NELSON
NYGAARD

MEMORANDUM

To: Kara Brewton, Town of Brookline

From: Nelson\Nygaard

Date: February 11, 2014

Subject: 2-4 Brookline Place Parking and Transportation Demand Management (PTDM) Options

To support the Town of Brookline's efforts to reduce dependency on automobiles and reduce congestion in the Brookline Village area, the proposed redevelopment of 2-4 Brookline Place should encourage staff and patients to utilize alternative forms of transportation to and from the site. Brookline Place should be developed with the most progressive transportation program available in order to foster a livable community that encourages walking, bicycling and transit. The goal of any "Parking and Transportation Demand Management" measures should be to reduce the need to drive by providing realistic incentives to travel by other means than the car.

The project proponent is committed to actively working with the Town of Brookline to implement trip reduction measures that reduce peak period traffic volumes and vehicle trips throughout the area. In addition to a monitoring and reporting plan, this plan includes Alternative Mode, Parking Management, and Marketing programs such as:

- Mode Share Goals
- CommuteWorks TMA
- Employee Transportation Coordinator
- Ride Matching
- Carpool Spaces
- Emergency Ride Home
- Shuttle Service
- Public Transportation
- Car Sharing
- Bicycle and Pedestrian Options
- Flexible Work Schedules

MODE SHARE GOALS

Children's Hospital and its tenants should commit to implementing strategies to reduce the percentage of Single Occupancy Vehicles (SOV) travel by employees to and from Brookline Place. As part of a PTDM plan, the hospital should provide the Town with Mode Split goals and percentage trip and parking reduction measures before being issued a building permit for the project. Mode shares will be monitored in the future through an annual monitoring program outlined at the end of this memo.

ALTERNATIVE MODE PROGRAMS AND INCENTIVES

CommuteWorks TMA

Children's Hospital was a founding member of MASCO, and has been a proactive member of MASCO's CommuteWorks TMA- the Longwood Medical Area's Transportation Management Association (TMA) that administers the areas' TDM program. Children's Hospital has continued to work alongside CommuteWorks to helps employee and students better attain information about alternative transportation options including the MBTA, bicycle/walking, shuttles, and ridesharing.

As part of program, Children's Hospital should renew its membership annually and extend TMA benefits to all Brookline Place employees and property tenants, which includes any non-hospital commercial tenants.

Employee Transportation Coordinator

Brookline Place should have a Mobility Coordinator that administers and actively markets all demand management programs for the MASCO TMA. The Mobility Coordinator should also serve as a facility-wide concierge, providing personalized information on transit routes and schedules, ridesharing information, bicycle routes and facilities, and other transportation options available to employees and visitors. The Coordinator also would implement the parking cash-out program. The Coordinator should be located at an on-site Transportation Resource Center (TRC) open to the public.

The Transportation Coordinator would compile and provide to all tenants up to date transportation packets explaining all commute options for distribution to all existing and new employees as part of their orientation package. The Coordinator will serve as the liaison between the employees and transportation organizations, including but not limited to the MBTA, MASCO (CommuteWorks) and the Town of Brookline.

Ridesharing

The property should market MassRIDES programs and ride-matching services to all employees through the ride-matching assistance in the area provided by CommuteWorks, which assists employees with contacts for appropriate carpool/vanpool partners. The following measures should also be implemented to encourage the formation of carpools/vanpools

- Work with Commuteworks to provide on-line registration for RideShare ridematching program
- Provide access to information on area carpool and vanpool participants throughout the LMA
- The hospital should also develop an incentive program for carpool participants before the completion of the project. The goals of this program will be to reward those employees who choose to form carpools (in addition to the availability of preferred parking spaces described later).

Carpool Spaces

Initially, 5 percent of the parking spaces in the on-site parking garage should be allocated and clearly marked for registered carpools. The spaces would be located in the most conveniently

accessed and closest locations to the main entrances to serve as an incentive to rideshare. The property should set aside additional spaces for carpools to meet demand as and when it is identified.

Emergency Ride Home

The property should provide tenants with an Emergency Ride Home program through CommuteWorks for all employees who commute by non-SOV mode at least three days a week. The Transportation Coordinator would provide the CommuteWork's Emergency Ride Home Program registration form as part of the orientation package.

Shuttle Service

The property owner should maintain its membership in the LMA shuttle service to help transport tenant employees to and from MBTA transit stations and key employment destinations throughout the Longwood Medical District. This membership should be extended to all incoming tenants of Brookline Place in perpetuity. Currently, there are two shuttles that run in close proximity to the existing site, which include the Brigham and Women's Hospital Shuttle and Dana Farber Cancer Institute shuttle. In addition, the site is located in close proximity to a number of bus stop locations and four green line transit stations that are within a ½ mile radius from 2-4 Brookline Place.

Public Transportation

To encourage the use of public transportation, Children's Hospital should continue to provide its employees with an opportunity to participate in the MBTA pass commuter-choice program. Through this program, Children's Hospital will continue to subsidize transit passes for employees up to a minimum of 50% of the costs of a monthly transit pass. A similar program should be required of all incoming tenants of Brookline Place. The following additional measures should also be implemented:

- Provide on-site sales of MBTA passes for employees through payroll deductions
- Distribute information regarding MBTA transit routes and schedules in the buildings and online

Car Sharing

Information on car-sharing options such as Zipcar should be included in the marketing information for transportation alternatives. Currently there are approximately three car sharing locations within a ½ mile radius from the site, including two dedicated Zipcar vehicles located at the Brookline Village MBTA station. These locations should be marketed to employees as a means of running errands, going to appointments, and attending meetings in place of driving their own personal vehicles to work.

Bicycle and Pedestrian Options

Information on bicycle and walking options should be included and in the dissemination of all transportation alternatives information.

There should be enough long-term, covered and secure bicycle parking to accommodate approximately 15-percent of employees. The long-term parking will be in the form of bicycle lockers to be located in the proposed garage near the main entranceway.

There should also be four short-term bicycle parking spaces for messengers and visitors. These spaces should be located either near the building entrances or near the parking garage. If additional bicycle racks are necessary, capacity should be expanded.

Hubway bike-share is available as an alternative mode of transportation for employees and visitors. Currently there are three stations located within a half mile of the project site in Brookline Village, along Washington Street, and in Brigham Circle. Tenants should offer their employees an annual corporate membership to Hubway and offer employees unlimited 30-minute rides on the system. Further usage fees may be charged to the employee if the company wishes.

All employees who walk or bike to work will be provided with access to showers and changing rooms to help facilitate their non-motorized commute.

Flexible Work Schedules

The property owners should encourage tenants to allow flexible work schedules for employees to reduce the peak impacts of commuting, particularly by personal vehicle.

