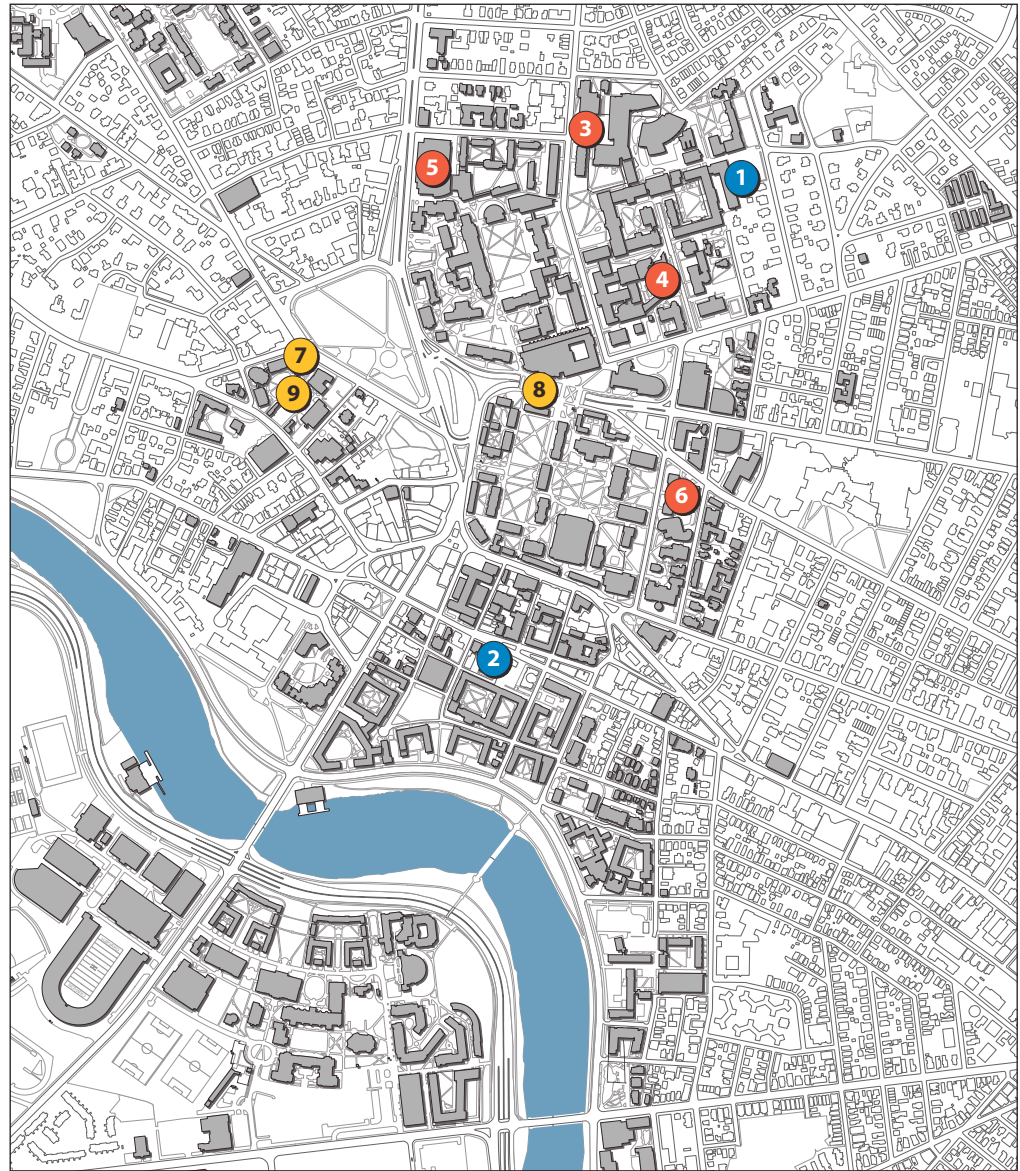
Harvard University's Facilities Maintenance Operations (FMO) group continues to expand its highly successful Organic Landscaping Program which was established in 2008. The program replaces chemical fertilizers, pesticides, herbicides, and fungicides with specially brewed organic teas. These liquid biological amendments are specifically designed to restore the natural nutrient cycling system. Results typically include increased root growth of 3-5 inches, a significant reduction in irrigation requirements due to enhanced moisture retention, and increased levels of beneficial nitrogen.

