



MEMORANDUM

Date: April 30, 2014

To: Gerald Autler, Senior Project Manager/Planner

Boston Redevelopment Authority

From: Joe Beggan, Senior Manager for Transportation

Copy: Kevin Casey (HPAC), Mark Johnson (HPPM), Kairos Shen (BRA), Vineet Gupta (BTD)

Re: Special Events Study

This memorandum summarizes current Harvard University procedures to manage and coordinate transportation during University and non-University events using Harvard facilities in Allston. This study was conducted in response to a requirement in the 2013 Allston Campus Institutional Master Plan (IMP) where Harvard committed to the following:

Harvard will complete a study of special events traffic and parking impacts (including athletic events and graduation). The scope of this study shall be determined through consultation with the Task Force and BTD, as well as the BRA, and the study shall be completed by April 30, 2014, in order to ensure implementation of initial recommendations for 2014 graduation ceremonies.

Harvard submitted a scope of this study to the Boston Transportation Department (BTD) and the Boston Redevelopment Authority (BRA) for review. The scope included a review of applicable Best Management Practices (BMPs), an overview of Harvard's events and transportation management, as well as non-Harvard events at Harvard facilities in Allston, development of recommendations and subsequent follow-up to evaluate transportation conditions during the 2014 Commencement and 2014 Harvard-Yale Game. This memorandum presents the results of that analysis. Figure 1 illustrates the Harvard facilities in Allston.

1.0 Purpose

The purpose of this study is to document transportation management approaches for existing events and identify areas for improvement. The events include large University-affiliated annual events, like Commencement and the Harvard Yale Game, which is played every two years at the Stadium; medium and smaller sized University athletic competitions and alumni events; and, non-University events that make use of University facilities. The goals of the transportation management plan for these events are to provide a safe environment for attendees traveling to and from and attending the events and to minimize transportation impacts on the adjacent neighborhood.

The study does not address potential future changes related to the Harvard Stadium Addition/Renovation and the Mixed Use Facility & Basketball Venue. The potential transportation needs of these projects will be evaluated in greater detail as they are further reviewed prior to implementation. As part of that review process, Harvard will address the potential need to update its event management plans.

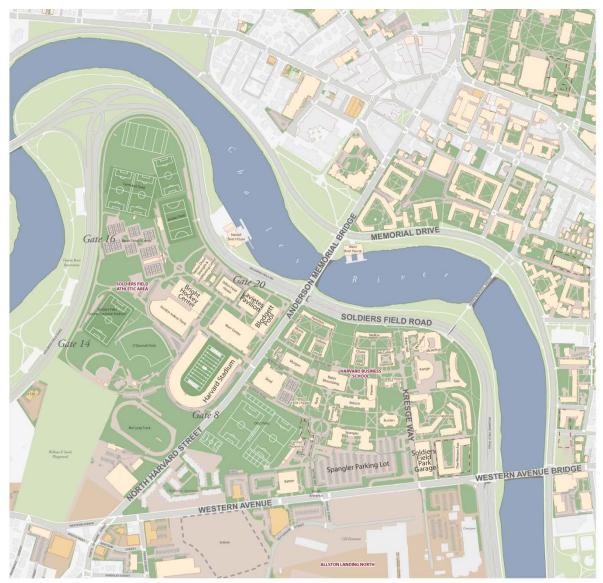


Figure 1: Harvard Facilities in Allston

2.0 Background

This study was developed in response to concerns that were raised after traffic congestion was observed on Western Avenue on the weekend of June 8-9, 2013 in Allston. On that day in Allston, events of the Special Olympics Summer Games were held at the University's athletic facilities. Harvard Business School (HBS) alumni also gathered for a series of class reunions. A number of external traffic c conditions also significantly contributed to traffic congestion that weekend.

Harvard staff regularly reviews the operations of events as part of its after-action review process. The review of the June 8-9 weekend's events and the subsequent discussions related to this study recommended that Harvard implement the following measures for this year's events:

- 1. Continue to assigned specific lots for use by each event: Special Olympics patrons in the Soldiers Field Park Garage and HBS Alumni in the Spangler Lot.
- 2. Expand the use of pre-sell parking to the Special Olympics for its patrons.
- 3. Improve traffic directions and advise motorists of the Memorial Drive closing on Sundays.
- 4. Secure a police detail for Western Avenue and Kresge Way (formerly East Drive).
- 5. Evaluate the need for additional directional signage for larger events.

