

HARVARD AND THE
MASSACHUSETTS
ECONOMY



HARVARD
UNIVERSITY



Harvard's work touches the world, but it begins at home in Massachusetts. Through educational investment, research funding, job creation, local spending, and community engagement, the University helps to fuel the state's knowledge-based economy and contributes to the well-being of our neighborhoods.

LAWRENCE S. BACOW
PRESIDENT OF HARVARD UNIVERSITY

HARVARD AND THE MASSACHUSETTS ECONOMY



Harvard University is proud to call Massachusetts home. The Harvard community teaches, learns, and lives in Massachusetts, and the discoveries and knowledge it produces fuel the regional economy, providing jobs, generating purchasing, and attracting companies.

—> HOW DOES HARVARD CONTRIBUTE?



Education 2

Supporting students with generous financial aid. Expanding access to education worldwide.



Research 4

Attracting hundreds of millions of dollars in research funding to Massachusetts. Fueling science, medical discoveries, health improvements, and spending in our local economy.



Innovation 6

Driving discoveries that attract private investment and launch new ventures. Sparking the region's entrepreneurial spirit.



Employment 8

Operating as one of the largest employers in the state. Providing jobs that empower employees to grow and advance in their careers.



Impact 10

Supporting local vendors through purchasing. Attracting tourism to the region. Contributing to the vitality of companies and nonprofits.



Engagement 12

Stewarding partnerships and initiatives that expand opportunities for neighbors, promote well-being, and build upon shared visions of community.



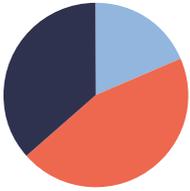
Education

Supporting students with generous financial aid.
Expanding access to education worldwide.

STUDENT POPULATION

36,012

TOTAL STUDENTS, 2017–18 ACADEMIC YEAR



6,699

HARVARD COLLEGE STUDENTS

16,193

HARVARD EXTENSION SCHOOL STUDENTS

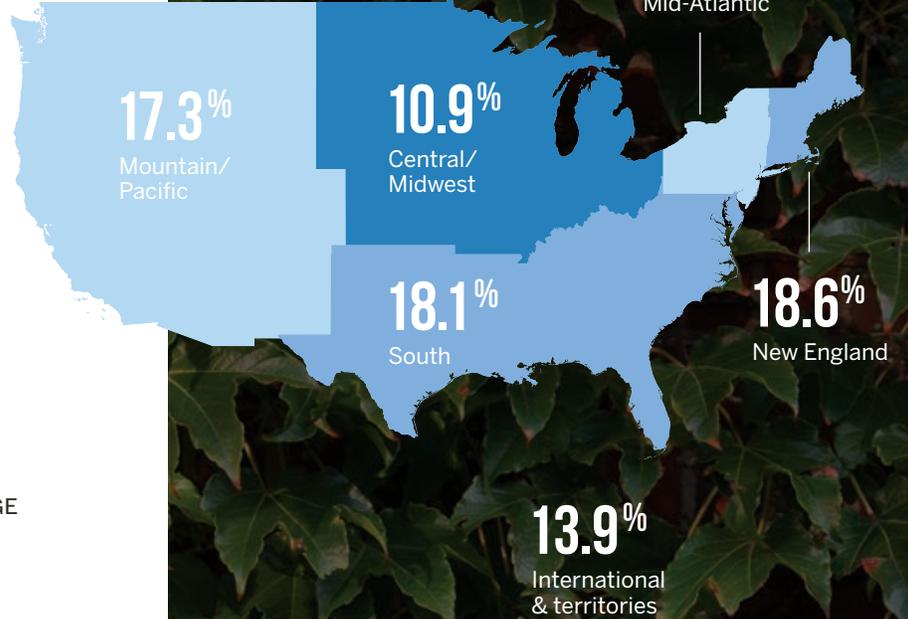
13,120

PROFESSIONAL AND GRADUATE STUDENTS

Harvard University is made up of **12 degree-granting professional and graduate schools and the Radcliffe Institute for Advanced Study**: Harvard Business School, Harvard Division of Continuing Education, Harvard School of Dental Medicine, Harvard Divinity School, Harvard Graduate School of Design, Harvard Graduate School of Education, Harvard Graduate School of Arts & Sciences, Harvard John A. Paulson School of Engineering and Applied Sciences, Harvard Kennedy School, Harvard Law School, Harvard Medical School, and the Harvard T.H. Chan School of Public Health.