Currently implemented across 30 acres of University landscape – including the highly visible and heavily used Harvard Yard, FMO plans to expand the program throughout the entire 80 acres of University landscape it maintains. To learn more, visit www.uos.harvard.edu/fmo/landscape.

III. LIST OF PROJECTS

List all development and public improvement/infrastructure projects completed within the past year, currently in construction or which will require City permits or approvals during the next three years (coordinate with Map 3 in Section IV)

Projects Completed,
in Construction,
and in Planning



Recently Completed

- 1. Shannon/Vanserg Child Care
- 2. Harvard Community Garden



Currently in Construction

- 3. Engineering Science Laboratory
- 4. Sherman Fairchild Laboratory (Department of Stem Cell and Regenerative Biology)
- 5. Law School: Wasserstein Hall, Caspersen Student Center and Clinical Wing
- 6. 32 Quincy Street (Harvard Art Museums)



Will Require City Permits or Approvals Within Three Years

- 7. Fay House renovation (RIAS)
- 8. Cambridge Street Overpass
- 9. Radcliffe Yard Landscape

Project List

Completed Within the Past Year

Project	Programmatic Goal	Green Attributes
Day Care renovation (Shannon/Vanserg)	To fulfill Harvard's commitment to expand affiliated daycare capacity	LEED registered, targeting Gold Water use reduction Energy-efficient equipment and appliances Use of low VOC products Incorporation of natural day-lighting Temporary modular classroom building to house day care centers among the first sustainable relocatable school buildings in the country
Harvard Community Garden	Provide students with experiential education in sustainable urban agriculture and food.	Raised beds for more efficient water use; on-site composting of garden waste; untreated wood used for beds; 100% organic gardening practices

Currently in Construction

Engineering Science Laboratory	Improve building infrastructure and accessibility; support interdisciplinary teaching and research	Targeting LEED Gold
Sherman Fairchild Laboratory (Department of Stem Cell and Regenerative Biology)	Science research	Targeting LEED Gold with a goal of Platinum Photovoltaic arrays on the roof to produce clean renewable energy A heat shift chiller and chilled beams that boost HVAC system efficiency Enthalpy wheels to recover waste heat and cooling from the exhaust Solid state, energy-efficient, LED-task lighting over lab bench areas Utility sub-metering to allow for more efficient building operations High-performance, low-face velocity fume hoods to reduce ventilation needs Real-time utility touch screens to educate and engage occupants Environmentally-preferred and non-toxic materials
Wasserstein, Caspersen, Clinical Complex (HLS Northwest Corner Building)	Replacement of inadequate academic facilities and student activity space; relocation of parking underground	LEED registered, targeting Gold
32 Quincy Street (Harvard Art Museums)	Improve access to collections, promote outreach to new audiences, foster collaboration among curatorial departments, and enhance the museum's role in Harvard's educational mission.	LEED registered; targeting Gold Recycle demolition debris Reduction in use of potable water and complete rainwater harvesting Energy-efficient building envelope Automated systems to balance natural lighting and improve energy efficiency Heating and cooling systems with heat recovery to reduce energy consumption 24/7 building management system to respond immediately to changing weather and occupancy Custom designed and energy-efficient gallery lighting systems Use of certified renewable lumber

Project List (continued)

Will Require City Permits or Approvals within Three Years

Fay House renovation (RIAS)	Improvement of RIAS administrative space	Targeting LEED Gold; Re-use of existing building fabric, new energy efficient building systems; use of sustainable building materials
Cambridge Street Overpass	Improvement of campus landscape and circulation	TBD
Radcliffe Yard Landscape	Improvement of campus open space	Improved site drainage, maintenance of existing tree canopy

IV. MAPPING REQUIREMENTS

Please attach to the report maps of the following (these may be combined as appropriate):

1. **Map of all real estate owned in the City of Cambridge. Categorize properties by use as appropriate (e. g., institutional/academic, student activities/athletic, dormitory/nontaxable residential, investment, etc.).**

Map 4.1 shows property owned by Harvard and property leased by Harvard for University use.