In addition, Harvard is also proposing to eliminate parking on Western Avenue next to the cycle track between Hague Street and Soldiers Field Road. This change is proposed as part of construction management for HBS projects, but will also serve to create roadway capacity that would allow traffic to bypass queues formed by traffic turning left into Kresge Way.

Harvard believes that the recommended traffic management improvements will mitigate the traffic demands of the upcoming Special Olympics Summer Games, particularly since the event is anticipated to be smaller in scope than last year. The proposed improvements should also provide additional flexibility to address planned and unforeseen external traffic demands such as the conditions that played a role in creating traffic congestion in Allston during the June 8-9 weekend: restrictions on the Anderson Bridge to one lane in each direction; the closing of Memorial Drive on Sunday; the closing of the Prudential Tunnel due to electrical problems in the Back Bay with traffic diversions at the Allston interchange; a Red Sox day-night doubleheader on the 8th and afternoon game on the 9th; and, street closures in the Back Bay near the Copley ramps for the annual Boston Pride parade on the afternoon of the 8th.

3.0 Current Event Planning and Implementation Approach

The size of events in Harvard's Allston campus ranges from large events such as Commencement or the Harvard-Yale Game, which is held every two years, to medium sized athletic events (e.g., football games other than Harvard-Yale, hockey, basketball, swim meets), alumni weekends, Freshman Move-in Day, and non-Harvard events like the Special Events Summer Games. Most large and medium sized special events occur on weekends or at night, outside of commuting hours or peak parking demands at Harvard parking facilities. One notable exception is the annual Commencement Day, which occurs on a weekday and is scheduled for May 29, 2014. A number of smaller events are also held on campus including conferences and youth athletic camps.

Because the events in Allston typically involve multiple groups within and external to Harvard, coordination and communication are key elements of the transportation management plans. Within Harvard, several different groups have event planning and operational responsibilities: Campus Services, particularly Transportation and Parking; Athletics; HBS; Harvard University Police Department (HUPD); and the Commencement Office. Outside agencies include the Massachusetts State Police, the Boston Police Department (BPD), BTD, and the Department of Conservation and Recreation (DCR). In addition, outside groups are also involved when they use Harvard facilities in Allston, including the Special Olympics, the Boston Cannons, and the Boston Breakers. Harvard also submits its management plans to the Boston Licensing Department to secure its license to operate ticketed events (e.g., football, basketball, hockey). Separate licenses are issued for each ticketed sport season.

3.1 Pre-Event Planning Activities

Harvard staff and, as necessary, staff from non-Harvard events meet to develop the transportation management plans and clearly delineate areas of responsibility. Typically, Athletics staff manages activities (including parking) within its property, coordinates with DCR regarding the use of its gates on Soldiers Field Road, and provides advanced travel information for its events. Campus Services operates shuttle buses, manages the parking outside of Athletics, and provides direction to its parking facilities. HBS provides on-site staff for its events and advanced travel information on its website. HUPD coordinates police details including securing details for the Massachusetts State Police and Boston Police. For non-Athletic events, Campus Services may also manage parking on Athletics.

At the pre-event meetings, staff members review the requirements of the upcoming event(s); discuss the recommendations of pertinent after-action reviews from previous years or other events; assess and respond to recent changes in conditions (e.g., construction related activities on the Anderson Bridge); and, determine staffing requirements. For large-scale events, like Commencement, these meetings begin three to six months in advance of the events. For medium-sized events, including outside events like the Special Olympics Summer Games, meetings happen at least a month before the event. Coordination meetings also occur before and during the football and winter sports seasons. For example, meetings are regularly scheduled for the week of each of the five home football games.