Marketing Rate Parking Pricing and Cash-Out

The property owners should lease parking to tenants at current market rates. In addition, the property owner should require tenants to operate an unsubsidized parking program for employees, intended to reduce SOV commuting. Employees choosing to drive to work and park on-site, should be required to pay a somewhat higher monthly parking fee (currently recommended to be no less than $300, subject to annual reporting and refinement). This fee should be able to be "cashed-out" in the form of a discount on the following month's parking fee or an increased subsidy of that individual's MBTA pass. Daily transaction reports should be provided to all monthly pass holders monthly, with a daily cost and savings report provided at each gate transaction on a receipt or electronic display. Initially, daily parking fees should be $20 (or about $400/month), but monthly pass/parking cash-out subscribers would see their monthly discount (currently 25%) applied on the daily report. This discount would increase by an increment (currently 5%) each day the employee does not park, up to a maximum (currently 50% or $200/month) total monthly discount, which would either be the MBTA pass subsidy and/or the discount on the following month's parking. No subsequent month's discount could exceed the maximum (currently $200).

MARKETING PROGRAMS

The property owner should provide and maintain a transportation information bulletin board (Transportation Resource Center) to be located in a central location visible to employees throughout the building.

Information to be posted will include, but no be limited to, the following:

- MBTA maps, schedules and fares
- LMA shuttle maps, and schedules
- Bicycle parking and bicycle routes

- Hubway Bike Share map
- Pedestrian routes
- Ride-matching
- Car-sharing programs such as Zipcar

Information should also be available in brochures, a website, newsletters, and other marketing materials and will be provided to new tenants and distributed to their employees as part of their relocation efforts.

MONITORING AND REPORTING PLAN

To ensure compliance with the utilization of the TDM programs, a traffic monitoring program should be conducted with the results forwarded to the Town of Brookline. As with other elements of the TDM program, this portion of the plan should be implemented upon completing the project and receiving the final Certificate of Occupancy. Recommended monitoring and reporting language follows:

"2-4 Brookline Place will implement a transportation monitoring program and will begin by performing an initial employee survey to assist in determining the need for additional PTDM programs that would encourage alternative mode use by employees to achieve the mode share goal established prior to a Building Permit. This information will help the property owner refine approaches to implementing and promoting PTDM activities and to determine which measures will have the greatest likelihood of success. This survey will also provide the owner with more exact information regarding commuting patterns and measuring reductions in SOV trips and related mode shifts.

Within one year of the receipt of the final Certificate of Occupancy, the property owner will provide on an annual basis, a monitoring program to document vehicle, transit, pedestrian, and bicycle usage to the site. The monitoring program, including traffic counts and surveys, will provide detailed information on the travel modes to work and overall transportation characteristics by type of traveler (employee, visitor, etc.). The survey instrument to be used for mode share monitoring will be provided to the Town of Brookline prior to conducting the survey.

The survey will be approved by the Town of Brookline and sent out to all employees for a 60 percent minimum response rate for employees, and at least 200 patient/visitor surveys. These surveys will be conducted during the hours of 8:00am to 8:00pm, unless otherwise instructed by the Town of Brookline. The owner may choose to offer raffle prizes, to ensure that the minimum response rate is met.

If the Certificate of Occupancy for the project is issued between September 1 and February 29, the monitoring will take place during the months of September or October and a report provided to the Town no later than November 30. If the Certificate of Occupancy for the project is issued between March 1 and August 31, monitoring will take place during the months of April or May and be reported to the Town no later than June 30. This will ensure that the monitoring captures a realistic assessment of the performance of the project, while giving time to compile the results and report them to the Town."

NELSON
NYGAARD

MEMORANDUM

To: Kara Brewton, Town of Brookline

From: Nelson\Nygaard

Date: March 26, 2014

Subject: Brookline Place Shared Parking Analysis- Final Memo

This memorandum presents a comparative analysis of expected parking demand generated by the overall proposed site program for the redevelopment of 2-4 Brookline Place and its associated parking. The analysis first compares the parking demand that can be expected using national standards, based on the proposed and retained land uses. These land uses will then be used in a shared parking model that determines how much parking is needed when internal capture effects are considered and the staggered peaks of different uses are shared. This shared parking analysis also will take into account a scenario where maximized transportation demand management (TDM) measures are used and local non-motorized amenities are evaluated for their ability to impact mode share, thereby reducing the potential parking demand generated by on-site land uses.

SITE PROGRAM

For the purposes of our parking analysis, only existing and future general office and medical office land uses were utilized as input within the adjusted ULI Shared Parking model. The existing daycare and future retail land uses were not included based on observations of low parking demand generated by these uses on site (patrons use street parking instead), in addition to likely high internal capture rates due the adjacent medical and office uses and lack of other nearby users.

Table 1 Existing and Proposed Site Program for 2-4 Brookline Place

	Address	Land Use	Approximate GSF
Existing Retained Uses	*1 Brookline Place*	*Medical Office*	*103,318*
	5 Brookline Place	*Day Care*	*10,711*
Proposed New Uses	2 Brookline Place	General Office	119,800
	2 Brookline Place	Medical Office	47,400
	1 Brookline Place	Medical Office	48,000
		Retail Ground Floor	14,300
Total			343,529

EXPECTED PARKING DEMAND – UNSHARED BASELINE

For the purposes of this study, the analysis utilized the most recent parking report generated by the Urban Land Institute (ULI), titled *Shared Parking*. ULI provides more detailed recommendations for base parking ratios for land uses by user group (employees and visitors) as compared to the standard Institute of Transportation Engineers (ITE) Parking Generation methodology which does not differentiate user groups. This detail allows a more comprehensive understanding of parking demand throughout the course of a weekday by user group with the proposed site program. ULI's average peak period parking demand rate calculation is meant to represent the number of parked cars at the peak period divided by the quantity of the independent variable, such as building area or employees. To estimate the average peak period demand in the development, this study used the proposed program to determine the square footage of each land use and multiplied that square footage (or other independent variable, such as visitors or employees) by the ULI's summary of recommended base parking ratios based on land use.

As shown in Table 2, this analysis documents both the standard ITE "blended" peak parking demand rate (which includes all user groups) and the ULI unadjusted base parking ratios for employees and visitors. For the purposes of this analysis, an adjusted parking demand ratio was then created and utilized. The adjusted ULI ratio was refined due to the more robust number of comparable studies available in the ITE dataset, albeit at blended rates. As a result, the valuable ULI distinction of employee versus visitor trip rates was preserved while using the more robust sample size from ITE.