The Harvard Extension School offers **more than 900 courses**, serving the educational interests and needs of Greater Boston residents. The Extension School confers undergraduate and graduate degrees as well as professional certificates in a wide variety of academic disciplines. In addition, the Extension School allows individuals to take courses that meet their academic and professional interests without pursuing a degree. Students learn from Harvard faculty, adjunct faculty, and experienced professionals in a flexible setting of online and on-campus classes.

UNDERGRADUATE CLASS OF 2022:
WHERE ARE THEY FROM?



“A huge part of my experience at Harvard has been the strong relationship I have built with my financial aid officer. We are on a first-name basis — and they have been there through it all. The personal dimension of my financial aid experience is the biggest impact and something I am super grateful for.”

HALEY CATHERINE CURTIN
HARVARD COLLEGE, CLASS OF 2018
HOMETOWN: WALTHAM, MA

[LEARN MORE >](#)

FINANCIAL AID

The Harvard Financial Aid Initiative (HFAI) builds on the University's tradition of expanding access to an affordable college education. Families with an annual income of less than \$65,000 **pay nothing** toward the total cost of their child's education, while families with incomes between \$65,000 and \$150,000 contribute **10 percent** of their income. **Nearly 55 percent** of undergraduates receive need-based grant aid, and **100 percent** of Harvard College students can graduate debt free. Since launching HFAI, Harvard has awarded nearly **\$1.8 billion** in grant aid to undergraduates.

2017–18 ACADEMIC YEAR



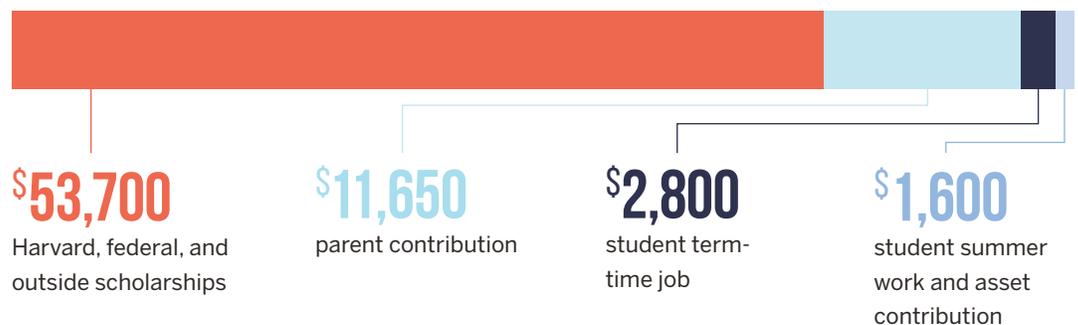
1,020
Massachusetts
students enrolled
in Harvard College

→ **406**
Massachusetts
students enrolled
received need-based
scholarship assistance

\$191m

in institutional need-based
grant aid was provided to
Harvard College students

TYPICAL FIRST YEAR HARVARD COLLEGE AID PACKAGE



EDX AND HARVARDX

In 2012, Harvard joined forces with MIT to form edX, a nonprofit, open-source platform that features interactive and innovative tools for teaching and studying online. Backed by a shared **\$60 million** commitment, edX allows **120+ educational partners** to distribute course content and other academic materials through **80+ open courses**. The goals of edX are to expand access to education worldwide, improve teaching and learning on campuses and beyond, and advance teaching and learning through educational research.

HarvardX

Founded in tandem with edX, HarvardX is the University's faculty-driven online platform, providing research and learning opportunities on campus and beyond.

5.5M+
global course
participants*



125,000+
were in Massachusetts*

3.3M+
unique global
course participants*



70,000+
were in Massachusetts*

* AS OF JULY 2018



Research

Attracting hundreds of millions of dollars in research funding to Massachusetts. Fueling science, medical discoveries, health improvements, and spending in our local economy.