3

3.2 Event-related Activities

Transit is encouraged as the preferred mode of access, but there is recognition that the key issue for these events is the management of traffic flows and provisions for pedestrian and bicycle mobility. During events, a number of transportation management strategies may be deployed. The transportation management plans for large events, which are discussed later in this memorandum, include:

- Dissemination of travel information (e.g., transit and auto directions) to event participants via websites and other media.
- Police details to direct traffic on event days.
- Ramp closures on Soldiers Field Road at the Anderson Bridge to reduce conflicts with pedestrian flows across the bridge.
- Suspension of construction activities on the Anderson Bridge during Commencement Day and the Harvard-Yale Game, per MassDOT's contract with Barletta, the contractor rebuilding the Anderson Bridge.
- Use of parking at the Soldiers Field Park Garage, Spangler Lot and, for the Harvard-Yale Game, on athletics facilities.
- Temporary use of gates on Soldiers Field Road with police details and an advanced Variable Message Sign (VMS) for traffic to enter and exit designated gates as part of the Harvard-Yale game and other football games.
- Suspension of contractor activities on campus to reduce traffic and parking demands during Commencement Day.
- Increased levels of parking monitors and field staff to monitor parking conditions, provide on-site transportation information such as the dissemination of maps, and implement actions such as lot closures with pre-stationed signs.
- Use of shuttle bus services to transport event patrons and staff.
- Designated parking locations for event staff.

Medium and smaller University-sponsored events require less extensive transportation management plans and typically focus on dissemination of travel information and provision of parking at assigned facilities (i.e., Soldiers Field Park Garage, the One Western Garage, and the Spangler Lot). Harvard encourages event organizers to pre-pay for blocks of parking to reduce congestion at parking lot /garage entrances.

The University also makes its facilities available for non-University activities, such as the Special Olympics and youth athletic camps at the Athletics complex. Harvard staff meets with event organizers to pre-plan activities and identify areas of responsibility for transportation management of these events and determine staffing needs. These event organizers typically link to Harvard websites for directions. Harvard also makes its parking available to residents during City-declared snow emergencies. The intent of this program is to reduce parking impacts on the adjacent residential neighborhood.

In addition, particularly during large- and medium-scale events, Harvard staff communicate with each other in the field to shift resources based on changing demands. This includes redeploying parking monitors to reduce queues at parking facilities and closing parking facilities with pre-deployed signs at lot/garage entrances.

3.3 After Action Reviews and Recommendations

Harvard staff also meet after the events to assess operations and make recommendations for future events. As discussed in Section 1.3, this process identified potential measures for the upcoming Special Olympics Summer Games in June based on last year's experience.

4.0 Best Management Practices

Vanasse Hangen Brustlin, Inc. (VHB) researched Best Management Practices (BMPs) for planned special event Transportation Management Plans (TMPs). Their review, which is summarized below, presents the state of the practice publications from the Federal Highway Administration (FHWA) Office of Operations, United States Department of Transportation (USDOT), and Transportation Research Board (TRB); and considers specific local case studies. It concludes with a "lessons learned" section that describes the applicability of these measures to current event management practices at Harvard.

4.1 Federal Highway Administration (FHWA) Office of Operations

In 2003, FHWA published the Managing Travel for Planned Special Events handbook with the goal of communicating best practices for a variety of event types and attendance levels. The handbook is a technical reference document that provides direction, guidance, and recommendations to proactively manage planned special events by building upon state-of-the-practice management in metropolitan, urban, and rural areas.

Sections of the handbook detail all aspects of event planning including definition of roles, responsibilities, and communication protocol for event stakeholder groups; development of traffic management and travel demand management plants; execution of the plans on the event day; and post-event activities such as stakeholder debriefing and participant evaluation. This handbook was intended to cover a wide range of events and many of the sections may not apply to Harvard's events in Allston. However, the report does include checklists by plan component (e.g. site access and parking, pedestrian access, en-route traveler information, etc.) that would be useful tools to ensure that all aspects of transportation are considered and appropriately addressed. Additionally, sample materials from various events are included.

4.2 United States Department of Transportation (USDOT)

In 2008, the USDOT published the Intelligent Transportation Systems for Planned Special Events study which reviewed how six agencies in five states utilize Intelligent Transportation Systems (ITS) to manage traffic generated by planned special events. Lessons learned as a result of these case studies included consistent stakeholder coordination, development of a dynamic plan with a contingency for evacuation of a venue, coordination with construction activities, and a post-event review.

