



**Harvard University Cambridge Campus  
Parking and Transportation  
Demand Management Plan  
2008 Annual Progress Report**

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## TABLE OF CONTENTS

Introduction	page 3
Section I. Parking Inventory Summary Update	page 4
Section II. Driveway Count Summary	page 5
Section III. Trip Reduction Incentives Update	page 6
Public Transit	
Bicycle Program	
Departmental Bike Program	
Harvard Walks	
Designated Parking	
Carpool Matching	
Carpool Incentives	
GoLoco	
Vanpool Program	
Emergency Ride Home	
Shuttles	
Biodiesel Program	
Bus Signage & Dedicated Shuttle Stops	
Zipcar	
Section IV. Supporting Documentation	page 14
2008 Annual PTDM Survey Statistics	page 16
Section V. <b>CommuterChoice</b> Publicity Update	page 18
Appendix 1 PTDM 2008 Survey Results	
Appendix 2 Harvard Parking Facility Inventory	
Appendix 3 Parking Locator Map	
Appendix 4 2008 Marketing and Publicity	

## INTRODUCTION

Harvard is the largest employer in Cambridge, and is a complex decentralized educational institution that is naturally geared toward flexible work and academic schedules; therefore it is a less intensive traffic generator than other traditional businesses. Since 2007 there has been a 4 percent increase (38.6%) in Cambridge based employees and students leaving after 6:00 pm, with 21 percent leaving after 7 pm. These times are considered non-traditional-peak hours for commuters. The rest of Harvard's commuters are spread throughout the day reducing traffic congestion and impacts.

As a leader of Cambridge employers of its size, Harvard has consistently maintained an exceptionally low Single Occupancy Vehicle (SOV) rate. When approved by the City of Cambridge in 2003, Harvard's Parking and Transportation Demand Management (PTDM) Plan targeted a goal of reducing the SOV rate by 10% (from 27.4% to 24.7%). This goal was surpassed the following year when Harvard's achieved an SOV rate of 17.0%. The results of the 2008 PTDM survey document Harvard's SOV rate at 14% for Cambridge based employees and graduate students.

In a recent article in the Harvard Community Resource, Leith Sharp, the former Director of Harvard's Green Campus Initiative (now the Office of Sustainability) stated that "according to Harvard's own estimates, over 90% of the University's GHGs (greenhouse gases) are the result of powering, heating and cooling our 600 or so buildings. Surprisingly, commuting appears to contribute a small fraction of Harvard's emissions (5 to 7 percent)." Harvard's *CommuterChoice* programs are having a direct positive effect on greenhouse gases by reducing vehicle miles traveled and single occupant vehicles through the implementation of and support for the wide variety of transportation demand management (TDM) incentives offered to employees and students.

In the Monitoring Section of the PTDM Plan, Harvard commits to providing updates to the City of Cambridge PTDM Officer. The monitoring updates include:

- ◆ Yearly surveys starting a year from the approved plan
- ◆ Driveway counts on parking lots/garages
- ◆ Parking utilization counts
- ◆ Annual parking inventory update
- ◆ Annual parking inventory summary sheet
- ◆ A total parking space inventory of 4,536 spaces.

This document reports on Harvard's monitoring efforts and TDM activities from November 30, 2007 through November 30, 2008. Since the 2007 PTDM Progress Report Harvard has:

- ◆ Increased Departmental Bike Program by 7 new departments and 14 bikes
- ◆ Added 10 new university-wide kiosks through 7 new departments
- ◆ Promoted GoLoco, a rideshare program, to MBTA commuters to offset increase parking fees at MBTA parking lots.
- ◆ Increased Zipcar Affiliates registered to 5,400+, a 22% increase since 2007
- ◆ Increased the MBTA average monthly pass sales by 9% since the previous year
- ◆ Increased Bike Week Commuter Challenge Registrants by 22% and Bicycle Commuter Appreciation Breakfast attendees by 100%
- ◆ Continuously been recognized as a member of the EPA's National Best Workplaces for Commuters
- ◆ Been an active participant in "Greater Boston Breathes Better" an EPA-led initiative to reduce emissions that result from transportation and construction vehicle sources
- ◆ Presents *CommuterChoice* Program at university-wide New Hire Orientation sessions 3-4 times per month to introduce new employees to available benefits and options

- ◆ Assists Office for Sustainability (formerly Harvard Green Campus Initiative) with efforts to gain LEED accreditation through carpool, carshare, and innovation credits
- ◆ Instituted the Transit Visualization System™ (TVS) which continuously displays the location of Harvard University shuttles and animates their motion against a detailed map of recognizable University buildings and landmarks
- ◆ Started pilot program for Designated Parking for Low-Emitting and Fuel Efficient Vehicles

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## SECTION I Parking Inventory Summary

The University's parking inventory was updated in November 2008 after facility and lot spaces were counted, and design layouts were verified.

Representatives from Harvard's Parking Services department and the University Planning Office each performed separate field checks. Each group visited every lot and compared observations to determine changes to the inventory. During this process both accessible space locations and signs were verified. Work was done during the month of October 2008. Summary inventory and parking design layouts were updated, and new parking layouts were created.

The summary inventory and parking layouts were submitted separately to the City of Cambridge Parking Office, and the 2008 Parking Inventory and Lot Locator Map is included as complimentary documentation to this PTDM Progress Report.

### **Parking Management Summary**

Harvard continues to maintain a stable parking inventory, and manages all new demand for parking and transportation services using a combination of transportation demand management and parking fee increases. Eighty six (86) percent of Harvard employees and graduate students commute to campus using alternative modes such as public transit, carpools, walking and bicycling. The commute modes are supported by Harvard's well-established planning principles of preservation of open space, minimization of vehicular circulation and optimization of pedestrian orientation. Harvard's parking management goal is to encourage alternative mode use and serve as many people as possible by optimizing the current parking supply. In general, incremental increases in the campus population have a minimal effect on overall parking demand. Harvard has a limited amount of assigned/reserved spaces and has been moving away from this type of space allocation. Over 90 percent of the spaces are available on an "unreserved" designation, which is on a "first-come, first-served" basis.

Harvard also uses parking pricing and designated parking combined with reduced parking fees for carpools and free parking for vanpools to achieve the University's parking management goals.