2. **Map of real estate leased. Categorize properties by use as appropriate (e. g., institutional/academic, student activities/athletic, housing). This map can be combined with the one above.**

Map 4.2 shows Harvard-owned property leased to third parties.

3. **Map of development projects completed within the past year, now underway, proposed or planned within the next three years.**

See map on page 37.

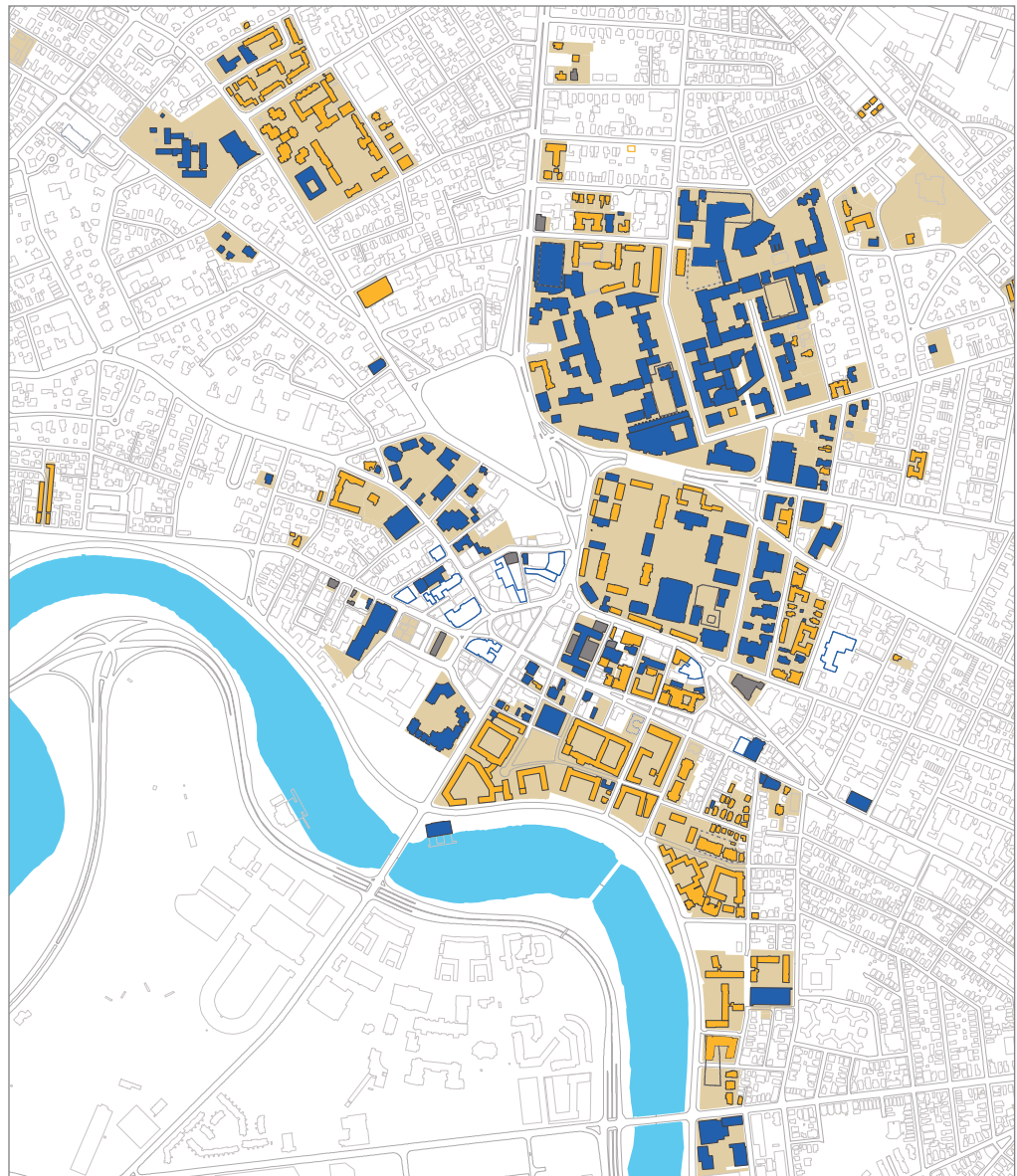
4. **Map the sub-areas/precincts of your campus, indicating the location of future development areas and projects. If appropriate, include detailed maps of sub-areas/precincts where significant changes are anticipated to occur over the next five years.**