One of the case studies examined how BTD manages event traffic. BTD stressed both the importance of developing a dynamic plan and stakeholder meetings in advance of the event to review details and to establish contingencies. Regarding ITS solutions, Jim Gillooly, BTD Deputy Commissioner (at the time) noted, "The impacts of special events can certainly be harnessed, or at least mitigated significantly, with good use of technology. There are a lot of moving parts to many of the special events in the city, and by having cameras to monitor and signals to adjust traffic flows, we're able to minimize the negative disruptions on the public when these special events take place."

4.3 Transportation Research Board (TRB)

TRB published NCHRP Synthesis 309, a report presenting the state of the practice of transportation planning and management of both frequent and infrequent special events of varying attendance levels. Data to support the report came from four sources: published literature; stakeholder surveys; three case studies; and informal interviews. Relevant discussions include event management strategies and formalized stakeholder coordination, discussed below.

As shown in Table 1, the report noted a wide variety of tools and techniques currently being used to plan and manage special event activities, focusing on three areas: (1) disseminating motorist information, (2) managing and controlling traffic, and (3) managing travel demand. The report also noted that "the predominant challenge noted…relates to communication and coordination among all stakeholders." To mitigate communication issues, development and use of supporting guidance documentation (i.e., an operations or response guide) that is both able to be easily updated and flexible was discussed.

5

Table 1 Tools and Techniques Currently Used—Ranking

Tools and Techniques	Frequency
Motorist Information	
Variable message signs	81%
Media partnerships	69%
Pre-event informational campaigns	69%
Highway advisory radio	28%
Other	11%
Traffic Management	
Traffic cones	81%
Temporary lane closures	81%
Portable static signs	78%
Traffic management teams	61%
Traffic management centers	56%
Law enforcement motorcycle patrols	50%
Non-law enforcement service patrols	50%
Traffic responsive signal systems	50%
Law enforcement service patrols	42%
Video and closed-circuit television	42%
Reversible lanes/moveable barriers/temporary contraflow	42%
Electronic loop detection	36%
Aircraft patrols	31%
Portable traffic signals	17%
Major capacity improvements	17%
Ramp metering	11%
Other	3%
Travel Demand Management	
Park-and-ride lots	67%
Alternative routes	50%
Parking management	44%
Economic or preferential incentives for public transportation	25%
Automobile-restricted zones	22%
Economic or preferential incentives for ridesharing	14%
Major transit improvements	11%
Economic or preferential incentives for walking/biking	6%
Alternate travel hours incentives/congestion pricing	6%
Other	3%

Source: Stakeholder survey responses (36 total), NCHRP Synthesis 309: Transportation Planning and Management for Special Events.

4.4 Local Case Studies

Two local case studies, the Boston Convention & Exhibition Center (BCEC) and Fenway Park TMP's, were reviewed to understand local event management practices, particularly as they related to large events that might be comparable to Commencement activities or the Harvard-Yale Game.

4.4.1 Boston Convention & Exhibition Center

The BCEC opened in the South Boston Waterfront in 2004 and is operated by the Massachusetts Convention Center Authority (MCCA). The BCEC contains 2.1 million square feet of flexible space—the largest convention space in the Northeast – and hosts consumer/gate, international, national, and regional events of varying sizes each year. The BCEC accommodates a wide range of events with attendance for large, multi-day events reaching as high as 47,000 people per day.

MCCA Transportation Department staff work with event management to develop and execute a TMP which discusses the transportation characteristics of the event; identifies other concurrent area events; and outlines multimodal transportation options (parking, taxis, bike racks, private shuttles, etc.) and traffic mitigation measures, such as the use of Variable Message Signs (VMS) and police details. Interagency coordination and outreach in advance of and during the event is also a key component of the TMP. For example, BCEC staff coordinate peak attendance periods with the MBTA and taxi cab companies, develop maps and web directions that are posted on both the MCCA and the event's website, and develop a social media strategy to inform event patrons and local stakeholders through tools such as Twitter, Facebook, and smart phone applications. Lastly, the TMP outlines a series of action items to be addressed in order to implement the TMP.

4.4.2 Fenway Park - Example Concert

In recent years, Fenway Park has hosted a variety of concerts which generate transportation demands that differ from a typical baseball game. This section summarizes the TMP developed for concerts in July 2013 with approximately 36,000 attendees per event: Paul McCartney and two Jason Aldean shows. The TMP focused on transit, traffic operations, parking, pedestrian access, and public safety in the immediate vicinity of Fenway Park and included an event schedule and anticipated attendance, transportation management/ public safety plan, and next steps/action items.