**Parking Pricing:** Harvard University's parking management strategy includes pricing mechanisms that encourage carpool and vanpool use at its parking facilities. Harvard's parking rates are scheduled to increase another 8% in 2008/09. Rates will continue to increase in the future—an effective tool for encouraging transportation modes other than drive-alone commuting. Please refer to the updated parking rates on page 5.

**Designated Parking and Reduced Fares for Car and Van Pools:** Harvard's *CommuterChoice* Program and Parking Office have worked together to designate the most desirable parking spaces closest to the building entrances for the exclusive use of carpools and vanpools. The university offers a 50% discount on annual parking permits for 2 person carpools and a 75% discount for carpools of three or more people.

**Proposed Parking Rate Structure 2008-2009**

<b>Permit Type</b>	<b>FY07</b>	<b>FY08</b>	<b>FY09 8%</b>
Reserved Garage	\$1,830.00	\$1,975.00	\$2,135.00
Reserved Surface	\$1,720.00	\$1,860.00	\$2,010.00
Unreserved Garage	\$ 980.00	\$1,060.00	\$1,145.00
Unreserved Surface	\$ 915.00	\$ 990.00	\$1,070.00
Morn / After / 3 Day Garage	\$ 700.00	\$ 755.00	\$ 815.00
Morn / After / 3 Day Surface	\$ 655.00	\$ 710.00	\$ 765.00
Tenant Garage (12 month)	\$1,900.00	\$2,050.00	\$2,215.00
Tenant Garage (10 month)	\$1,585.00	\$1,710.00	\$1,850.00
Tenant Surface (12 month)	\$1,685.00	\$1,820.00	\$1,965.00
Tenant Surface (10 month)	\$1,405.00	\$1,520.00	\$1,640.00
Metered Surface	\$ 280.00	\$ 300.00	\$ 325.00
Extension / Night Garage	\$ 50.00	\$ 50.00	\$ 50.00
Extension / Night Surface	\$ 50.00	\$ 50.00	\$ 50.00
Motorcycle	\$ 150.00	\$ 165.00	\$ 180.00
Commuter Student (Garage only)	\$ 815.00	\$ 880.00	\$ 955.00
Summer Garage	\$ 320.00	\$ 345.00	\$ 375.00
Vendor	\$2,195.00	\$2,370.00	\$2,560.00
One Day Permit (weekdays)	\$ 9.00	\$ 10.00	\$ 10.00
One Day (after 5:00PM & weekends)	\$ 5.00	\$ 5.00	\$ 5.00

**SECTION II Driveway Count Summary**

The University's final PTDM Plan (dated July 11, 2003 including all subsequent amendments) committed to conducting driveway counts at all Harvard parking lots/garages with 20 or more spaces. In addition, Harvard committed to supplying parking utilization counts for all Harvard parking lots/garages with 100 or more spaces for reporting in 2004, for all lots/garages with 40 or more spaces in 2006, and every two years thereafter.

In 2007 the University and the City of Cambridge entered into an agreement through an amendment process (Amendment #3) to simplify how the Driveway and Parking Utilization Counts would be conducted and reported in light of the automation of Harvard's lots/garages. Through the Amendment process, language in the PTDM Monitoring Section IV of the PTDM Plan (dated July 11, 2003) was modified to read:

“Harvard will conduct driveway counts on all automated parking lots and garages with 20 or more spaces every 2 years (on consecutive days for 24 hours each day) starting in 2007.”

“Harvard will conduct parking utilization counts for all lots and garages with 100 or more spaces for reporting in 2005, for all automated lots/garages of 40 or more spaces beginning in 2007 and thereafter.”

The University submitted a complete review of all lots and garages to the City in August 2007 and is scheduled to submit driveway counts on all automated parking lots/garages with 20 or more spaces and parking utilization counts for all automated lots/garages with 40 or more spaces in 2009.

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### SECTION III Trip Reduction Incentives Update

Harvard University's *CommuterChoice* Program tracks and monitors the transportation demand management programs and incentives it provides, and is committed to improving its programs based on annual survey data and other program feedback. For previous survey results, commuting mode choice for faculty, staff, and students, and for information on the point of origin of commuter trips to Cambridge, please refer to the University's annual PTDM Progress Reports, on file with the City's Community Development Department.

#### Public Transit

Harvard has been offering its employees a convenient on-line MBTA pass ordering system since September 2004, allowing employees to receive their discounted monthly passes at their home address. Because the cost of the pass is deducted directly from an employee's paycheck, employees receive a pre-tax benefit in addition to the 50% subsidy. Effective January 1, 2007 the subsidy for bus, subway, and link passes was increased to 50%, which is the same as commuter rail and boat passes. Since 2007, MBTA pass sales have increased by 9 percent.

Also at the beginning of 2007, bus, subway and link riders received a new reusable plastic CharlieCard with a computer chip designed to last five years. Each month, with a recurring order, our system now automatically updates the new CharlieCards. Eliminating the monthly mailing of more than 6,000 T passes increases efficiency and enhances the university's sustainability efforts. By eliminating this mailing, the university eliminates the use of approximately 6,000 sheets of paper per month or 72,000 sheets per year. Extrapolated over five years, *CommuterChoice* saves 360,000 sheets of paper, or 42 trees (Claudia Thompson, *Recycled Papers: The Essential Guide*, Cambridge, MA: MIT Press, 1992.) and this does not factor in the 360,000 saved envelopes and saved transportation costs associated with delivery.

Commuter rail, boat, and senior commuters will continue to receive monthly passes until the MBTA updates these facilities to accommodate CharlieCards. As of November 2008 6,651 employees participate in the monthly pass program.

In addition, Harvard Graduate School of Arts and Sciences, Harvard Law School, Harvard Medical School, Harvard School of Public Health, Harvard Graduate School of Education, Harvard School of Design, Harvard Kennedy School of Government, and Harvard Divinity School all administer the MBTA's Semester Pass program to their students.

The University continues to meet with MBTA Bus Operations staff to discuss bus service improvements and shares the comments collected in the PTDM survey. Comments are also collected throughout the year via telephone and on-line inquiries to the *CommuterChoice* Program. *CommuterChoice* met in the summer 2008 with the MBTA's Deputy Division Chief of Bus Operations, the Director of Planning, and

a Senior Transportation Planner to discuss options to improve the quality of service on MBTA local bus routes, especially Routes 66, 77, and 86. Route 77 was identified as a potential candidate for offering limited-stop or express service trips as a way to deal with excessive travel times, crowded buses, and general route reliability.