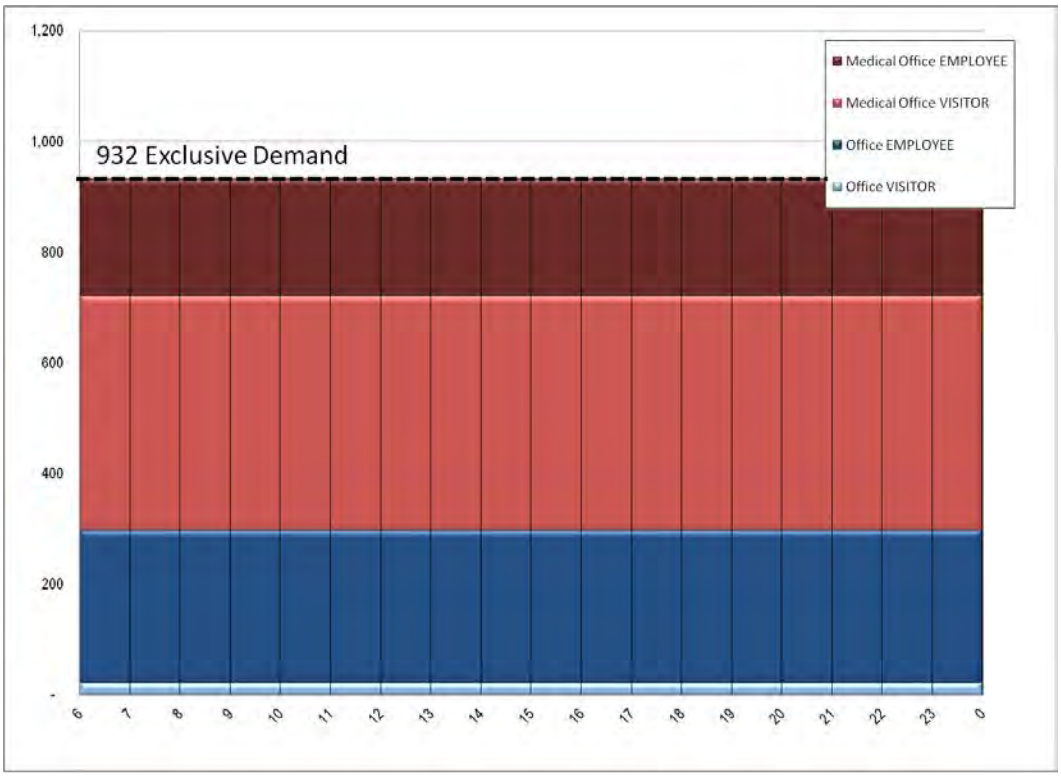
This blended ULI rate was used at the basis for our shared parking analysis mainly because the parking demand between employees and visitors at the current Brookline Place site has not been documented or analyzed separately. The existing demand of parking sales indicates that there are approximately 2.13 spaces/employee and approximately 0.77 spaces/ visitor at the existing on-site spaces, however this parking ratio does not properly represent the on-site parking demand for each user group. This ratio instead represents the demand of permit sales for employees on the site and does not pertain directly to parking utilization of on-site spaces.

Table 2 Unshared Parking Demand Ratios for Brookline Place

Land Use	Square Feet/ Units	ITE Standard Rate (Blended Rate)	ULI Weekday Rate	ULI Adjusted Rate	Parking Demand (ITE Standard)	Parking Demand (ULI Unadjusted)	Parking Demand (ULI Adjusted)
General Office (Employee)	119,800	2.47 (for all general office)	3.15	2.29	296	377	274
General Office (Visitor)	119,800		0.25	0.18		30	22
Medical Office (Employee)	198,718	3.2 (for all Medical office)	1.5	1.07	636	298	213
Medical Office (Visitor)	198,718		3.0	2.13		596	423
TOTAL					932	1,301	932

According to the adjusted ULI parking rate standards with no reductions for sharing or trip reduction measures, the baseline needed number of parking spaces for Brookline Place is 932 spaces as shown in Figure 1.

Figure 1 ULI Adjusted Parking by Land Use (Unshared)



EXPECTED PARKING DEMAND – SHARED USE ANALYSIS

To provide a more accurate depiction of alternative modal access and shared parking opportunities on the development site, Nelson\Nygaard used an adapted shared parking model using inputs from ULI's Shared Parking Manual (2nd Edition, 2005) and ITE's Parking Generation (4th Edition, 2010). Besides demand by time of day, we tailored the shared parking model for 2-4 Brookline Place to include parking demand reductions for using the same parking spaces for different uses based on the expected land use demands (internal capture). These expected land use demand percentages and ratios were reported separately for both the visitor and employee user groups within the office and medical land uses.

In order to take into advantage of existing factors that influence parking demand generation, such as the mix of uses near and on the site, proximity to transit, biking and walking facilities, etc., shared parking reduction factors were applied to reflect the urban environment on and surrounding the site. These reduction factors were based on the outputs of Nelson\Nygaard's trip generation model, which uses the reduction credits of the Federal URBEMIS air quality model. Details of the site's proposed program as well as existing local context, the transportation system, parking management, and transportation demand management measures help to determine the degree of trip reductions within the URBEMIS model, which can be used judiciously as mode split inputs for the ULI shared parking model (vehicle trip reduction credits can have a one-to-one relationship with parking reduction for commute trips, but this relationship is less direct for non-work trips, such as those made by visitors to a medical office). The inputs for these reduction factors were gathered from a variety of sources, including the most recent US

Census Bureau, the Boston Region MPO, the MBTA, and spatial observations. These reduction factors were applied to the respective land uses within the shared parking model to reflect parking demand reductions as shown in Figures 2 through 9 below.

Figure 2 Jobs and Housing Balance Reduction Factors

Housing Units within a half mile	15,753	15,753
Housing Units in project		
Employees within a half mile	30,000	30,000
Mix of Uses Credit	7.57%	7.57%
Offset Vehicle Trips	755	755
Mix of Uses Impact	7.57%	7.57%

There are approximately 15,750 housing units within a half mile radius of the 2-4 Brookline Place site, and approximately 30,000 people employed in the same radius. Housing data and employment data were gathered from the most recent 2010 US Census and CTPS.

Figure 3 Local Serving Retail Reduction Factors

Retail providing basic needs	Yes	Yes
Local Serving Retail Credit	2%	2%
Offset Vehicle Trips	199	199
Local Serving Retail Impact	2.00%	2.00%

Because of 2-4 Brookline Place's location to Boylston Street's retail and commercial spine, its proximity to the Longwood Medical retail areas and the proposed retail and commercial on-site, the project received credits for local serving retail.

Figure 4 Transit Service Reduction Factors

Average daily weekday buses	722	722
Dedicated daily shuttles	102	102
Average daily weekday trains / rapid transit	480	480
Transit Service Index	1.00	1.00
Transit Service Credit	13.23%	13.23%

The transit service reduction factors include all MBTA Green Line Routes such as Line D (Riverside/Government Center) and Line E (Heath Street/Lechmere) and their transit headways and frequencies over the course of a day. Also included in this analysis were various bus routes with bus stops locations within a ½ mile radius from the project site. Dedicated shuttles such as the 10 Brookline Place Garage Shuttle and Brookline Village Campus Shuttle routes and frequency were also added to the transit service reduction factors. For the purpose of this analysis, the most recent train, bus and shuttle schedules were utilized. The MBTA's paratransit shuttle service, The Ride, was not accounted for in this analysis because it is not a fixed route service, but rather acts as a personal vehicle or taxi service to and from the site.

Figure 5 Bicycle and Pedestrian Environment Reduction Factors

Mix of uses within 1/2 mile	Yes	Yes
Intersections per square mile	258	258
Sidewalk completeness	100%	100%
Sidewalks on both sides	100%	100%
Sidewalks on one side	0%	
Bike Lanes or alternatives	50%	50%
Bicycle & Pedestrian Factor	0.76	0.76
Bicycle & Pedestrian Credit	6.88%	6.88%

Brookline's dense neighborhood fabric and walkable conditions contribute to the reduction in vehicle trips to and from the proposed site. Within a half mile of the proposed 2-4 Brookline Place site, approximately 100% of sidewalks are complete and approximately 50% of arterial and acceptable alternative parallel bicycle routes contain facilities that are conducive for cycling.