Staff/crew and truck traffic associated with the set-up and breakdown of each show was identified and a schedule of activity by day was developed. For the concerts themselves, estimates of attendance by mode were developed based on data from Fenway Park data. This data informed the TMP development which included police details to actively manage traffic during the events; select street closures; promoting and supporting alternative access mode opportunities in the immediate vicinity of Fenway Park; and promoting remote parking options to intercept vehicles before they reach the Park. Similar to the BCEC TMPs, a series of action items were also outlined.

It should be noted that the resulting TMP for these concerts was a refined plan based on observations of the traffic management plans developed for other concerts and special events and feedback from the Boston Red Sox, Live Nation, and BTD.

4.5 Lessons Learned

Common themes were noted during the review of available BMP publications and local case studies that could enhance Harvard's event management. First and foremost, all documents stressed the importance of a formalized communications/coordination plan and some discussed a core team or point person which serves as the clearing house for events. Second, the development of a TMP that is both flexible and adaptable was also emphasized throughout the publications. A flexible TMP would allow event managers to respond in real time to fluctuations in event activity.

A review of BMP publications and local case studies indicates that many of the recommended TMP practices are already being utilized by Harvard to manage Allston events. Specifically, the University coordinates with MassDOT in advance of large events with regional impacts. TMP components include public outreach in the form of dissemination of travel information; on-campus parking; and for larger events, police details and temporary road closures – all of which were noted as best practices during VHB's literature review. Harvard also conducts after-action reviews to assess effectiveness and success of the TMP and identify enhancements for future events. Based on the after-action review of the Special Olympics Summer Games/HBS Alumni Weekend, Harvard has taken steps to improve its transportation management procedures.

5.0 Events

Harvard hosts a variety of University-related events in Allston. Most significant is the Harvard-Yale Game, which is played every two years at Harvard. Other athletic and HBS events are significantly smaller in scope and attendance. In addition, Harvard facilities in Allston are used to support Commencement Day activities and Freshman Move-in. Harvard implements TMPs for these events that are tailored to the size and scope of the event. Similarly, extensive pre-planning is conducted to manage the large events and schedule information is shared among staff to facilitate coordination of multiple events.

5.1 Large-scale Events

The annual Commencement Day celebration and the Harvard-Yale Game are the two largest University Events that occur on campus. Unlike other special events Commencement occurs on a weekday. The Harvard-Yale Game occurs on a Saturday. If necessary, Harvard will supplement its workforce during very large events with outsourced staff.

5.1.1 Commencement

Commencement is scheduled for Thursday, May 29, 2014. University commencement activities use parking facilities in Allston to support the event. HBS also has its own ceremonies in Allston on the afternoon of Commencement, as well as alumni events that are organized around graduation. The Commencement Office provides detailed information about the day's events, on its webpage (http://commencement.harvard.edu), including the following:

Commencement at Harvard is comprised of three components: the ceremonial Morning Exercises, during which University degrees are conferred; the mid-day luncheons and diploma-awarding ceremonies at the undergraduate Houses, Graduate and Professional Schools; and the afternoon Annual Meeting of the Harvard Alumni Association, during which Harvard's president and the featured Commencement speaker deliver their addresses.

The Morning Exercises, which convene in the outdoor Tercentenary Theatre, are attended by approximately 32,000 degree candidates, family members, faculty, alumni/ae, and guests. Because of limited seating capacity, this is a ticketed event, and those without a ticket will not be admitted.

The webpage also provides Harvard including event locations and directions by transit ("highly recommended") auto and shuttle bus schedules and maps. Harvard Transportation and Parking provides detailed information about parking for commencement. Pre-planning for Commencement begins six months prior to the event and an after-action review is scheduled after the event. Key TMP measures include:

- Dissemination of travel information (e.g., transit and auto directions) to event participants via websites and other media.
- Police details to direct traffic.
- Suspension of construction activities on the Anderson Bridge.
- Use of the Athletics area for parking with wheelchair lift-equipped shuttles throughout the day, until 8:00 p.m.
- Directional signs to direct traffic to the Athletic area.
- Suspension of contractor activities on campus to reduce traffic and parking demands during Commencement Day.
- Increased levels of parking monitors and field staff to monitor parking conditions, provide on-site transportation information such as the dissemination of maps, and implement actions such as lot closures with pre-stationed signs.