Harvard also met with members of the MBTA's System Wide Modernization and Automated Fare Collection departments to discuss ways in which both organizations could work towards integrating technology to better service our customer base.

### **Bicycle Programs**

Cycling is a fast, fun way for employees to get around campus and a critical component of Harvard's response to global climate change. Transportation across the country accounts for about a third of U.S. greenhouse gases, the primary culprit in global warming, thus the University needs alternative modes of transportation to reduce its environmental "footprint." To encourage cycling, the *CommuterChoice* Program works with staff at the Harvard University Planning Office and the Allston Development Group to continually improve the cycling environment on the Cambridge and Allston campuses. The following is a list of some recent accomplishments:

- ◆ Coordinated and managed the "Abandoned Bike Project," which updated the university's bike rack inventory with location, condition, type, and amenities of racks as well as tagging, removal, and disposal of abandoned bikes.
- ◆ Encouraged student donation of unwanted bikes through ads in Harvard Crimson
- ◆ Reviewed and commented on the Allston Development Group's Transportation Sustainability Goals, FSC (First Science Center), which included recommendations for bicycle, scooter, and motorcycle parking and paths for integration into Cambridge's existing bicycle network
- ◆ Began construction of a new 74-space covered bike structure in the Francis Avenue lot, North Yard (formerly Andover Lot)
- ◆ Provided guidance to project managers and building managers on proper rack type and installation, as well as appropriate pathways and shower and locker facilities for cyclists
- ◆ Provided input regarding extensive bicycle facility improvements on the Law School's Northwest Corner Project
- ◆ Maintained the number of "Bicycle Users Group" members and the email list of interested bicyclists at Harvard who come together periodically for trainings and information sessions, as well as to provide a sounding board for potential new policies and programs
- ◆ Publicized the MBTA's "Bike to the Beach" program to encourage interested cyclists to take their bikes on the commuter rail to specific beach destinations
- ◆ Installed state of the art bike rack outside 46 Blackstone Street, a U.S. Green Building Council's Platinum LEED certified building located in Cambridge
- ◆ Continued to market Harvard's Departmental Bicycle Program. Added 7 additional departments and 14 bikes for a total of 16 participating departments and 34 bikes. See [www.commuterchoice.harvard.edu/bicycling/departamental\\_bikes.shtml](http://www.commuterchoice.harvard.edu/bicycling/departamental_bikes.shtml) for more information.
- ◆ Increased Bike Week Commuter Challenge participants by 22%.
- ◆ Increased attendance at the *CommuterChoice* Bicycle Appreciation Breakfast by, 100 additional cyclists -- a 100% increase over the previous year
- ◆ Joined the Greater Boston Bike Share Evaluation Committee to investigate possibility of a Metro Boston regional bike sharing program that incorporates information technology with shared bicycles as a way of providing an alternative green transportation system to greater Boston and Cambridge residents and visitors which will reduce use of carbon emitting vehicles and increase the mode share of cycling across the region

- ◆ Continued to distribute free of charge the following publications to Harvard faculty, staff and students:
  - Bicycling Street Smarts
  - Bikes on the T
  - Boston's Bike Map
  - "Go By Bike: A Guide to Commuting on a Bicycle"
  - "How to Lock (and Keep!) Your Bike"
  - "RACK ON" – How to utilize Harvard's shuttle fleet's exterior bicycle racks

**Bicycle Events:** Since May 2001, Harvard has continuously held Bike Appreciation Day events in coordination with the City of Cambridge's "Go Green Month" bike events. This year the Bike Week Committee, consisting of the City of Cambridge, Harvard's *CommuterChoice* Program, and greater Boston TMAs (Transportation Management Association), continued the tradition but added the City of Boston's Director of Bike Planning, Nicole Freedman, as a member. With the City of Boston's financial and institutional support, the scope of Bike Week changed dramatically. The Committee expanded its programming, created a new website, and renamed the event to the more inclusive Bay State Bike Week. Reaching a wider audience, the Committee produced the most successful Bike Week in its 10 year history. Participants shattered the Bike Week's Commuter Challenge goal of 50K collective miles and together biked 132,598 miles. That is halfway to the moon, five times around the Earth, and 9,800 fewer car rides. At Harvard, Bike Week Commuter Challenge participation rose by 22% and an additional 100 cyclists attended the *CommuterChoice* Bicycle Appreciation Breakfast, a 100% increase.

**Outreach:** Registering through the *CommuterChoice* Program allows commuting cyclists access to information about cycling around Boston and Cambridge. Regional bike route maps and safety information are available free to everyone who registers. A map showing "safer" bike routes on campus, locations of bike racks, and locker and shower locations can be viewed at [www.commuterchoice.harvard.edu/bicycling/bike\\_racks\\_and\\_routes3.pdf](http://www.commuterchoice.harvard.edu/bicycling/bike_racks_and_routes3.pdf) /. Interested cyclists could access information about the MBTA's "Bike to the Beach" program through the *CommuterChoice* web site and kiosks. This program encouraged cyclists to take their bikes on the commuter rail to specific beach destinations during the summer.

**Bicycle Registration and Safety:** The Harvard University Police Department administers a free on-line bicycle sticker/registration program ([www.hupd.harvard.edu/bike.php](http://www.hupd.harvard.edu/bike.php)) for all employees and students to help deter theft and to aid in the recovery of stolen bicycles. The *CommuterChoice* Program and HUPD have worked collaboratively over the past year to increase enrollment in this program, in particular by publicizing it to students and parents at Freshman Move-In. In addition, *CommuterChoice* and HUPD worked together on an enforcement this fall at the Divinity School to increase awareness and the importance of safe bicycle riding and behavior.

**Showers and Lockers:** The University has designated areas for showers and lockers. All general athletic facilities are open for use by any employee or student at a nominal cost.

**Departmental Bike Program:** The Departmental Bike Program offers any School or Department at Harvard the option to purchase a bicycle(s) for use as transit in and around campus vs. using a car or taxi. The goals of this program are to reduce air pollution, improve cardiovascular health, save time getting to meetings, and reduce costs for parking and taxi fees.