Figure 6 Parking Demand Reduction Factors

Employees pay	Yes	Yes
Daily parking price	$20.00	$20.00
Parking cash-out	Yes	Yes
Employee Parking Price Credit	25.00%	25.00%
Employee Cash-out Bonus	12.50%	12.50%
Customers pay	Yes	Yes
Daily parking price	$25.00	$25.00
Customer Parking Price Credit	25.00%	25.00%
Parking Cost Credit	22.92%	22.92%

Parking pricing and parking cash-out programs can significantly reduce the potential vehicle trip generation and parking demand for commercial and retail sites. The proposed Brookline Place should charge employees market rate pricing for parking within the proposed on-site garage at a rate of $20/day. Employees should have the option to "cash-out" their parking space and receive an incentive to do so and take an alternative mode of transportation to work. Based on market rate pricing for visitors in the Longwood Area, visitors to the 2-4 Brookline Place site should be charge approximately $25.00/day or pay for nearby metered on-street parking.

Figure 7 Transit Pass Reduction Factors

Resident Free Transit Pass Program	No	No
Employee Free Transit Pass Program	Yes	Yes
Free Transit Pass Credit	3.31%	3.31%

Given the site's proximity to the both the Brookline Village Green Line Station and various bus stop locations surrounding the site, providing employees the benefit of a free or reduced transit pass will increase the likelihood of offsetting vehicle trips and parking generation to the site when coupled with other complimentary transportation demand management programs such as parking cash-out. The site should make every effort to support providing tenant employees with a free MBTA monthly pass.

Figure 8 Telecommuting Reduction Factors

Telecommuting program	Yes	Yes
Percent of employees participating	1%	1%
Average days per week	1	1
Compressed 3-day / 36-hour week	No	No
Percent of employees participating		
Compressed 4-day / 40-hour week	No	No
Percent of employees participating		
Compressed 9-day / 80-hour bi-week	No	No
Percent of employees participating		
Telecommuting program impact	0.20%	0.20%
3/36 compressed schedule impact	0.00%	0.00%
4/40 compressed schedule impact	0.00%	0.00%
9/80 compressed schedule impact	0.00%	0.00%
Telecommuting / Flexible Work Schedule Credit	0.20%	0.20%

Telecommuting and flexible work schedule opportunities should be explored at the proposed development for all medical and general office employees. Similar sized medical institutions throughout the northeast have piloted telecommuting programs for employees and in their initial years have found less than 1% participation in their first year pilot.[1] Goals to increase participation up to 10% have been documented for future goals along with a more robust TDM strategy for the medical institution. The proposed Brookline Place development should include telecommuting as part of the site's TDM program. The URBEMIS input of 1% participation with an average of 1 day per week is a conservative estimate that should be monitored and evaluated as opportunities to create a more robust TDM program for the site is realized.

Figure 9 Other Unaccounted TDM Program Reduction Factors

Secure bicycle parking (1/20 vehicle spaces)	Yes	Yes
Showers / changing facilities	Yes	Yes
Guaranteed Ride Home	Yes	Yes
Car-sharing	Yes	Yes
Transportation / commuter informational materials	Yes	Yes
Dedicated employee transportation coordinator	Yes	Yes
Carpool matching programs	Yes	Yes
Preferential carpool / vanpool parking	Yes	Yes
Number of Support & Marketing Measures	8	8
Support & Marketing Credit	4.01%	4.01%

Brookline Place should institute a menu transportation demand management measures and options for both visitors and employees traveling to and from the site as a means to offset the potential parking demand. This includes TDM programs such as ZipCar carsharing, carpooling/ vanpooling ride matching, offering a Guaranteed Ride Home program, and bicycle facilities and amenities for those cycling to work.

[1] Telecommuting statistic from Nelson\Nygaard's TDM analyses for Yale New Haven Hospital in 2012-2013.

Reductions in the URBEMIS model apply differently to employees versus visitors in reaction to factors such as different parking pricing, durations of stay, peak versus off-peak roadway congestion, peak versus off-peak transit frequencies, etc. Therefore, the reduction factors above are not additive for all employees plus visitors. URBEMIS predicts an average peak hour employee vehicle trip reduction of 57%, but off-peak trip reductions are much less. Meanwhile, the maximum visitor vehicle trip reduction is 23%, with lesser rates midday. Applied to the shared parking model and combined with staggered peak reductions, the overall average parking reduction is 34%, suggesting that the site will generate a peak demand of approximately 664 spaces during the afternoon peak hour. With about a 10% operational reserve there would need to be approximately 730 spaces required to accommodate this demand.

For a single use facility which is newer and employs better payment technology, the site could operate with a 5% reserve, approximately 697 spaces to accommodate on-site demand. Opportunities to reduce the size of the garage include sharing with off-site locations and on-street parking nearby the site as shown in Figure 11. Today, the 57 metered parking spaces along both sides of Pearl Street are almost exclusively utilized by site users. Therefore, the future use of Pearl Street should be considered as part of the potential on-site parking as well as the 24 spaces metered spaces along Brookline Avenue from Washington Street to The Lynch Center. These parking spaces should be treated as short term parking for customers and visitors to the proposed 2-4 Brookline Place.

Our recommendations for 2-4 Brookline Place include building a garage of 697 parking spaces to accommodate the shared demand and 5% reserve for the proposed building program. Our recommendations do not include building an additional supply unless an abutting existing or proposed development intends to share parking with this facility. Every effort to help offset potential vehicle trips and parking demand should be taken through providing a robust and comprehensive transportation demand management program that is tailored to the characteristics of the proposed development and context.

Figure 10 Shared Parking by Land Use (TDM Reductions)