FUNDING

\$868M

RESEARCH FUNDING: EXPANDING KNOWLEDGE, BENEFITING MASSACHUSETTS (FY17)

\$613M

CONTRIBUTED BY FEDERAL SOURCES

Nearly **71 percent** of Harvard's research activities were funded by federal research dollars.

\$415M

from **NIH GRANTS**

The single-largest source of research dollars is the National Institutes of Health (NIH).

\$199M

from **NSF, DOD, HHS, DOE, NASA, and others**

\$255M

CONTRIBUTED BY NONFEDERAL SOURCES

Approximately **29 percent** of Harvard's research funding came from nonfederal sources including corporations, research institutes, and foundations.



FEDERAL RESEARCH FUNDING AT WORK

NIH-funded Harvard research is playing a leading role in driving new therapies for treating autoimmune diseases and cancer. Arlene Sharpe, George Fabyan Professor of Comparative Pathology and Co-Chair of the Department of Microbiology and Immunobiology at Harvard Medical School, is conducting groundbreaking research in immune checkpoint inhibition. These discoveries have already led to the development of cancer immunotherapies that are improving cancer care.

LOCAL SUPPORT, LOCAL HIRES,
LOCAL PURCHASES

\$346.8M

of the research dollars received were spent on purchases and salaries in Massachusetts (FY17)

\$311.1M

supports researchers and staff

\$35.7M

of the research dollars received were used to purchase goods and services from companies located in Massachusetts



\$11M

supported companies in Boston



\$3.8M

supported companies in Cambridge



“Harvard scientists are helping to drive a new age of machines. We are building the kinds of robots that people haven’t imagined yet. Little bees that fly, thousands of robots you buy, robots that build by climbing over things, robots that you wear—all of which have potential applications in medicine, disaster response, exploration, or the environment.”

RADHIKA NAGPAL
FRED KAVLI PROFESSOR OF COMPUTER SCIENCE AT HARVARD JOHN A. PAULSON SCHOOL OF ENGINEERING AND APPLIED SCIENCES; WYSS INSTITUTE FOR BIOLOGICALLY INSPIRED ENGINEERING, HARVARD UNIVERSITY

[LEARN MORE >](#)



Innovation

Driving discoveries that attract private investment and launch new ventures. Sparking the region's entrepreneurial spirit.

AN ENGINE OF INNOVATION

The Office of Technology Development advances new discoveries and inventions arising from Harvard's research enterprise so that they can become useful products and services for the benefit of society.

522 innovations reported by Harvard researchers (FY17)

274 new patent applications filed by Harvard (FY17)

3,068 total issued patents held by the University



The Harvard Innovation Labs are a vibrant, cross-disciplinary ecosystem in which the Harvard community explores innovation and entrepreneurship including public events and engagement opportunities for innovators and entrepreneurs from across Greater Boston.

70-100 Harvard ventures in residence at any given time

159 Experts-in-Residence hold regular office hours to mentor and advise Harvard student entrepreneurs

1,200 community partner-sponsored events held at the i-lab*

7,000 events have been held*
* AS OF SUMMER, 2018



Through its productive relationships with industry, entrepreneurs, and investors, Harvard ensures impactful technologies reach the public.

100+ startups launched around Harvard research innovations*

* DURING THE PAST DECADE

702 technology licenses are active with 428 industry partners**

** AS OF JULY 1, 2018

ACCELERATOR PROGRAMS

To help technology breakthroughs make the leap from the lab to the commercial sphere, Harvard also operates two accelerator programs that combine funding strategies, technical support, and business expertise: the Blavatnik Biomedical Accelerator, focused on biomedical discoveries and technologies, and the Physical Sciences & Engineering Accelerator, supporting innovations in the fields of science and engineering.

Blavatnik Biomedical Accelerator

\$18M in grants were awarded to **97 projects** between 2007 and 2018. These projects have, in turn, attracted an additional **\$30 million** in industry-sponsored research funding and resulted in new Massachusetts-based companies such as Magenta Therapeutics and Macrolide Pharmaceuticals.