There are 2 different types of bicycles offered for purchase in this program. The Breezer Town Bikes feature easy-shifting Shimano Nexus hub transmissions and a choice of a diamond frame or step-through U-frame. These bikes are perfect for relaxed rides and errands. For more experienced cyclists, the Fuji Police Special offers 28 speeds and a fork suspension system for a smooth easy shifting ride.

Over the past year, interest in the program has surged and resulted in 7 new departments ordering a total of 14 bikes. As of the end of November 2008, 13 departments have ordered a total of 32 bikes. University Operations Services (UOS), an active participant in the departmental bike program, continues to provide unlimited access for all the UOS Blackstone employees to 5 bikes (2 Breezers and 3 Fujis). These bikes may be reserved for use through Outlook, an on-line calendar system. The Blackstone building, home to UOS, also offers shower facilities for all cyclists.

The role of the *CommuterChoice* Program in the Departmental Bike Program is to provide assistance in the selection, purchase, delivery, and labeling of the bikes, as well as arranging for bike repairs, maintenance and winter storage. *CommuterChoice* also establishes a monitoring system for bike usage.

Before hopping on a departmental bike, employees must 1) wear a helmet; and 2) sign the general agreement and guidelines for use form, which is available on-line at the *CommuterChoice* web site, [www.commuterchoice.harvard.edu/bicycling/dept\\_bike\\_program\\_guidelines.pdf](http://www.commuterchoice.harvard.edu/bicycling/dept_bike_program_guidelines.pdf)

Program participants rave about this program, and have sent emails to *CommuterChoice* thanking it for having this program available at Harvard. The program has received inquiries about replication from other universities across the country, as well as from the Longwood Medical Area (LMA) campus.

These bicycle programs demonstrate that the University is acting responsibly to maintain and improve the quality of life within the City of Cambridge. For additional information see [www.uos.harvard.edu/sustainability/](http://www.uos.harvard.edu/sustainability/).

## Harvard Walks

The *CommuterChoice* Program began a series of walking events beginning on April, 7, 2006, National Walk to Work Day. Stephanie Anderberg, the City of Cambridge's Associate Planner/Transportation Demand Management Planner assists with each event, and all events were open to City of Cambridge staff and residents.

***The Spring Walk-To-Work Breakfast:*** On April 24, 2008, *CommuterChoice* held its annual spring walk at the Malkin Athletic (MAC) Quad with approximately 105 people attending.

***The Fall Walk-To-Work Breakfast:*** On October 16, 2008, the annual fall walk was held again at the MAC Quad with approximately 125 people attending. At this year's event, *CommuterChoice* worked with Harvard University Dining Services to conduct a "green event" including compostable plates and cutlery and Harvard Athletics, to help promote the benefits of walking. *CommuterChoice* created a flyer of the benefits of walking, which were distributed in university-wide kiosks. In addition, participants received reusable mugs to use back at their workplaces and were eligible for raffle prizes including *CommuterChoice* messenger bags, Walk Boston memberships, umbrellas, walking socks, and recycled durable grocery bags.

Participants also appreciated the giveaways, which included blinking safety lights, walking maps, and brochures. Pre-registration for this breakfast provided many walkers with the opportunity to comment on their walk to work, and here are some the statements:

“Thanks for a great program. I will be walking to work on both days even in the rain!”

“I live too far to walk the whole way, but instead of taking the bus to the T, I’ll walk to the T in the morning.”

*CommuterChoice* encourages those employees unable to walk the entire way to work to jump off the bus or subway one stop earlier and walk part way.

**Walking Map:** Over the past year, *CommuterChoice* began working with WalkBoston, a non-profit membership organization dedicated to improving walking conditions in cities and towns across Massachusetts, to develop a map of the Harvard University campus.

*Google Pedometer Map:* As a service to Harvard staff, *CommuterChoice* assisted several commuters in utilizing the interactive Google Pedometer Map to plot out walking commuting routes.

## **Car and Vanpool Programs**

Harvard encourages carpool participation and assists employees with various carpool programs.

### **Carpool Incentives**

Harvard employees who register through the *CommuterChoice* Program receive a 50 percent discount on their annual parking permit if they carpool with one other employee five days/week. Carpools of three or more people riding together to work, five days/week, receive a discount of 75 percent off their annual parking permit cost and can take advantage of the convenience and pre-tax savings of paying for the service through payroll deduction. In addition, participants also receive 2 Emergency Rides per year, and 2 temporary passes per month. As of November 2008, there are 96 two-person carpools and 5 three-person carpools for a total of 207 registered carpoolers.

### **Designated Carpool Parking**

Harvard continues to evaluate and respond to the need for additional carpool parking signage. Staff meets quarterly to review this process. As a result, Transportation Services added 3 more designated carpool spaces at the Broadway Garage.

Employees who are registered in carpools or vanpools and rideshare five days a week may park in designated carpool spaces. Harvard’s policy is to set aside up to 10% of parking for carpools depending on demand. Harvard believes this policy is flexible and can accommodate eventual increases in ridesharing. During parking permit renewal season, *CommuterChoice* checked in with all carpoolers to ensure satisfaction with the carpool program as well as updated program policies.

### **Carpool Matching**

*Ridematching:* Since 1975 Harvard University has been offering a ridesharing program to employees interested in carpooling. As of 2000, Harvard employees can create their own rideshare profile and receive matches electronically, using the web-based rideshare matching service on the *CommuterChoice* website. Steps for establishing a carpool including finding a partner(s), forms, and guidelines can be found at:

[www.commuterchoice.harvard.edu/ride\\_sharing.shtml](http://www.commuterchoice.harvard.edu/ride_sharing.shtml)

As of November 2008, the number of Harvard affiliates registered in the on-line Rideshare program is 297.

### **GoLoco**

GoLoco is an on-line company that offers a commuting service to help quickly arrange ride sharing opportunities. GoLoco allows members to build their own network of trusted carpoolers. GoLoco helps you share trip costs on-line with friends, neighbors and colleagues. GoLoco encourages trip sharing to reduce CO2 emissions from single occupancy vehicles. *CommuterChoice* publicized GoLoco as a great way for commuters struggling with the recent increase in parking fees at MBTA lots to find fellow commuters to share the ride and costs to MBTA parking facilities.