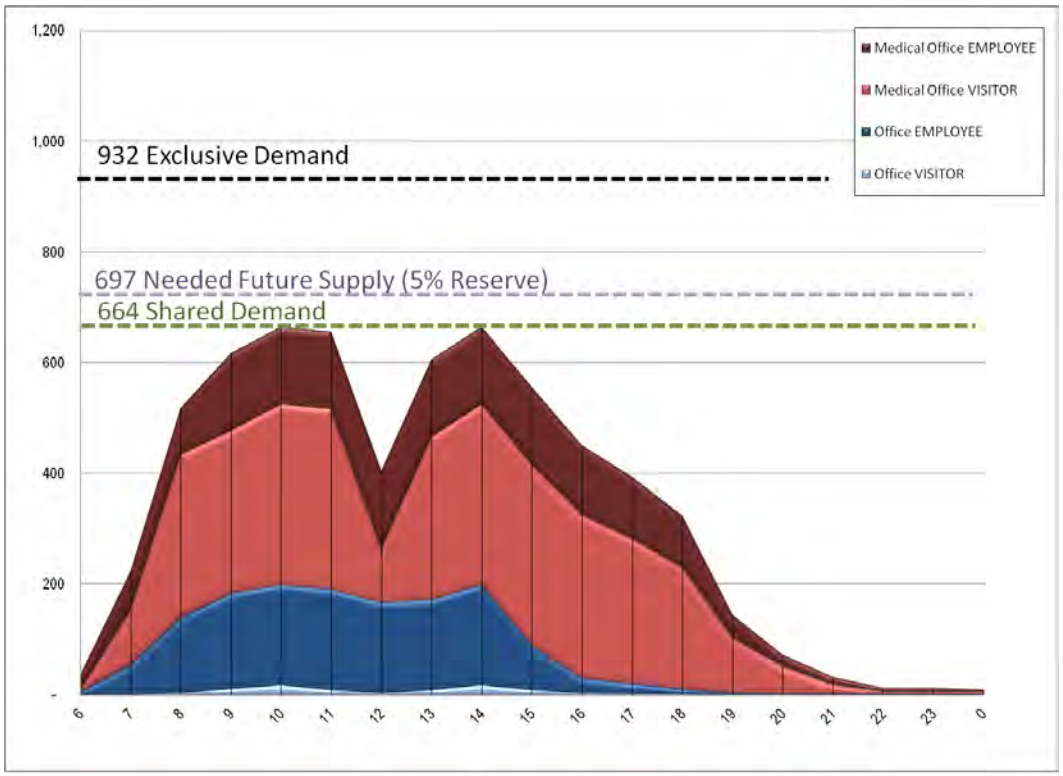
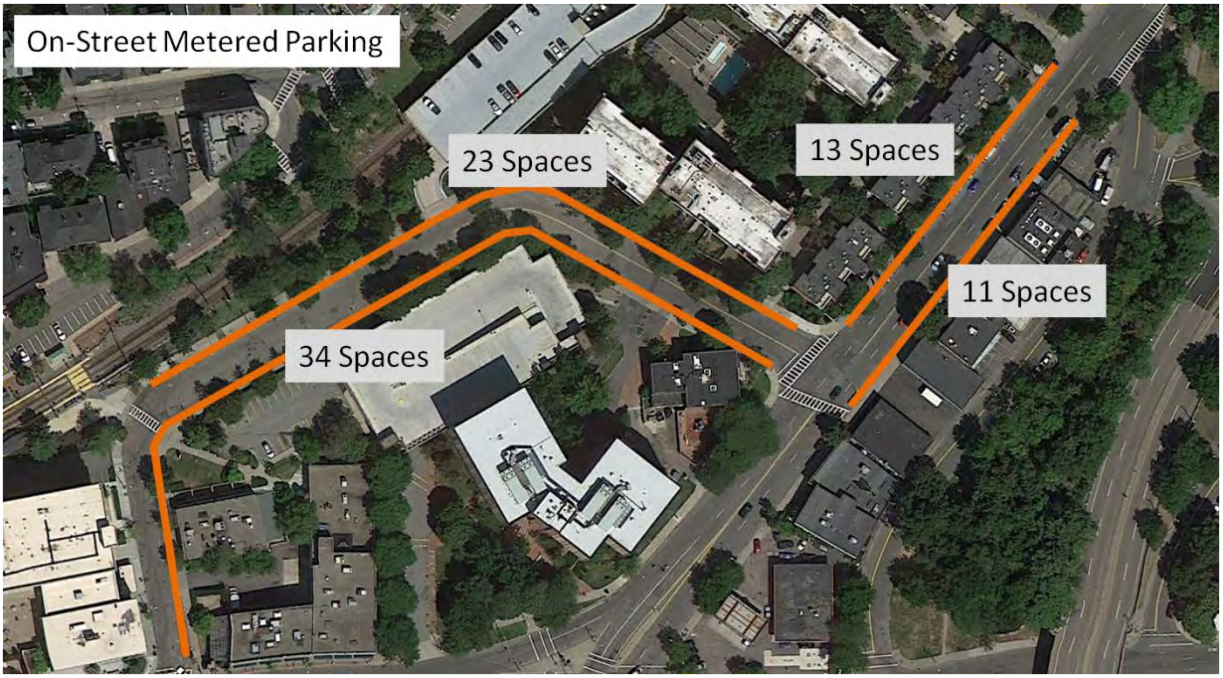


Figure 11 On-Street Metered Parking



Brookline Place Advisory Committee

DRAFT Meeting Notes

February 25, 2014

Committee Members Present: Co-Chair Neil Wishinsky, Co-Chair Ken Goldstein, Edie Brickman, Arlene Mattison, John Bassett, Ken Lewis (by Remote Participation), Linda Olson Pehlke, Mark Zarrillo, Cynthia Gunadi, Linda Hamlin, Steve Lacker. Guus Driessen, Debbie Anderson.

Committee Members not able to attend: Ali Mahajer.

Staff & Town Consultants: Kara Brewton, Jennifer Dopazo Gilbert, Jason Schrieber (Nelson – Nygaard)

Guests: George Cole (Stantec), Tim Talun (Elkus-Manfredi), Merelice, Paul Saner (EDAB Co-Chair), Hugh Mattison, Robbie Burgess (Howard –Stein-Hudson), Charles Weinstein (Boston Children's Hospital)

At 8:20 am, Ken Goldstein called the meeting to order.

Prior to the start of the agenda topics, it was established that there was a quorum of committee members physically present. Co-Chair Ken Goldstein then announced that Ken Lewis was unable to physically attend the meeting due to geographic distance and has asked to do so by remote participation. Co-Chair Goldstein stated for the record that the Committee has secured a room in a public building with a town/school-issued speaker phone capability in accordance to the remote participation policy provided by the Selectmen. The phone was tested and deemed to be in working order and the participant is clearly audible to those present in the meeting.

1. Meeting minutes from 2/12/14 were voted to be amended as noted on the agenda; minutes from 2/14/14 were approved as amended – by roll call vote:
   Neil Wishinsky: Yes
   Ken Goldstein: Yes
   Edie Brickman: Yes
   Arlene Mattison: Yes
   John Bassett: Yes
   Ken Lewis: Yes
   Linda Olson Pehlke: Yes
   Mark Zarrillo: Yes
   Cynthia Gunadi: Yes
   Linda Hamlin: Yes
   Steve Lacker: Yes
   Guus Driessen: Yes
   Debbie Anderson: Yes

2. BCH made a presentation showing a now 6.5-story parking garage. It was clarified that the height as measured to the top of the rail is 55' towards Village Way, and 65' on the side facing

10 and 1 Brookline Place. The headhouse is 75' tall. This proposal also includes reusing the existing half level of parking garage partially below ground at the current 1 BP garage.