Visitors and guests are advised to plan for busy traffic conditions in and around Harvard Square and to be respectful of the Allston and Cambridge communities by not parking on residential streets. The University also makes visitors and guests aware that there are numerous commercial parking facilities in and around Harvard Square.

5.1.2 Harvard-Yale Game

The Harvard-Yale Game is played every two years at Harvard Stadium. This year, The Game will be played at 12:00 p.m. on Saturday, November 22. The attendance at The Game in 2012, the last time it was played at Harvard was 31,123. Pre-Planning for the Harvard-Yale Game typically begins in August and is followed by an after-action review after The Game. A number of measures are used to manage transportation this day, including:

- Dissemination of travel information (e.g., transit and auto directions) to event participants via websites and other media.
- Police details to direct traffic on event days.
- Ramp closures on Soldiers Field Road at the Anderson Bridge to reduce conflicts with pedestrian flows across the bridge.
- Suspension of construction activities on the Anderson Bridge.
- Parking and tailgating in the Athletics area and parking at the Spangler lot and Soldiers Field Park Garage.
- Designated parking locations for event staff.
- Directional signage.
- Coordination with DCR to provide traffic management and temporary use of gates on Soldiers Field Road with police details and an advanced Variable Message Sign (VMS) for traffic to enter to exit designated gates as part of the Harvard-Yale game and other football games.
- Increased levels of parking monitors and field staff to monitor parking conditions, provide on-site transportation information such as the dissemination of maps, and implement actions such as lot closures with pre-stationed signs.
- Use of shuttle buses services to transport fans and staff.

Parking management is a key concern during the Harvard-Yale game. To minimize the use of North Harvard Street, vehicles are directed to enter designated gates from Soldiers Field Road: general admission uses Gate 14, season ticket holders use Gate 16, and hospitality staff use Gate 20. A VMS sign on Soldiers Field Road eastbound indicates the use of these gates. Parking is pre-paid to speed up processing time for arriving vehicles and keep queues at the entrances to a minimum. Staff is deployed to direct cars to parking on site. Additional parking is provided in the Soldiers Field Park Garage. Similar protocols are also used during the other home football games.

5.2 Medium-scale Events

Medium-scale events include athletic events other than the Harvard-Yale game, alumni weekends, Freshman Move-In Day, and non-Harvard events like the Special Events Summer Games. Parking for football games and other athletic events are typically accommodated within Athletics. As necessary, Harvard also assigns parking to either the Soldiers Field Park Garage or the Spangler Lot for these events. In 2013-14, the Soldiers Field Park Garage was used to accommodate the Special Olympics Summer Games; the Spangler Lot was used for the Bay State Games and a Cannons game, both non-Harvard events that were held at Athletics. The New England Swimming Championships, another non-Harvard event, used the Spangler Lot and the Soldiers Field Park Garage.

5.2.1 Athletic Competitions

In the course of an academic year, Harvard hosts a wide range of athletic events. Medium-scale events include Harvard football games other than the Harvard-Yale game, Harvard hockey games, Harvard basketball games, and Harvard-sponsored lacrosse tournaments. Most of these athletic events typically occur on Saturdays or Friday nights, outside of the peak commuting hours and peak parking demand on campus.