See map on page 37.

5. **Map of all regularly scheduled campus shuttle and transit routes.**

Map 4.3 shows Harvard's campus shuttle bus routes.

Map 4.1
 Real Estate Owned
 and Leased by
 Harvard for
 University Use



Legend

Buildings by Ownership Status and Primary Use ⁽¹⁾

- Harvard Owned - Institutional ⁽²⁾
- Harvard Owned - Residential ⁽³⁾
- Harvard Owned - Other ⁽⁴⁾
- Leased ⁽⁵⁾ - Institutional ⁽⁶⁾
- Leased - Residential

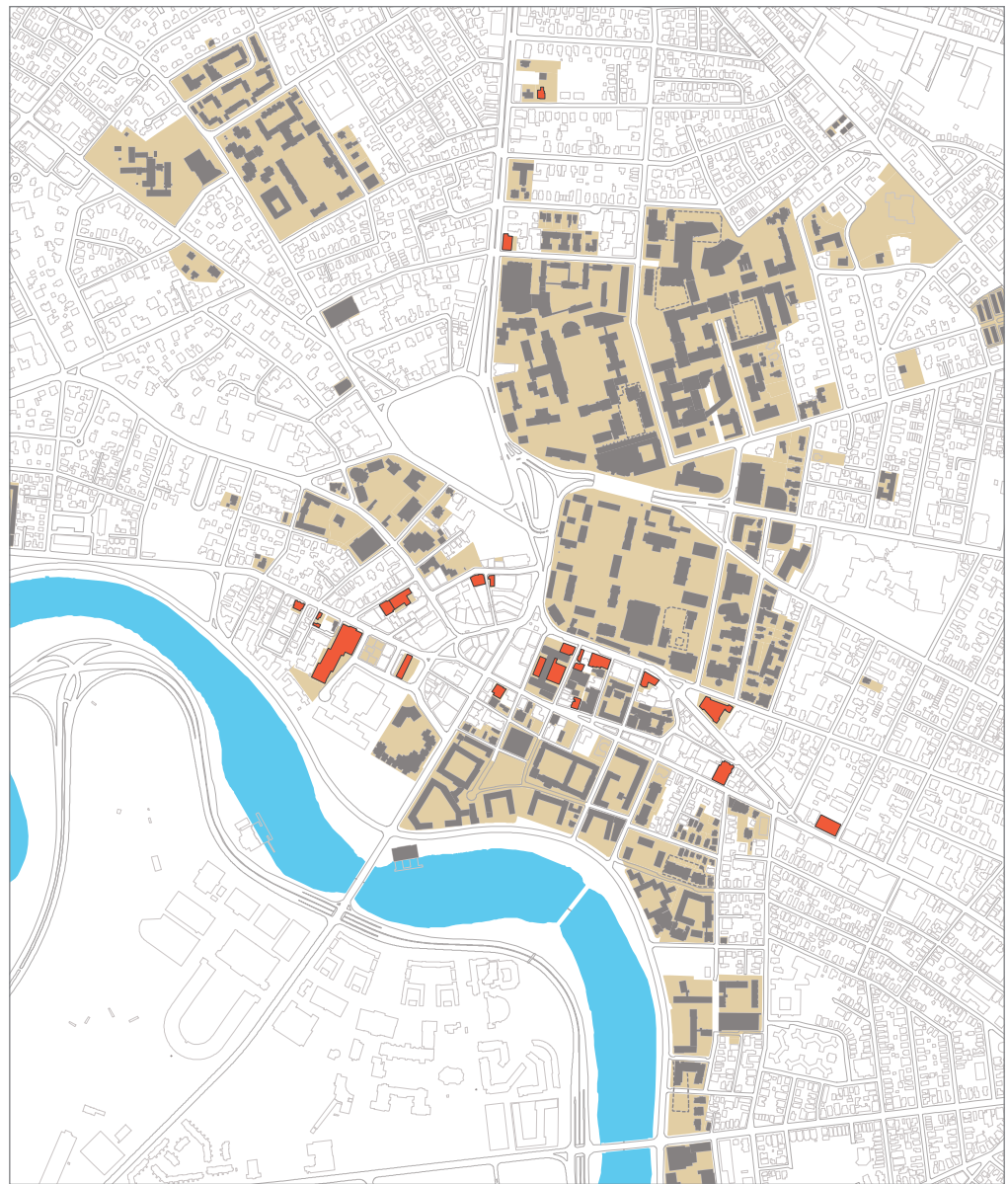
Land Parcels

- Harvard Owned
- Non-Harvard Owned

Notes:

- (1) Primary Use reflects predominant building use.
- (2) The Rowland Institute located at 100 Edwin Land Blvd is located outside the map coverage area.