### **Emergency Ride Home Program**

Harvard University employees participating in some form of ridesharing program (carpool or vanpool) five days a week are eligible for the Emergency Ride Home Program. All employees must register for the program with the *CommuterChoice* office. An Emergency Ride Home is supplied during the following situations, and when regular transportation is not available:

- ◆ Illness or crisis of the participant or of a family member (note: this does not include injuries sustained at work that would fall under a Workers' Compensation Claim).
- ◆ Unexpected request of a supervisor to work past regular schedule without advance notice. Unexpected is defined as not knowing before the morning of the request.
- ◆ Stranded at work because the driver of your carpool or vanpool had to leave because of an emergency. If the driver of a vanpool is unable to drive home, the driver will receive an emergency ride home and a designated alternate driver will drive remaining van riders home.

### **Vanpool Program**

Harvard University's vanpool program provides free designated parking on campus in centrally located parking areas for vanpools, as they are organized. Vanpools must contain at least six Harvard-affiliated riders who live over 17 miles from Harvard's Cambridge and Allston/Brighton campuses. The *CommuterChoice* office also offers assistance in recruiting possible vanpoolers, ridematching services, and marketing with assistance from MassRides and area businesses. Over the past year, *CommuterChoice* wrote a Vanpool White Paper, which outlined the major obstacles in forming a vanpool as finding a critical mass of participants, the prohibitive cost of insurance, and the issue of alternative transportation if/when the vehicle breaks down. The program is also exploring the possibility of providing employees participating in already existing vanpools with pre-tax savings and, perhaps, subsidization for their commuter via the vanpool.

Although Harvard has increased its efforts to form a vanpool, according to the 2008 PTDM survey, a majority of Harvard's employees live 10 miles or less from the campus. Due to these relatively short commutes, coupled with the transit rich area surrounding Harvard, vanpooling is not a cost-effective or viable option for the majority of Harvard's current commuting population.

### **Designated Parking for Low-Emitting and Fuel-Efficient Vehicles**

Over the past year, Harvard Parking Services partnered with the Harvard Business School and the Office for Sustainability (formerly Harvard Green Campus Initiative) to pilot designated parking for low-emitting and fuel-efficient vehicles. In addition to the spaces already allocated for disability and carpool parking in the HBS surface lot, HBS permit holders now have the option of desirable parking if

they drive environmentally friendly vehicles. Similar to carpool spaces, Low-Emitting Vehicle (LEV) spaces are designated in preferred parking areas in the lot and are reserved for qualifying permit holders weekdays until 10:00 am.

To apply for an LEV parking hang tag, permit holders need to demonstrate that they drive a vehicle that meets the EPA SmartWay Elite certification. Once Parking Services confirms that a vehicle qualifies and receives a copy of a commuter's registration, a new HBS LEV permit will be issued. During 2008, Parking Services issued 5 LEV permits. Due to the pilot program's success, Transportation Services plans to expand the program into larger parking facilities in Cambridge.

### Shuttle Services

Harvard Shuttle Services transported 762,887 people in academic year 2008; 41,139 additional riders since academic year '07. The shuttles' services are open to anyone with a University I.D., and provide a useful link in getting employees and students from public transit stops and carpool spaces to their final destination. This coordinated service facilitates the option to leave the car at home. Complete information on the Harvard University Shuttle System is available from the *CommuterChoice* office. Persons interested in getting on-line information can access Shuttle Services' website through the University Operations Services (UOS) website at:

[www.uos.harvard.edu/transportation/passenger\\_transport\\_services/](http://www.uos.harvard.edu/transportation/passenger_transport_services/).

### Transit Visualization System

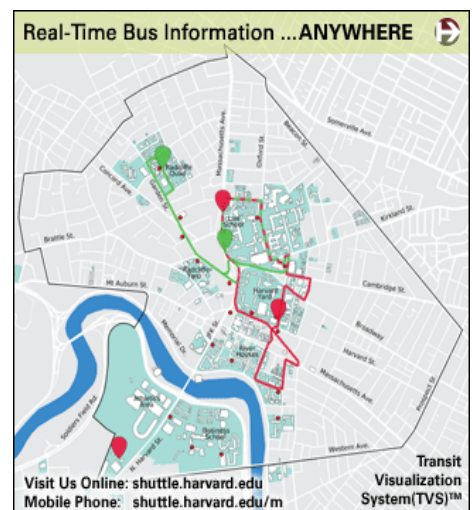
At the end of 2007, Harvard instituted the Transit Visualization System™ (TVS) which continuously displays the location of Harvard University shuttles and animates their motion against a detailed map of recognizable University buildings and landmarks. The TVS helps riders save time, stay safe, and have more control over their schedules while enabling management to manage the Transportation fleet with unprecedented clarity.

Visit *ShuttleTracker*, our new **Transit Visualization System for Real-Time Bus Locations**.

From your web browser: [www.shuttle.harvard.edu](http://www.shuttle.harvard.edu)

From your mobile device: [www.shuttle.harvard.edu/m](http://www.shuttle.harvard.edu/m)

**Harvard Shuttle Bus:** This is a year-round comprehensive shuttle bus system operating throughout the Cambridge and Allston campuses. It is a fixed-route service with over 15 stops in Cambridge and 3 stops in Allston (at Soldiers Field Park, the Business School Rotary, and North Harvard Street between Morgan Way and Gate 3). Service operates seven days a week. On weekdays service begins as early as 5:45 am and continues until 4 am. On weekends, service starts as early as 7:30 am and continues until 5 am. This service is free to all members of the Harvard community. During student "reading periods" in January and April, the Harvard Shuttle runs 24 hours per day during the week and extended hours on the weekend.



*Harvard Daytime Van Service:* the Harvard Daytime Van Service is designed for persons who, because of mobility impairment or medical condition, find it difficult to use the regular shuttle bus system. Transportation is provided door-to-door within the Cambridge and Allston campuses.

*Evening Van Services:* the Evening Van Service is a free, on-call, taxi-style service that operates between 7:00 pm and 3:00 am nightly. It is designed for transporting Harvard community members throughout the Cambridge and Allston campuses within a specified service boundary, as portrayed on the shuttle map.

*Law School North Shuttle:* Supplementing the evening shuttle service is a scheduled service that provides safe, one-directional evening transportation to home addresses in Somerville for Harvard community members. This service is available from October through May and operates during the hours of 6:30 pm and 12:30 am.