- **Football games at the Stadium.** There were five games played on Saturdays in 2013 at the Stadium including one night game (7:30 p.m.) and one evening game (5:00 p.m.) at the beginning and end of the season respectively. In 2014, average attendance was approximately 12,000 spectators per game with a peak attendance of 17,300 spectators at the September 28 (7:30 p.m.) home opener against Brown.
- Women's Basketball at Lavietes Pavilion. There were eleven regular season games played at home in 2013-14. Weekday games started at 7:00 p.m. and Saturday games started at 1:00 p.m., 2:00 p.m., or 6:00 p.m. (most common). Six games were played on Saturdays, three on Fridays, and one each on a Sunday, Tuesday and a Wednesday. In 2013-2014, average attendance was approximately 840 spectators per game.
- Men's Basketball at Lavietes Pavilion. There were twelve regular season games and one exhibition game played at home in 2013-14. Eight of the games started at 7:00 p.m., one started at 9:00 p.m.; one Saturday game started at 2 p.m. and a New Year's Game on a Wednesday started at 4:00 p.m. Six games were played on Saturdays, four on Fridays, two on Wednesdays and one on a Tuesday. In 2013-14, average attendance was approximately 2,000 spectators per game, including seven sell-outs with 2,195 spectators in attendance.
- Women's Hockey at Bright Hockey Center. There were sixteen regular season games and four ECAC tournament games played at home in 2013-14. Six of the regular season games and one of the playoff games started at 7:00 p.m. The rest started in the afternoon, typically at 3:00 or 4:00 p.m. Ten games were played on Saturdays, eight on Fridays and two on Sundays. In 2013-14, average attendance was 650 spectators per game.
- Men's Hockey at Bright Hockey Center. There were fifteen regular season games and one exhibition game played at home in 2013-14. Fifteen of the games started at 7:00 p.m. and one started at 7:30 p.m. Seven games were played on Saturdays, six on Fridays and one each on a Sunday, a Tuesday, and a Wednesday. Average attendance was 2,250 spectators per game.
- Lacrosse Tournaments. Harvard lacrosse teams also coordinate and staff lacrosse tournaments for high school teams. Typically, there are two men's tournaments and one women's tournament in the fall and one men's and one women's tournaments in the summer.

Athletics provides directions to its facilities for these events. During football games, ramps are closed on Soldiers Field Road at the Anderson Bridge to reduce conflicts with pedestrian flows across the bridge. Parking is generally accommodated within the Athletics area, although parking is sometime provided at the Soldiers Field Park Garage. For home football games, access into Athletics is provided from Soldiers Field Road using the protocols employed for the Harvard-Yale game. Exiting traffic from football games uses the Soldiers Field Road Gate 14 under the control of a police detail. This approach is sometimes used when there is a basketball and hockey game on the same night.

5.2.2 HBS Alumni Reunions

HBS has two alumni reunion weekends. The first weekend is on June 5 through June 8 for the 5th, 10th, 20th, 50th, 55th, 60th, and 65th classes. The second weekend is on September 18 through September 21 for the 25th, 30th, 35th, 40th, and 45th classes. The spring event is the larger of the two events and can attract approximately 2,500 attendees. The spring alumni reunions will overlap this year with the Special Olympics Summer Games on June 6 through June 8, 2014.

Events are scheduled on the HBS campus and venues in Cambridge and Boston. HBS event coordinators manage, plan and coordinate transportation services. Most travel needs are met by shuttle services that are contracted with outside vendors. These buses provide service throughout each weekend including connections between the campus and the host hotel for each class, as well as connection to and from the airport. HBS along with representatives from the bus company manage drop-off/pick-up within the Spangler lot

While Campus Services provides pre-paid parking for these events, HBS encourages the use of non-auto modes. The event website indicates that "[p]arking on campus will be limited during Reunion Weekend. As we are not able to guarantee you a parking space on campus, HBS encourages you to make use of bus transportation whenever possible."

5.2.3 Freshman Move-in Day

Freshman Move-in Day occurs in August of each year. Like other events, Harvard pre-plans this activity and has an after-action review. Because space is limited in Harvard Yard where the thirteen freshman dormitories are located, Harvard stages parents and students in the area next to the Stadium. Families enter via Gate 8 on North Harvard Street, form queues at the Stadium early in the morning and are sent to Harvard Yard, 50 vehicles at a time every fifteen minutes, through Gate 14 on Soldiers Field Road. In Harvard Yard, parents have 20 minutes to unload their vehicle before they are directed to free parking at a nearby Harvard garage.

The system includes coordination among the Harvard University Police Department, Boston and Cambridge police, the Massachusetts State Police, and student representatives from the Crimson Key Society who direct traffic within the Yard.