- (3) 1791 Massachusetts Avenue is located outside the map coverage and is Harvard Owned - Residential
- (4) See Map 2, next page.
- (5) Buildings may be leased by Harvard in whole or in part.
- (6) The following buildings leased by Harvard for Institutional Use are located outside the map coverage area:
 155 Fawcett Street
 625 Massachusetts Avenue
 One Kendall Square

Map 4.2
Real Estate Leased
to a Third Party in
Cambridge



Legend

Buildings by Ownership Status and Use

Leased to 3rd Party for Commercial Use

Harvard Owned - Other

Land Parcels

Harvard Owned

Non-Harvard Owned

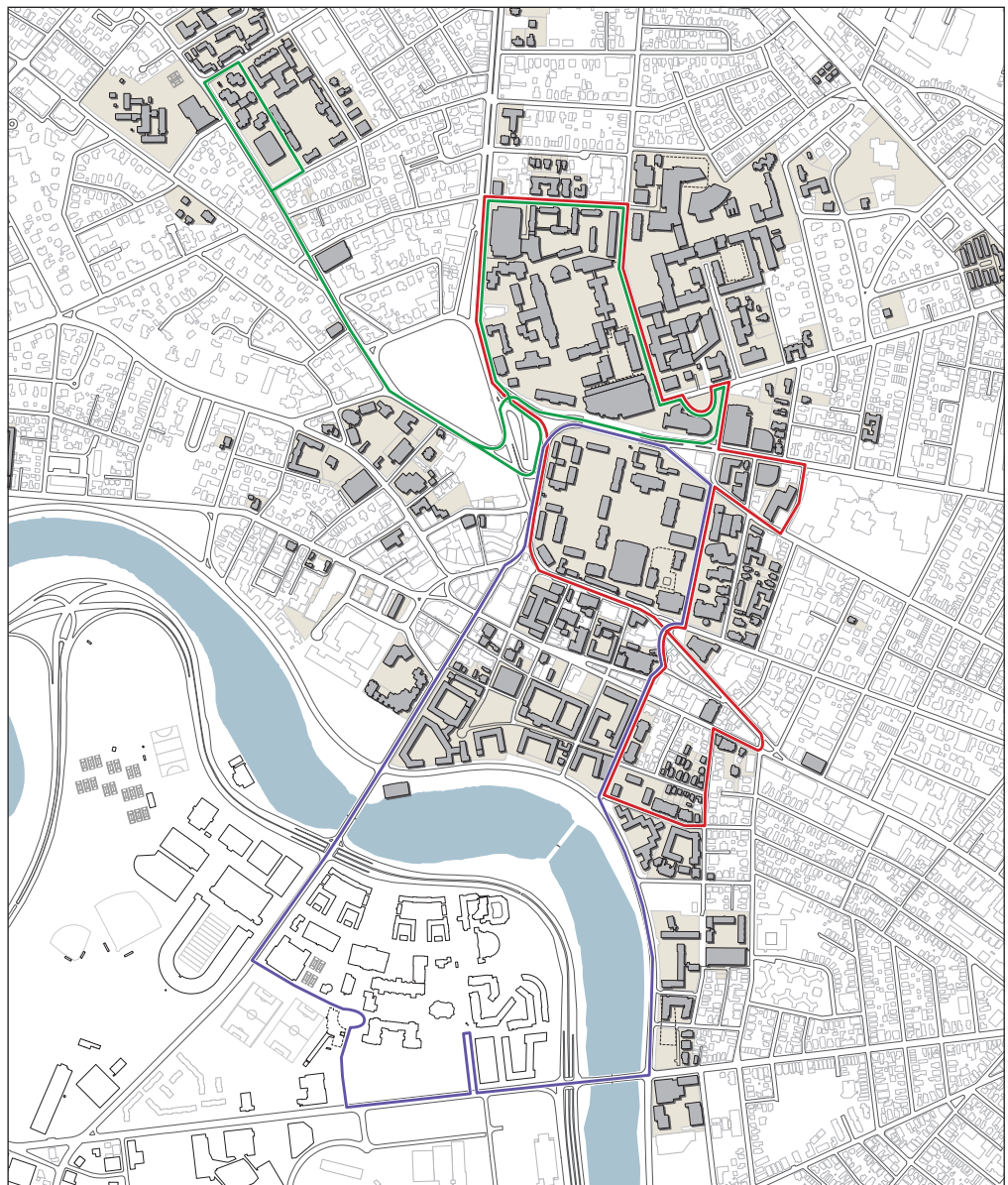
Notes:

Buildings may be leased in whole or in part. For locator purposes, entire buildings have been shaded.

All buildings leased to a third party are owned by Harvard, except for the following buildings which are controlled by Harvard through lease agreements:

- 124 Mount Auburn Street
- 14 Story Street
- 8 Holyoke Street
- 65 Mount Auburn Street

Map 4.3 Harvard Campus Shuttle Routes



Legend

- River Houses
- Radcliffe Quad
- Soldiers Field Park

Notes:

This map shows Harvard's three principal academic-year, daytime shuttle bus routes. Harvard also runs evening and weekend shuttle services that cover these same routes (on a different schedule) and partners with MASCO to provide transportation to the Longwood Medical Area.

V. TRANSPORTATION DEMAND MANAGEMENT

Please provide the following information. You may summarize the information below or attach documents to this report, as appropriate. If your school has not updated information since submitting the 2004 Annual Report, you may so indicate in the appropriate space below.

Harvard University remains a leader among Cambridge's large employers for consistently reducing its exceptionally low SOV rate. When it was approved in 2003, Harvard's Parking and Transportation Demand Management (PTDM) Plan targeted a goal of reducing the University's Single Occupancy Vehicle (SOV) rate by 10% (from 27.4% to 24.7%). This goal was surpassed the following year when Harvard achieved an SOV rate of 17.0%. According to the latest PTDM survey results Harvard's SOV rate has continued to edge downward and is now at 11.3% for Cambridge based employees and graduate students. Harvard's proactive Transportation Demand Management programs and incentives offered by the CommuterChoice Program continue to provide the incentive necessary to encourage commuters to leave their cars at home. Harvard's low SOV rate and the reduction of trips to Cambridge reflect the University's ongoing commitment to the programs and measures contained in Harvard's PTDM Plan. Harvard's CommuterChoice Program tracks and monitors the transportation demand management programs and incentives that it provides, and is committed to improving the University's programs based on annual survey data and program feedback.