Physical Sciences & Engineering Accelerator

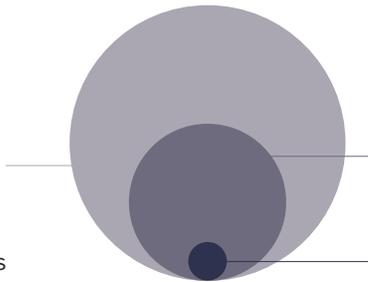
\$1.9M in grants were awarded to **22 projects** between 2014 and 2018. These projects have so far resulted in eight Harvard-launched startups that have collectively raised more than **\$32 million** in follow-on financing.

VENTURE CAPITAL AWARDS

In 2016 and 2017, young Massachusetts companies received more than **\$12 billion** in venture capital funding, and more than half of those companies have a strong connection to Harvard.

2017

\$6.9BN
received by
351
MA companies

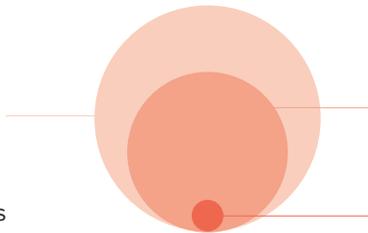


56% (196)
have a Harvard
connection

14% (49)
have a connection to
a Harvard-affiliated
teaching hospital

2016

\$5.6BN
received by
306
MA companies

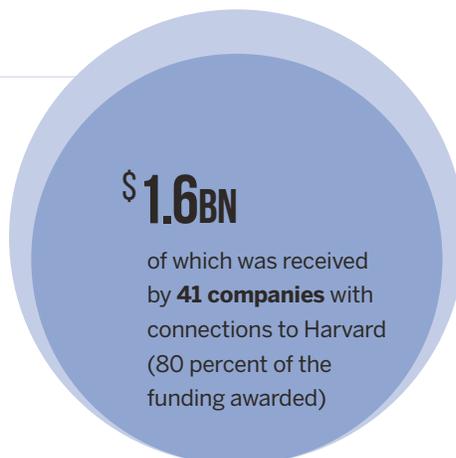


71% (217)
have a Harvard
connection

14% (44)
have a connection to
a Harvard-affiliated
teaching hospital

2017 BIOTECH DEALS

\$2BN
in venture capital
funding was received
by **48 companies**
in Massachusetts



Some companies are still in "stealth mode," making it impossible to assess potential Harvard connections. In addition, the amount of venture capital funds some companies received is not yet publicly available.



"Entrepreneurial energy is palpable at Harvard these days. From the bustling i-lab to the startups at HBS, the flood of new ideas is astonishing. And as we look ahead to Harvard's new Science and Engineering Complex in Allston, the University is poised to leap forward in its capacity for innovation. This is a thrilling future to behold."

**RUSS WILCOX, HARVARD COLLEGE '89
HARVARD BUSINESS SCHOOL '95
ENTREPRENEUR-IN-RESIDENCE,
ARTHUR ROCK CENTER FOR ENTREPRENEURSHIP,
HARVARD BUSINESS SCHOOL;
PARTNER, PILLAR VC**

⊕ To learn more about Harvard's connections to Massachusetts venture-funded companies, visit harvard.edu/ecosystem.

**Selected Massachusetts-based companies
launched around Harvard technologies**





Employment

Operating as one of the largest employers in the state.
Providing jobs that empower employees to grow and advance in their careers.