5.2.4 Special Olympics Summer Games

The Special Olympics Summer Games will be held on June 6 through June 8, 2014 at Harvard University and Boston University. This will again overlap with the spring HBS reunion weekend from June 5 through June 8. At Harvard, the Special Olympics events will take place at the athletics complex on North Harvard Street. Parking will be provided at the Soldiers Field Parking Garage. Harvard Transportation and Parking will allow families and volunteers to pre purchase parking passes.

Information on the Special Olympics webpage currently alerts families, guest and volunteers about the presence of other competing events at the Harvard Business School that use the parking facilities lots at Harvard University. Further, the website asks people to "allow for plenty of time to get to this year's Summer Games and be patient with the parking staff, as they work to park everyone in a quick, orderly and safe manner."

This year, Harvard will encourage attendees to pre-pay for parking and will update directions to reduce confusion by alerting attendees of the Anderson Bridge construction and the Memorial Drive closure. Harvard will also seek to get a traffic detail on Western Avenue at Kresge Way.

5.2.5 Boston Breakers and Boston Cannon Games

In 2014, Harvard Stadium will also host ten Boston Breakers women's professional soccer matches and seven Boston Cannons men's professional lacrosse games. Parking is provided in Athletics and is accessed via Gate 8 on North Harvard Street. In 2013, the Spangler Lot was also used by the Boston Cannons.

The Breakers play April through August. Matches typically start at 7:00 p.m. Eight of the ten matches are scheduled on Sunday evenings and two are scheduled on Wednesday evenings. The Breakers averaged approximately 2,400 spectators per game in 2013 when they played at Dilboy Stadium in Somerville.

The Boston Cannons also play in Harvard Stadium from April through August. Six of the seven games are scheduled on Sunday afternoons or evenings and one game is scheduled for a Sunday afternoon. The Cannons averaged approximately 9,600 spectators per game in 2013.

5.3 Small-scale Events

Harvard hosts small events at the Business School and Youth Athletic Camps at Athletics. The University also provides parking to neighborhood residents during designated snow emergencies. Harvard meets in advance with event organizers to pre-plan activities and to clarify areas of responsibility for the management of their activities. As with other events, Harvard conducts after-action reviews. These events are coordinated within the planning for large- and medium-scale events.

5.3.1 HBS Events

There are approximately 150 small conferences and events at the Business School over the course of an academic year that require parking for up to 75 vehicles. Harvard encourages event organizers to pre-pay for blocks of parking to reduce congestion at parking lot /garage entrances. Parking for these events is available at the Spangler Lot and Soldiers Field Park Garage.

5.3.2 Youth Camps

Harvard Athletics also hosts youth athletic camps. The camps do not generate significant traffic and parking demands. Harvard works with organizers to review parking needs and establish drop-off/pick-up areas. Parking is typically available at the Soldiers Field Park Garage.

5.3.3 Snow Emergencies

In Boston, during declared snow emergencies, parking is prohibited on major arteries. When the City of Boston declares a snow emergency, Harvard makes available parking at the Soldiers Field Parking Garage at no charge to Allston residents. The on-duty parking garage attendant issues a dashboard pass to drivers upon entering the facility. All vehicles must exit the facility within one hour after the emergency ban has been lifted. Making parking available in the Soldiers Field Park Garage during snow emergencies also helps with the snow removal process and makes it safer for everyone in the area.

6.0 Recommendations

Harvard will continue to implement the measures as described in the sections above, subject to potential enhancements from scheduled pre-planning and after-action reviews. In addition Harvard will implement the following measures:

- 1. Pre-sell parking for Special Olympics patrons.
- 2. Improve traffic directions and advise motorists of the Memorial Drive closing on Sundays.
- 3. Explore the installation of additional directional signage during events.
- 4. Secure a police detail for Western Avenue and Kresge Way.
- 5. Evaluate the need for additional directional signage for larger events.

In addition, Harvard is also proposing to eliminate parking on Western Avenue next to the cycle track between Hague Street and Soldiers Field Road. This change is proposed as part of construction management for HBS projects, but will also serve to create roadway capacity that would allow traffic to bypass queues formed by traffic turning left into Kresge Way.

These updated procedures will be in place for the next Special Olympics Summer Games, which are scheduled for June 6-8. These measures will also be applied as appropriate to other events. In addition, Harvard will provide additional monitoring of the 2014 Commencement and the 2014 Harvard-Yale game to further inform the after-action reviews of these events.