*Longwood Medical Area Shuttle - the M2:* Harvard operates a year-round, Monday through Saturday shuttle service to facilitate transportation between the Cambridge/Allston campuses and the Longwood Medical Area campus. The first bus leaves Cambridge each morning at 6:40 a.m. with the last bus leaving the Longwood Medical Area at 11:30 p.m. For a complete schedule, please visit [www.masco.org](http://www.masco.org). Harvard faculty and staff can board the shuttle buses for free with the swipe of their Harvard ID cards. Most students, including all undergraduates, are eligible for free fares. All other students can purchase tickets.

### **Biodiesel Program**

Harvard's Fleet Management Department manages and operates a biodiesel fuel program for all university diesel vehicles. Currently, B20 is used in 72 vehicles ranging from snow plows, shuttle buses, solid waste and recycling trucks, landscape services vehicles, tractors and pick-up trucks. Biodiesel is a cleaner burning alternative fuel that can be used in any diesel engine. A domestically produced, renewable fuel, it can be made from animal fats or vegetable oil. The use of biodiesel in a conventional diesel engine results in a substantial reduction of unburned hydrocarbons, carbon monoxide, and particulate matter. Harvard's Office for Sustainability (formerly Harvard Green Campus Initiative), FMO and Dining Services converted a Solid Waste and Recycling truck to run on the waste vegetable oil from Annenberg Hall's dining facility in 2006. These efforts, and countless more demonstrate that the University is acting responsibly to maintain and improve the quality of life within the City of Cambridge (see [www.uos.harvard.edu/sustainability/](http://www.uos.harvard.edu/sustainability/) or [www.uos.harvard.edu/transportation/fleet\\_management/](http://www.uos.harvard.edu/transportation/fleet_management/)).

### **Bus Signage and Dedicated Shuttle Stops**

Bus signage and dedicated shuttle stops continue to be a cooperative venture between Harvard University and the City of Cambridge.

Harvard developed and finalized transportation guidelines for its campus in Cambridge. The guidelines recognize the importance of bus stop signage and dedicated stops on Cambridge City streets.

### **Nitrogen for Vehicle Tires**

This program was introduced in December of 2007. Nitrogen filled tires last longer, provide increased safety, better fuel efficiency and reduced operating costs. Tires inflated with compressed air lose close to 2 psi/month but it takes up to 6 months or more for the same loss with nitrogen. More importantly, tires properly inflated with nitrogen provide a 3.3% average increase in miles/gallon, eliminate chemical aging of the tire, promote longer tire life by up to 25%, and increase re-treadability.

## **Zipcar**

Zipcars are located throughout Harvard's campus and the City of Cambridge such that they are easily accessible by employees and eligible students over the age of 21. Zipcars are particularly beneficial to employees who leave their car at home, providing extra mobility during the day. Zipcars are available for use by members for as little as one hour—or as long as they need it. Harvard employees can access a car whenever they want without the hassles of owning one. Harvard's participation in the corporate program entitles Affiliates to reduced membership fees. Additional benefits to Harvard employees and students include:

- ◆ On-site 24-hour access to cars
- ◆ Use of car for as little as one hour
- ◆ Access to other Zipcars in Boston, Brookline, Charlestown, Cambridge, Dorchester, Jamaica Plain, and Somerville, as well as across the country and in selected cities in Canada and Europe
- ◆ Efficient use of on-site parking
- ◆ Compelling environmental benefits
- ◆ On-line reservation and smart card access eliminate annoying and time consuming paperwork of traditional car-rental agencies (or leasing)
- ◆ Car use can be billed to specific accounts or cost-centers
- ◆ Hassle Free Program: Zipcar handles all customer service issues
- ◆ Cars are fully insured

Zipcars can be found in the following locations on the Harvard campus:

- ◆ Peabody Terrace
- ◆ Radcliffe Quadrangle
- ◆ 8 Mt. Auburn Street
- ◆ Holyoke Center Garage
- ◆ 219 Western Avenue
- ◆ Garden Street/Fernald Drive
- ◆ Business School Lot, Allston (2)
- ◆ One Western Avenue aka East Drive, Allston

The allocation of on-campus spaces to Zipcar is an efficient use of limited parking facilities. There are currently 5,400+ Harvard Affiliates registered with Zipcar, an increase of 22 percent since 2007. All Zipcars on campus are hybrid and over the past year an additional space has been added to the Peabody Terrace Garage.

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## **SECTION IV      Supporting Documentation**

### **2008 Annual PTDM Survey**

Each year, Harvard University follows the Department of Environmental Protection's (DEP) recommended Random Sample Survey Method for its PTDM survey. The following information was prepared using the instructions and guidance offered in 2008 DEP Massachusetts Rideshare Program packet for Educational Facilities with more than 1000 commuting employees and students.

As of November 2008, Harvard University (campus-wide) had approximately 20,164 full-time “applicable” or commuting employees and graduate students who either work or attend class between the hours of 6 am and 8 pm. The graduate student population has decreased and the employee population has increased since the 2007 survey. Currently, 9,274, or 46 percent, are commuting graduate students and 10,890 or 54 percent, are commuting employees.

The decrease in the “applicable population” (campus-wide) was not significant enough (1 percent) to change Harvard’s random sample category for a population of 20,000 to 29,999 with its corresponding sample size of 1,014 (as defined in the DEP Rideshare Guidelines 2008 for sample size). What is significant is the 3 percent decrease in the “commuting” student population campus-wide. The Allston Cambridge employee/student split shifted slightly this year with 85 percent of the total population commuting to Cambridge and 15 percent commuting to Allston or approximately 2 percent overall from 2007.

### **Survey Sample Cambridge Only**

As of October 2008, Harvard University (Cambridge Only) had approximately 17,230 employees and graduate students work or attend class in Cambridge. The 2008 number reflects 108 fewer applicable Cambridge commuters than 2007 (17,338) and 1,111 fewer than 2006 (18,341). Thus overall, 5,555 fewer trips were made to Cambridge. The employee/student breakdown for 2008 is: 9,505 full-time “applicable” commuting employees (a 4 percent increase) and 7,725 “applicable” commuting graduate students (a 6 percent decrease) who either work or attend class between 6 am and 8 pm. Subsequently the PTDM sample size for 2008 also decreased slightly from 865 to 862.