PEOPLE IN MASSACHUSETTS DIRECTLY EMPLOYED BY HARVARD

18,471

TOTAL PEOPLE IN MASSACHUSETTS DIRECTLY EMPLOYED BY HARVARD*

ACADEMIC

5,430

3,280
faculty

2,150
postdocs

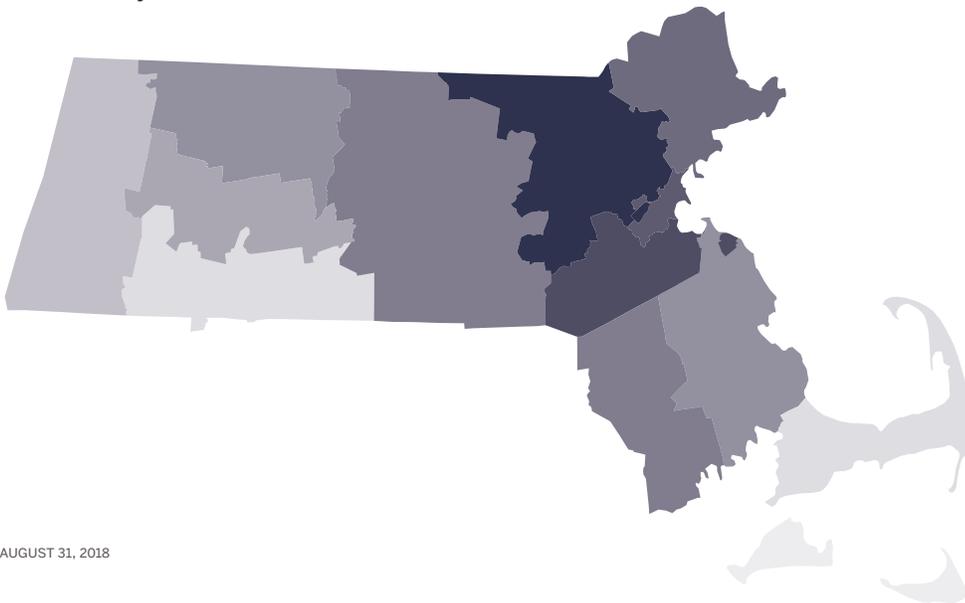
NON-ACADEMIC

13,041

Includes research and faculty assistants, lab technicians, student services workers, staff members, and administrators responsible for carrying out the University's operations

HARVARD EMPLOYEES: WHERE ARE THEY FROM?

Harvard has been the largest employer in the city of Cambridge for 19 consecutive years.



MA COUNTIES*

Barnstable	32
Berkshire	6
Bristol	175
Essex	714
Franklin	11
Hampden	6
Hampshire	14
Middlesex	11,067
Nantucket/Dukes	2
Norfolk	2,153
Plymouth	368
Suffolk	3,646
Worcester	277
Outside of MA	843

* AS OF AUGUST 31, 2018

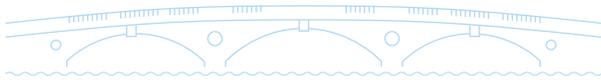
PROFESSIONAL DEVELOPMENT

Harvard provides an array of benefits to support the long-term success of its employees.

CENTER FOR WORKPLACE DEVELOPMENT

Harvard funds professional development opportunities for employees through its Center for Workplace Development (CWD). CWD provides expertise in attracting and developing staff members, cultivating and growing leadership, and preparing teams, staff, and leaders to succeed in their careers. Through high-quality classroom instruction, online learning, and coaching, employees can learn new skills, develop workplace strategies, and prepare for their future career needs.

2,640 employees completed **4,170 courses** at CWD (FY18)



HARVARD BRIDGE CLASSES

Harvard Bridge classes are also offered through CWD and focus on topics such as academic and business writing, college preparation, career exploration, computer skills, English for speakers of other languages, high school diploma preparation, U.S. citizenship test preparation, and more.

245 employees have become U.S. citizens through the citizenship test preparation class to date.

- ⊕ Harvard provides its employees free membership to prominent journals and other news sources as well as free access to Lynda.com, an online video training resource offering **2,000+** self-paced skills-based courses in more than **140** specialties taught by leading experts.

SUMMER JOBS

Harvard partners with its host communities to establish strong internship programs for local high school students. Over the past five years, **more than 700** Cambridge and Boston high school students have worked in departments throughout the University.



“I had friends who joined Year Up, and their success stories really motivated me to apply. I knew those were the types of footsteps I wanted to follow in. Year Up and Harvard helped me succeed. They helped me build confidence by providing the right resources and support system.”

CHRISTOPHER VARGAS
MEDIA AND TECHNOLOGY TECHNICIAN
HARVARD UNIVERSITY

[LEARN MORE >](#)



Year Up is a one-year intensive training program that provides low-income young adults, ages 18 to 24, with a combination of hands-on skills development, coursework eligible for college credit, and corporate internships. It was founded by Gerald Chertavian, Harvard Business School MBA '92. Harvard University has partnered with Year Up since 2003. In the past 15 years, Harvard has hosted **nearly 230 interns** and hired **approximately 130** of them for permanent or temporary positions.