3. Jason Schrieber from Nelson Nygaard (NN) joined the Committee by phone. Linda Olson Pehlke led the discussion, going through the questions that were asked at the 2/14/14 meeting, forwarded to NN by Kara Brewton, and which Linda wrote up on 2/22/14 meeting, also forwarded to NN by Kara Brewton.

    a. Regarding the methodology used by NN (who was recommended by Linda to be the Town's consultant), Ken Goldstein asked Linda Olson Pehlke whether she agreed. Linda responded yes, as NN took the ULI shared parking methodology, and further reduced ITE data on trips by utilizing the URBEMIS model for various factors including residential density, jobs-housing balance, transportation network reductions, parking supply and market pricing parking, and TDM reductions.
    b. Regarding Trip Reductions – Jason explained to the Committee that the potential reductions in the URBEMIS model were not additive. For example, if reductions in a certain subcategory maxxed out reductions that were possible in that category, then the output page would show a maximum reduction in that first subcategory and then no further reductions in a second subcategory, even though the inputs would have had reductions in both subcategories. The 39 bus was included, and Jason would double-check that the Huntington line was included in the model, but was fairly sure that it was. The potential bus stop move in front of 2 BP rather than 10 BP would not affect the model. The Gateway East improvements were factored in. He would double-check that The Ride was already factored in to the model as a reduction. The presence of Hubway shared bikes works into the easy access to bike trips, and he would double check on whether the presence of bike facilities was included in the assumptions of the model. Jason confirmed that presumed use of the Longwood Medical Area shuttles was included in the TDM reductions. The telecommuting factor Jason stated that all of these tests of the model would not change the recommended parking amount by more than a half percent, but he would get back to the Committee on those specific questions.
    c. In response to the question about whether ULI and ITE double-counts supply factors in their base parking ratios, Jason clarified that this was an old question in the industry that has been settled. ULI and ITE are observed rates that vehicles occupy spaces, not based on the amount of parking supply available. Therefore, the observed rates are observed cars that are connected with a particular use.
    d. With regards to visitor/employee split of parking demand, Linda asked how the existing utilization of the garage at 1 BP with approximately 27% visitor/73% employee on-site parking use should be factored or change the data taken from the ULI base ratios, which is flipped. Jason said he would look at this again, but didn't think it would change the overall recommendation of parking spaces.
    e. With regards to the two peaks shown at 10 am and 2pm in Figure 10 of the Shared Parking Analysis memo hitting 683, Arlene asked whether this model was leading to

building parking to accommodate peak employee needs. Jason clarified that the sharp drop that is shown on that figure between 11 and 1 may be misleading, and may not reflect the reality of behavior in New England or this site. The URBEMIS time-of-day demand was created in California for air pollution modeling, and the lunch-time dip likely reflects people driving to lunch more than typical here in New England. He clarified that the URBEMIS model is built to predict parking demand, not to predict accurate time-of-day changes in that demand. He imagined that once in operation, the parking curve would likely be much flatter towards the top.

f. Hugh Mattison suggested that a 650-space garage might be adequate – for example, if even accommodation for 700 cars was needed, 30 of those could be via valet/tandem parking, Children's could lease 10 parking spaces off-site like at the BrookHouse, and that 12 spaces on Pearl Street could be utilized exclusively for Children's. With regards to NN's recommendation, he reiterated that he did not recommend any maximum parking at this site. He was recommending 683 constructed spaces on-site, and that further management policies (such as providing off-site and/or public parking spaces exclusively to Children's or maximums) should be considered only if and when the Town is willing to deal with the potential externalities of those decisions.
g. Finally, Jason again stressed to the Committee that the best way to control cars coming to the site was not by restricting supply, but rather by having an enforceable monitoring plan for the TDM plan, including ability to adjust once the development is up and operating (see NN TDM memo).

[Jason Schrieber had to leave the discussion].

h. George pointed out to the Committee that the current proposal was approximately the same sized development as permitted in 2009, with similar ratios of medical/regular office, and with 35% less parking spaces. John Bassett noted that even a removal of an additional 60 spaces would have a negligible effect on the shadow impacts.
i. Linda, Hugh, and Arlene noted that they were interested in reducing parking to the maximum extent feasible for three reasons: to minimize the built environment dedicated to parking; efficient use of parking structures; and to provide motivation for people to not use vehicles to access the site whenever possible. Arlene noted that we all want this project to move forward, but limiting the traffic impacts in any way possible had to be pushed, and that their potential tenants wouldn't want gridlock either.
j. Ken Lewis noted that the same mindset and shift of people utilizing less cars today is also shifting people to more efficiently using office space. The industry is seeing across the board more employees per square foot of built space. Lower use of automobiles cannot be taken in isolation of other trends like this. Charles Weinstein noted that Children's buildings (excluding doctor's offices) are averaging approximately one employee per 84 square feet.

k. Hugh Mattison noted that the retail parking should be incidental, and Committee members confirmed for him that NN's memo of the recommended 683 spaces in fact does not allocate additional spaces for either retail or daycare use.

[Steve Lacker had to leave the meeting].

4. Linda Olson Pehlke asked whether the open space near the circulation and drop-off area could be further refined. Cynthia noted that the existing trees shown in the graphics adjacent to the garage would be removed during construction, replanted, and *eventually* grow back to existing height. Linda Hamlin thought some of the treatments of the parking garage should be further refined during permitting, and pointed to the Museum of Fine Arts new garage as a good prototype.

5. With regards to zoning, the Committee felt that there should be a setback from the curbing, whether or not the measurement was taken from the curbing or the property line.

Next Steps:

February 27th meeting with BCH's Environmental/LSP to attend again; BPLAC vote on recommendations to Board of Selectmen; draft of zoning for Zoning Bylaw Committee

Next meetings: March 6th and March 11th , 8:15 am.

The meeting adjourned at about 10:15 am.

Handouts: 1-page Agenda with notes from 2/14/14 meeting; Questions for Nelson/Nygaard (Linda Olson Pehlke, 2/22/14); Nelson Nygaard 3-page packet including Trip Generation Analysis, URBEMIS Model Outputs, and Summary Chart showing reductions from ITE Trip Data due to Site Context, Transit, Parking, and Other TDM Reductions 2/21/14)

Presentation slides: BCH 6.5-story parking garage scenario and shadow impacts (2/25/14).

MEMORANDUM

To: Kara Brewton, Town of Brookline

From: Nelson\Nygaard

Date: February 12, 2014

Subject: Brookline Place Shared Parking Analysis Draft

This memorandum presents a comparative analysis of expected parking demand generated by the overall proposed site program for the redevelopment of 2 Brookline Place and its associated parking. The analysis first compares the parking demand that can be expected using national standards, based on the proposed and retained land uses. These land uses will then be used in a shared parking model that determines how much parking is needed when internal capture effects are considered and the staggered peaks of different uses are shared. This shared parking analysis also will take into account a scenario where maximized transportation demand management (TDM) measures are used and local non-motorized amenities are evaluated for their ability to impact mode share, thereby reducing the potential parking demand generated by on-site land uses.

SITE PROGRAM

For the purposes of our parking analysis, only existing and future general office and medical office land uses were utilized as input within the adjusted ULI Shared Parking model. The existing daycare and future retail land uses were not included based on observations of low parking demand generated by these uses on site (patrons use street parking instead), in addition to likely high internal capture rates due the adjacent medical and office uses and lack of other nearby users.