Harvard University conducted a transportation survey during the week of October 20 through October 24, 2008 to collect the necessary data for the PTDM Progress Report. Harvard used an on-line random sample survey of the combined “applicable commuters” (employees and graduate students). The Cambridge-only PTDM survey sample size was 862. University Information Systems (UIS) and the Office of Human Resources (OHR) provided the data used to determine the statistical percentages.

### **Data Collection and Analysis**

Harvard conducted the survey during the week of October 20 to October 24, 2008. The survey was distributed primarily by email and in paper form for the service employees without computer access. The paper form was translated into Haitian Creole, Spanish and Portuguese, as well as provided in English. These paper surveys were distributed and collected through departmental supervisors. In addition to the DEP required questions, Harvard University’s survey instrument included 16 questions that would provide the University with more comprehensive comparative data. The survey provided both quantitative data for the PTDM Progress Report and qualitative data for Harvard to use as supportive information for implementing additional campus-wide transportation demand measures.

Harvard University has consistently achieved a 5 percent margin of error and 95 percent reliability in its random sample surveys. This year the goal was to receive 862 completed surveys for the 2008 PTDM Progress Report. Harvard’s return rate in 2008 was 100 percent.

### **PTDM Survey Categories**

All Cambridge based “applicable” employees and graduate students were stratified into four basic categories based on payroll codes determined by University Information Systems (UIS) and the Office of Human Resources (OHR). To determine the Cambridge-only sample, survey results for employees and students who had Allston as their primary work or school location were removed. The Cambridge-only responses were then sorted into the HR categories indicated in the table below.

### Employee and Graduate Student Category Chart

PTDM Category 2008	PTDM Sample Number	PTDM Sample Percent *	PTDM Response Number	PTDM Response Percent
Services	43	5	42	5
Non-exempt	147	17	148	17
Exempt	276	32	276	32
Students	396	46	396	46
Total	862	100	862	100

\*Percents are rounded

### PTDM Commute Mode

The table below shows the results of the PTDM 2007 survey and the PTDM 2008 survey. The results include employees and graduate students from Cambridge only. The PTDM 2008 results indicate that Harvard has exceeded its 10 percent PTDM SOV reduction goal for four consecutive years even while employee population increased and graduate student population decreased in Cambridge since October 2006.

### Commute Mode Comparison Chart

Commute Mode	PTDM Goal 2003	PTDM 2007	PTDM 2008
Drive Alone	24.7%	16.5%	14%
Carpool	5.0%	4.5%	3%
Vanpool	0	0	0
Public Transit*	29.3%	28%	31%
Bicycle	8.3%	13.2%	11%
Walk	32.7%	34.4%	36%
Telecommute/CWW	NA	3%	4%

\*Public Transit includes Private Bus and Amtrak.

According to the 2008 survey results approximately 86 percent (an increase of 2 percent) of Harvard's "applicable commuting" population use alternative transportation modes when traveling to work or class located in Cambridge. Of the 86 percent, 4 percent (an increase of 1%) telecommute or have a Compressed Work Week (CWW) therefore reducing approximately 2, 238 trips to the Cambridge campus. Public Transit increased by 3 percent. A portion of commuters shifted from Carpooling, thus explaining in part the reduction of the SOV rate as more people chose not to use their vehicle during the period of high gas prices this past summer and fall.

### PTDM Commute Trips

The table below uses the official 2008 DEP Rideshare Update Report Summary Commute Data Form chart for Random Sample Survey Method as an illustration of extrapolating the sample trips to the whole made by all of the “applicable” commuters to the University’s Cambridge campus.

**2008 Commute Trips Summary Chart**

Summary Commute Data Form 4		Total Applicable Commuters		Number of Days in Facility Work Week		Estimated Total Trips by all Applicable Commuters			
PTDM Update Report 2008		17,230		5		86,150			
Commute Mode	Column I	÷	Column II	=	Column III	x	Column IV	=	Column V
	Trips in mode by Applicable Commuters in Sample	÷	Total Trips by Applicable Commuters in Sample	=	Proportion of trips taken in mode by Applicable Commuters	x	Estimated Total Trips by all Applicable Commuters at facility	=	Estimated total Trips in mode taken by all Applicable Commuters (round off)
A. Drive Alone	602	÷	4,179	=	0.1440536	x	86,150	=	12,410
B. Carpool*	110	÷	4,179	=	0.026322	x	86,150	=	2,268
C. Vanpool**	4	÷	4,179	=	.0009571	x	86,150	=	82
D. Boat/ferry	0		4,179	=	0	x	86,150	=	0
E. Public transit	1,315	÷	4,179	=	0.3146685	x	86,150	=	27,109
F. Bicycle	455	÷	4,179	=	0.1088777	x	86,150	=	9,380
G. Walk	1,523	÷	4,179	=	0.3644412	x	86,150	=	31,397
H. Other Cycle	8	÷	4,179		0.0019143	x	86,150	=	165
I. Other CWW telecommute	162	÷	4,179	=	0.0387652	x	86,150	=	3,340
1. Add lines A-I	4,179	Enter Line 1 Total in Every Column II Field				J. Grand Total	<b>86,151</b>		
2. Total Out-of-Office Off Campus Days	131								
3. Add lines 1 & 2 for Total Trips	4,310								

### Towns and Zip Code Summary

In 2008, 79 percent of the applicable commuter population has less than a 10 mile commute one way, indicating a 3 percent shift out from the traditional core.

### Towns and Zips Summary Chart

Towns and Zips 2007			Towns and Zips 2008		
Cambridge	347	40%	Cambridge	360	42%
Somerville	123	14%	Somerville	124	14%
Boston (all)	90	10%	Boston (all)	86	10%
Arlington	35	4%	Arlington	27	3%
Belmont	29	3%	Belmont	21	2%
Medford	28	3%	Brookline	21	2%
Watertown	23	3%	Watertown	19	2%
Brookline	17	2%	Medford	15	1%
Lexington	15	2%	Newton	12	1%
	<b>707</b>	<b>82%</b>		<b>685</b>	<b>79%</b>

Harvard University has successfully reduced drive-alone commuting over time using the TDM Measures described in Section V below. The *CommuterChoice* Program will continue to increase its menu of sustainable transportation options.

## SECTION V *CommuterChoice* Publicity Update

### Publicity and Marketing

The *CommuterChoice* Program is significantly more visible since taking over administration of the monthly MBTA pass sales in the fall of 2004. Employees must use the *CommuterChoice* website ([www.commuterchoice.harvard.edu](http://www.commuterchoice.harvard.edu)) to access the on-line MBTA pass ordering system.