TUITION ASSISTANCE PROGRAM

Harvard sponsors a Tuition Assistance Program (TAP) and a Tuition Reimbursement Program (TRP). TAP allows employees to earn an undergraduate or graduate degree for \$40 per class at the Harvard Extension School and for only 10 percent of the tuition cost at other eligible Harvard Schools. TRP provides reimbursement of up to 75 percent of the tuition cost for classes taken at institutions other than Harvard.

2017–18 ACADEMIC YEAR

2,085
employees used
TAP benefits to take
courses at the Harvard
Extension School

54
employees using
TAP benefits graduated
as part of the Class
of 2018



Impact

Supporting local vendors through purchasing.
Attracting tourism to the region. Contributing
to the vitality of companies and nonprofits.

ALUMNI IMPACT

Harvard alumni are making an economic and social impact by developing new ideas and products, founding organizations, pursuing public service, and serving as volunteers.

50,145

estimated Harvard alumni living in Massachusetts

50

Harvard alumni are members of the 115th United States Congress

17

Harvard alumni are members of the 190th General Court of the Commonwealth of Massachusetts

7,600

nonprofit ventures have been founded by Harvard alumni in Massachusetts

A Harvard alumni or faculty member serves on the board or on the management team of **24 of the 25** largest nonprofit organizations and **17 of the 25** largest life science companies in Massachusetts.

DRIVING TOURISM

55,873

people visited the Harvard Information Center in 2017

As America's oldest university, Harvard remains one of the top tourist destinations in Massachusetts. Harvard's museums attract more than **650,000 local, national, and international visitors** each year. In addition, as an anchor of Harvard Square, the University's historic campus helps to draw more than **8 million visitors** each year, further stimulating the local economy and cultural life.

Visit Harvard.edu/visit to learn more about booking a tour, visiting the Harvard Museums, and exploring campus resources.

TEACHING HOSPITALS

10,000+ doctors and researchers work at Harvard's 14 affiliated hospitals and have a Harvard Medical School appointment, bringing the specialized knowledge needed to attract research funding and translate discoveries into treatments.

Harvard-Affiliated Hospitals

- Beth Israel Deaconess Medical Center
- Boston Children's Hospital
- Brigham and Women's Hospital
- Cambridge Health Alliance
- Dana-Farber Cancer Institute
- Hebrew SeniorLife
- Joslin Diabetes Center
- Judge Baker Children's Center
- Massachusetts Eye and Ear Infirmary
- Massachusetts General Hospital
- McLean Hospital
- Mount Auburn Hospital
- Spaulding Rehabilitation Hospital
- VA Boston Healthcare System



AAA

Harvard's stable presence has been cited by bond rating agencies as contributing to the City of Cambridge's AAA bond rating. Similarly, the City of Boston's AAA rating is attributed to a substantial presence of tax-exempt institutions and the talented workforce they employ.

IMPACT OF LOCAL SPENDING

In FY17, Harvard spending totaled **\$5.7 billion**. Harvard personnel expenses totaled **\$2.5 billion**. The majority of Harvard spending went to purchase supplies, maintain and expand the physical plant, and run the University. These activities cost **\$3.2 billion**.

\$3.2BN

spent on construction and to purchase supplies and services

\$1.7BN

spent in Massachusetts

\$877M

spent in Boston

\$140M

spent in Cambridge

\$1.1BN

spent in MA on supplies and services

\$655M

spent in Boston

\$121M

spent in Cambridge

\$324M

spent elsewhere in MA

\$419M

spent elsewhere in MA

\$659M

spent in MA on construction

\$221M

spent in Boston

\$19M

spent in Cambridge

AWARDS AND RECOGNITIONS



96

Harvard faculty and alumni have been honored with the Nobel and Pulitzer Prize



"It has been a pleasure for our local, woman-owned, promotions company to do business with Harvard University. The orders have been rolling in from various departments and related organizations since we were approved as a vendor. Harvard has decidedly contributed to our success."