CommuterChoice Program

CommuterChoice Program offerings include:

- Information on local transit options.
- MBTA monthly pass subsidy and pre-tax savings.
- Pre-tax savings on purchase of private transit passes and commuter checks.
- Information on safe bicycle routes and general bicycle safety.
- Departmental Bike Program: <http://www.commuterchoice.harvard.edu/bicycling/>
- Carpool partner matching and carpool registration.
- Discounted and preferential parking for carpools and vanpools.
- Assistance with vanpool formation.
- Discounted Zipcar™ membership.
- Emergency Ride Home Program for carpool and vanpool participants.
- Park and Ride information.
- HarvardWalks! A walking map of the Cambridge campus (2nd printing)
- Walk to Work programs and information.
- Assistance with transportation information as it relates to moving to the area or relocation.
- Outreach to the University's Transportation Coordinators, representing all of the University's Departments.

Highlights from the past year include:

T Pass Program

- Sold on average over 6,500 MBTA monthly passes each month.
- Conducted focus groups with the MBTA and Harvard employees on bus routes 66 & 77.

Ridesharing/Car-Sharing

- Expanded carpooling to employees working 4 days/week from 5 days/week.
- Expanded carpooling temporary permits to 4/month from 2/month.
- Conducted 3 geographical carpool matching meetings.
- Expanded Low Emitting Vehicle (LEV) program from HBS pilot to all garages and large surface lots.
- Increased Zipcar membership to approximately 7,100 registered participants.
- Won MassRIDES Car Free Commuter Challenge (Sept. 2009) with approximately 1,400 participants.
- Installed new meter technology at various parking lots.

Bicycles

- Inaugurated the Harvard Law School covered bike shelters, 26 bike racks.
- Continued participation in Departmental Bike Program: 17 departments and 33 bikes.
- Awarded 2010 Boston Bike Friendly Business Award.
- Participated in Bay State Bike Week with 104 Commuter Challenge registrants.
- Continued working with HUPD at freshman move-in to encourage bicycle registration.
- Continued tagging and removing abandoned bicycles across the campus.
- Continued collaboration on the Regional Bike Share initiative with the MAPC and City of Boston.

Outreach

- Surveyed Walk to Work participants through Zoomerang.
- Updated CommuterChoice website:
- Expanded walking section:
 - » Added MBTA Service Comments section
 - » “How to Lock Your Bike” video

Parking and Transportation Demand Management Plan

Harvard's Parking and Transportation Demand Management (PTDM) Plan, approved by the City of Cambridge in 2003, provides a baseline assessment of Harvard's parking supply and management of vehicle trips through the transportation demand measures and strategies offered by the CommuterChoice Program.

The PTDM Plan describes the transportation services and financial incentives that Harvard offers its students, staff, and other affiliates. Harvard's PTDM programs, which are administered by CommuterChoice, are having a direct positive effect on greenhouse gas emissions by reducing employee and student automobile trips to campus.

A copy of Harvard University's PTDM Plan is available at: <http://www.upo.harvard.edu>. Harvard submits annual PTDM updates which are on file with the City's Community Development Department.

VI. INSTITUTION SPECIFIC INFORMATION REQUESTS

1. Provide an update on plans for Harvard's Allston campus and any anticipated impacts on the City of Cambridge.

Executive Vice President Katie Lapp is overseeing Harvard's path forward in Allston, which is proceeding in three phases: property stewardship and community engagement, greening and planning and, as resources allow, campus development. Harvard's near term focus is on the responsible stewardship of our properties and continued investment in programs and partnerships that enhance the neighborhood.

Meanwhile, Harvard's Allston Work Team, an internal advisory committee comprised of University Deans, faculty and alumni with expertise in urban design, public policy, administration, business strategy and real estate development, is analyzing ways in which the University's growth needs can be addressed, structurally as well as financially, with a program that fully integrates a vision for Allston. The Work Team process is currently underway.

Planning for Harvard's extended campus in Allston is part of an integrated approach to campus planning. Allston projects will be built over decades, with progressive judgments that propel Harvard toward the future.

For additional information please visit <http://www.evp.harvard.edu/allston>

2. Provide an update on planning and construction activities in the North Yard and Law School, including plans for the Massachusetts Avenue frontage.

See Future Plans Narrative.

3. Provide an update on the Fogg Museum project, with particular attention of possible effects on the surrounding community and streetscape.

See Future Plans Narrative.



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