	Address	Land Use	Approximate GSF
Existing Retained Uses	*1 Brookline Place*	*Medical Office*	*103,318*
	5 Brookline Place	*Day Care*	*10,711*
Proposed New Uses	2 Brookline Place	General Office	119,800
	2 Brookline Place	Medical Office	47,400
	1 Brookline Place	Medical Office	48,000
		Retail Ground Floor	14,300
Total			343,529

EXPECTED PARKING DEMAND – UNSHARED BASELINE

For the purposes of this study, the analysis utilized the most recent parking report generated by the Urban Land Institute (ULI), titled *Shared Parking*. ULI provides more detailed recommendations for base parking ratios for land uses by user group (employees and visitors) as compared to the standard Institute

of Transportation Engineers (ITE) Parking Generation methodology which does not differentiate user groups. This detail allows a more comprehensive understanding of parking demand throughout the course of a weekday by user group with the proposed site program. ULI's average peak period parking demand rate calculation is meant to represent the number of parked cars at the peak period divided by the quantity of the independent variable, such as building area or employees. To estimate the average peak period demand in the development, this study used the proposed program to determine the square footage of each land use and multiplied that square footage (or other independent variable, such as visitors or employees) by the ULI's summary of recommended base parking ratios based on land use.

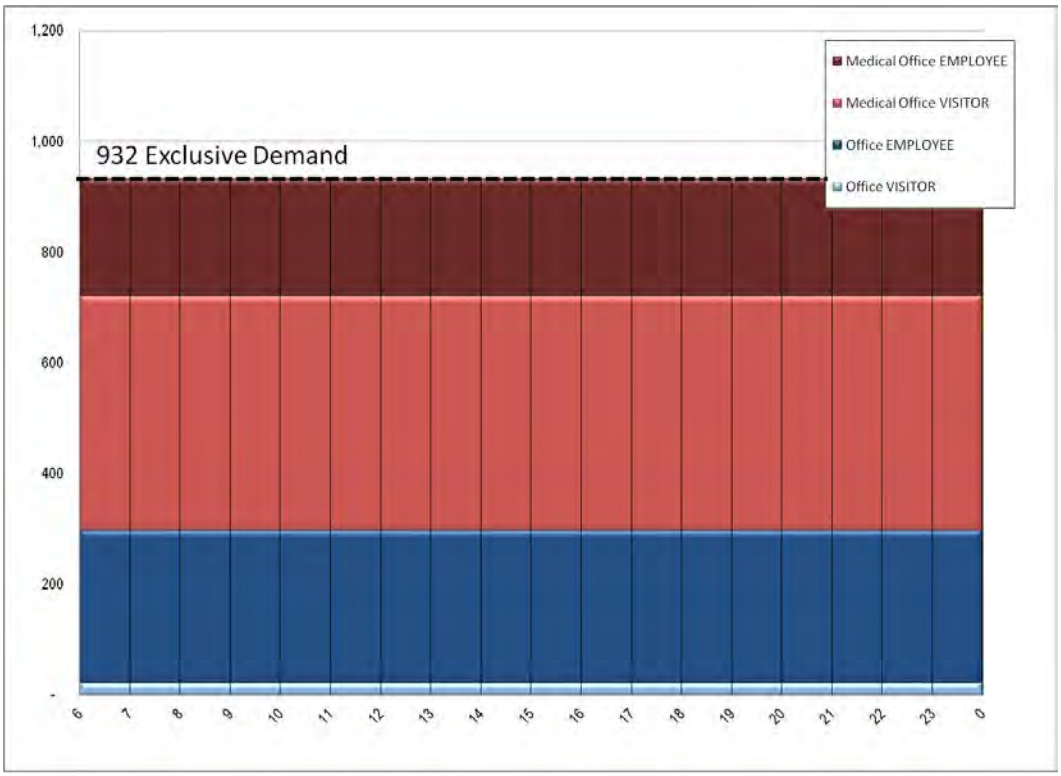
As shown in Table 1, this analysis documents both the standard ITE "blended" peak parking demand rate (which includes all user groups) and the ULI unadjusted base parking ratios for employees and visitors. For the purposes of this analysis, an adjusted parking demand ratio was then created and utilized. The adjusted ULI ratio was refined due to the more robust number of comparable studies available in the ITE dataset, albeit at blended rates. As a result, the valuable ULI distinction of employee versus visitor trip rates was preserved while using the more robust sample size from ITE.

Table 1 Unshared Parking Demand Ratios for Brookline Place

Land Use	Square Feet/ Units	ITE Standard Rate (Blended Rate)	ULI Weekday Rate	ULI Adjusted Rate	Parking Demand (ITE Standard)	Parking Demand (ULI Unadjusted)	Parking Demand (ULI Adjusted)
General Office (Employee)	119,800	2.47 (for all general office)	3.15	2.29	296	377	274
General Office (Visitor)	119,800		0.25	0.18		30	22
Medical Office (Employee)	198,718	3.2 (for all Medical office)	1.5	1.07	636	298	213
Medical Office (Visitor)	198,718		3.0	2.13		596	423
TOTAL					932	1,301	932

According to the adjusted ULI parking rate standards with no reductions for sharing or trip reduction measures, the baseline needed number of parking spaces for Brookline Place is 932 spaces as shown in Figure 1.

Figure 1 ULI Adjusted Parking by Land Use (Unshared)



EXPECTED PARKING DEMAND – SHARED USE ANALYSIS

To provide a more accurate depiction of alternative modal access and shared parking opportunities on the development site, Nelson\Nygaard used an adapted shared parking model using inputs from ULI's Shared Parking Manual (2nd Edition, 2005) and ITE's Parking Generation (4th Edition, 2010). Besides demand by time of day, we tailored the shared parking model for 2 Brookline Place to include parking demand reductions for using the same parking spaces for different uses based on the expected land use demands (internal capture). These expected land use demand percentages and ratios were reported separately for both the visitor and employee user groups within the office and medical land uses.

In order to take into advantage of existing factors that influence parking demand generation, such as the mix of uses near and on the site, proximity to transit, biking and walking facilities, etc., shared parking reduction factors were applied to reflect the urban environment on and surrounding the site. These reduction factors were based on the outputs of Nelson\Nygaard's trip generation model, which uses the reduction credits of the Federal URBEMIS air quality model. Details of the site's proposed program as well as existing local context, the transportation system, parking management, and transportation demand management measures help to determine the degree of trip reductions within the URBEMIS model, which can be used judiciously as mode split inputs for the ULI shared parking model (vehicle trip reduction credits can have a one-to-one relationship with parking reduction for commute trips, but this relationship is less direct for non-work trips, such as those made by visitors to a medical office). The inputs for these reduction factors were gathered from a variety of sources, including the most recent US Census Bureau, the Boston Region MPO, the MBTA, and spatial observations. These reduction factors were applied to the respective land uses within the shared parking model to reflect parking demand reductions as shown in Figures 2 through 9 below.