GAIL SABETTINI

OWNER, RAZZ-M-TAZZ PROMOTIONS LLC



Engagement

Stewarding partnerships and initiatives that expand opportunities for neighbors, promote well-being, and build upon shared visions of community.

SUSTAINABILITY

Climate, energy, and health challenges facing the planet demand an ever-evolving approach to sustainable development. Whether in the laboratory, in the classroom, or on campus, Harvard's faculty, students, and staff are focused on answering the big questions posed by these challenges to help accelerate the transition to a healthier, fossil fuel-free future.

2017-18 HIGHLIGHTS



30%

reduction in net greenhouse gas emissions from 2006 to 2017



86%

of commuters use transit, bike, or walk



129

LEED-certified green building projects across campus



1.5+

megawatts of on-site solar energy installations

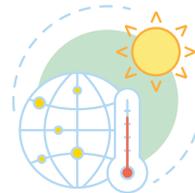


44%

reduction in trash per capita, **26 percent** reduction (in water use)



launched collaboration with Google to address health in the built environment



HARVARD'S CLIMATE ACTION PLAN

In February 2018, Harvard announced an ambitious path forward to shift campus operations away from fossil fuel use, including two bold, new climate action goals aiming to be fossil fuel-free by 2050 and fossil fuel-neutral by 2026.

Partnering for a Sustainable Future



Along with the City of Cambridge and MIT, Harvard is a founding partner of the Cambridge Compact for a Sustainable Future to leverage the combined capacities of government, higher education, and business to help create a healthier, livable, and sustainable city.



Harvard chairs the Higher Education Working Group of the Boston Green Ribbon Commission, a group of business, institutional, and civic leaders working to develop shared strategies for fighting climate change in coordination with the City of Boston's Climate Action Plan.



“Harvard aims to use its campus as a living lab, engaging the University community in piloting and proving solutions that improve the well-being of people and the planet within and across generations.”

WILLIAM CLARK

HARVEY BROOKS PROFESSOR OF INTERNATIONAL SCIENCE, PUBLIC POLICY AND HUMAN DEVELOPMENT, HARVARD KENNEDY SCHOOL; CO-CHAIR, 2016–17 CLIMATE CHANGE TASK FORCE

[LEARN MORE >](#)

COMMUNITY ENGAGEMENT AT A GLANCE

Through continually evolving partnerships and programs from across Harvard’s campus, the University underscores its deep commitment to the extraordinary cities that it calls home.



80 community-based programs offered through the Phillips Brooks House Association, a student-run organization that brings 1,500 volunteers together each year in service to the community.



30,700 meals donated in FY18 through the Harvard Food Program, a partnership between Harvard University Dining Services and Food for Free that seeks to curb food insecurity in Boston and Cambridge.



87 high school students from Boston, Cambridge, and Somerville participated in Crimson Summer Academy (CSA), an innovative program that helps participants prepare for success in college and beyond. 94 percent of CSA graduates go on to complete college in 4 years.



SPOTLIGHT ON HARVARD LEGAL CLINICS

Harvard Law School’s (HLS) Clinical and Pro Bono Programs is one of the largest providers of free legal services in New England. HLS students learn to practice law and help people in need under the close supervision of 18 Clinical Professors of Law and 88 attorneys who are experts in their field. Since 2005, HLS Clinical Faculty and students have provided nearly 4.5 million hours of free legal services, representing low-income residents with a wide range of legal problems including housing, immigration, education, employment, consumer, tax, public benefits, criminal defense, prisoners’ rights, domestic violence, and family law issues.

2016–17 ACADEMIC YEAR

900 students in 18 in-house clinics provided more than **166,000 hours** of legal work and handled over **3,500 cases**, of which **1,300 cases** were from Boston and **400 cases** were from Cambridge.

335 students in 12 externship clinics provided over **50,000 hours** of legal work with placements at hundreds of nonprofit organizations and government agencies.

430 students in 11 Student Practice Organizations contributed over **12,000 hours** of pro bono legal work.



For more information about facts and figures
included in this document, please visit
community.harvard.edu/sources