Over the past year, the *CommuterChoice* Program, in conjunction with University Operation Services has completely redesigned and updated the website for ease of use. The *CommuterChoice* “News” section is updated at least weekly to provide customers with the most up to date information regarding transit issues and projects.

Outreach to employees regarding a multitude of transportation options is conducted by way of transportation kiosks that are located at various locations across campus. The kiosks contain the *CommuterChoice* Program brochure (which was updated in the summer of 2005), as well as bicycling, Zipcar, GoLoco, shuttle as well as assorted alternative transportation material. Within the past year, 10 new informational kiosks were added at 7 locations across campus including the Faculty of Arts and Sciences Chemistry Department, Faculty of Arts and Sciences Biology Labs, Harvard Business School, Harvard Credit Union, Harvard Real Estate Services, Murr Athletic Center, and the Radcliffe Institute for Advanced Study.

The *CommuterChoice* Program continually engages the Harvard community by presenting its offerings at the weekly university-wide New Hire Orientations. In addition, throughout the year *CommuterChoice* also presents at various employee and students events such as the Dining Services Employee Kickoff, Graduate School of Arts and Sciences Green Fair, Harvard Business School Employee Green Fairs, Harvard Divinity School Green Team, Human Resources Financial Forum, Kennedy School of Government Health and Wellness Fair, and University Health Services Health and Wellness Fair.

The *CommuterChoice* Program continues to market new incentives and services through the various Harvard media outlets in addition to spreading information through the 141 Transportation Coordinators who represent all of Harvard's departments.

**Website and On line Registration:** The *CommuterChoice* website ([www.commuterchoice.harvard.edu](http://www.commuterchoice.harvard.edu)) enables employees to have fast, easy access to information about the services offered through the *CommuterChoice* Program. Employees can easily register with the office and request information on carpools, vanpools, transit, car sharing, cycling and walking. The convenience of website registration allows employees to contact *CommuterChoice* with minimum effort and disruption to their workday. Employees without Internet access can contact *CommuterChoice* at 617-384-RIDE. The *CommuterChoice* website has offered a web-based rideshare-matching software since February 2002, which empowers Harvard affiliates to find their own matches for carpool or vanpool situations. This software can be viewed at the *CommuterChoice* website (Ridesharing) section: [www.harvard.vivacommuter.com/](http://www.harvard.vivacommuter.com/).

**Bicycling:** Harvard held a Bike Appreciation Day event in May of 2001, which was coordinated with the City of Cambridge's "Go Green Month" events. Another event, a "Bicycle Breakfast" has taken place every year since mid-May 2002. Cyclists arrive between 7:30 and 9:30 am to receive a free breakfast at Au Bon Pain in Harvard Square after presenting their bike helmet. Participation has increased among "Bike Week Commuter Challenge" participants since the 32 participants in 2002. There were 49 participants in 2003; 87 in 2004; 132 in 2005; 107 in 2006; over 200 in 2007; and more than 250 in 2008. The newly developed Bay State Bike Week website ([www.baystatebikeweek.org/](http://www.baystatebikeweek.org/)) helped to increase visibility. Nearly twenty sponsors helped market the event. In addition, each of the 13 organizers including the Cities of Boston and Cambridge, Boston Main Streets, MASSBIKE, area universities, Metropolitan Boston Transportation Management Associations (TMAs), and the *CommuterChoice* Program all contributed to publicizing Bike Week events. The collective cycling of all "Bike Week Commuter Challenge" participants reached almost 133K miles, shattering the committee's initial goal of 50K miles.

**Bike Maps:** *CommuterChoice* has created maps of safer campus-wide routes, as well as on-campus amenities such as; rack, locker, and shower locations to give to all bicyclists. In addition, the website has links to preferred local bicycle paths and routes. A free bicycle map and safety/informational brochure (Bicycling Street Smarts) is available upon request by visiting the *CommuterChoice* web site or by calling the *CommuterChoice* office.

**Shuttle Services:** A Resource article in the winter focused on the successful implementation of the Transit Visualization System (TVS), a web-based system that tracks shuttle buses by satellite, making information about location of the buses available to Harvard affiliates on-line or by text message sent to a personal digital assistant or smart phone. This service provides not only a cost-effective response to passenger requests for more shuttles but also environmental and scheduling benefits.

**GoLoco:** This new on-line company that helps individuals quickly arrange ride sharing opportunities can be accessed directly through the *CommuterChoice* website. In addition, postcards are displayed at the Parking Office at 46 Blackstone South as well as at university-wide kiosks and presentations.

**MBTA Pass information:** The 50% discounted monthly MBTA passes continue to be sold on-line or by paper form (for service employees without computer access) through the *CommuterChoice* website. Information about Harvard's T Pass discount and the extra savings through payroll deduction is included in the weekly "New Employee Orientation" presentation, as well as in many Schools' staff orientation packets.

**Kiosks:** Kiosks are made available to all Harvard departments at a 50% discount from the *CommuterChoice* Program Office. In 2008, ten new kiosks were added at 7 new locations.

**Articles in Harvard Newspapers:** Communication with various campus newspapers and publications continues. Campus publications provide an important vehicle for educating the Harvard commuting public about new initiatives the University is undertaking to benefit commuters. *CommuterChoice* articles appear regularly in the *Harvard Resource* and other publications as well as on Harvie, Harvard's intranet.

**Transportation, Health, and Benefits Fairs:** Harvard's *CommuterChoice* Program participates annually in various Health, Benefit, and Orientation Fairs across the University. Materials about alternatives to driving alone are distributed to employees and students and they are encouraged to sign up for *CommuterChoice* options. Small, flashing "safety lights" are given away on a "first-come, first-served" basis, to make Harvard's bicyclists and pedestrians more visible at night. Raffles are held at all events where front and rear bike light sets, *CommuterChoice* courier bags, and reflective umbrellas with the "Harvard Walks" logo are given away as prizes. Another attraction is bicycle safety checks and free bicycle registrations conducted by the Harvard University Police Department.

**On-line Chats:** Harvard's intranet, HARVie, hosted two on-line, real-time "chats" with Harvard Transportation Services staff in both the spring and fall. These "chats" have provided an excellent opportunity for Harvard faculty and staff information to obtain information on their commute options.