Figure 2 Jobs and Housing Balance Reduction Factors

Housing Units within a half mile	15,753	15,753
Housing Units in project		
Employees within a half mile	30,000	30,000
Mix of Uses Credit	7.57%	7.57%
Offset Vehicle Trips	755	755
Mix of Uses Impact	7.57%	7.57%

Figure 3 Local Serving Retail Reduction Factors

Retail providing basic needs	Yes	Yes
Local Serving Retail Credit	2%	2%
Offset Vehicle Trips	199	199
Local Serving Retail Impact	2.00%	2.00%

Figure 4 Transit Service Reduction Factors

Average daily weekday buses	722	722
Dedicated daily shuttles	102	102
Average daily weekday trains / rapid transit	480	480
Transit Service Index	1.00	1.00
Transit Service Credit	12.23%	12.23%

Figure 5 Bicycle and Pedestrian Environment Reduction Factors

Mix of uses within 1/2 mile	Yes	Yes
Intersections per square mile	258	258
Sidewalk completeness	100%	100%
Sidewalks on both sides	100%	100%
Sidewalks on one side	0%	
Bike Lanes or alternatives	10%	10%
Bicycle & Pedestrian Factor	0.63	0.63
Bicycle & Pedestrian Credit	5.68%	5.68%

Figure 6 Parking Demand Reduction Factors

Employees pay	Yes	Yes
Daily parking price	$20.00	$20.00
Parking cash-out	Yes	Yes
Employee Parking Price Credit	25.00%	25.00%
Employee Cash-out Bonus	12.50%	12.50%
Customers pay	Yes	Yes
Daily parking price	$25.00	$25.00
Customer Parking Price Credit	25.00%	25.00%
Parking Cost Credit	22.92%	22.92%

Figure 7 Transit Pass Reduction Factors

Resident Free Transit Pass Program	Yes	Yes
Employee Free Transit Pass Program	Yes	Yes
Free Transit Pass Credit	3.06%	3.06%
Offset Vehicle Trips	32	32
Free Transit Pass Impact	0.32%	0.32%

Figure 8 Telecommuting Reduction Factors

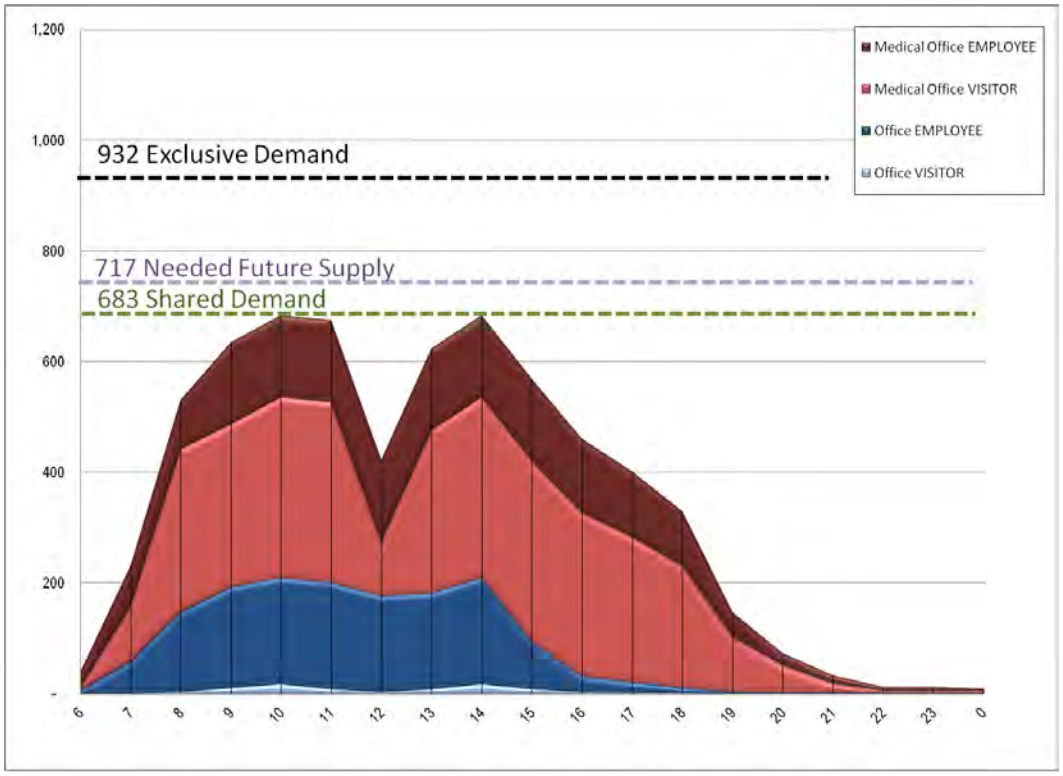
Telecommuting program	Yes	Yes
Percent of employees participating	1%	1%
Average days per week	1	1
Compressed 3-day / 36-hour week	No	No
Percent of employees participating		
Compressed 4-day / 40-hour week	No	No
Percent of employees participating		
Compressed 9-day / 80-hour bi-week	No	No
Percent of employees participating		
Telecommuting program impact	0.20%	0.20%
3/36 compressed schedule impact	0.00%	0.00%
4/40 compressed schedule impact	0.00%	0.00%
9/80 compressed schedule impact	0.00%	0.00%
Telecommuting / Flexible Work Schedule Credit	0.20%	0.20%

Figure 9 Other Unaccounted TDM Program Reduction Factors

Secure bicycle parking (1/20 vehicle spaces)	Yes	Yes
Showers / changing facilities	Yes	Yes
Guaranteed Ride Home	Yes	Yes
Car-sharing	Yes	Yes
Transportation / commuter informational materials	Yes	Yes
Dedicated employee transportation coordinator	Yes	Yes
Carpool matching programs	Yes	Yes
Preferential carpool / vanpool parking	Yes	Yes
Number of Support & Marketing Measures	8	8
Support & Marketing Credit	3.79%	3.79%

Reductions in the URBEMIS model apply differently to employees versus visitors in reaction to factors such as different parking pricing, durations of stay, peak versus off-peak roadway congestion, peak versus off-peak transit frequencies, etc. Therefore, the reduction factors above are not additive for all employees plus visitors. URBEMIS predicts an average peak hour employee vehicle trip reduction of 59%, but off-peak trip reductions are much less. Meanwhile, the maximum visitor vehicle trip reduction is 23%, with lesser rates midday. Applied to the shared parking model and combined with staggered peak reductions, the overall average parking reduction is 27%, suggesting that the site will generate a peak demand of approximately 683 spaces during the afternoon peak hour. With about a 10% operational reserve there would need to be approximately 717 spaces required to accommodate this demand. However if the site could operate with a 5% reserve and on-street spaces surrounding the site were considered to be used almost exclusively by site users, there would need to be approximately 610 spaces to accommodate on-site demand.

Figure 10 Shared Parking by Land Use (TDM Reductions)



BYRNE MCKINNEY & ASSOCIATES, INC.
Real Estate Consultants and Appraisers

From: **Pamela S. McKinney, CRE, MAI, Byrne McKinney & Associates, Inc.**

To: **Kara Brewton, Director Brookline Economic Development**

Date: **March 24, 2014**

Subject: **2 Brookline Place Review Opinions**

MEMORANDUM

As requested we have engaged in a review and consultation with the BPLAC Finance Subcommittee over the past few months aimed at evaluating the merits of a recent request put forward by Children's Hospital for a modification of their earlier plans for the redevelopment of the site at 2 Brookline Place. Specifically, the development sponsor has requested that they be allowed to construct above grade rather that underground parking to serve the redevelopment for reasons having to do with the negative impact that underground parking cost premiums exert on the viability of the project.

We have fully examined the market data and tested the project financials and have drawn an independent conclusion regarding the viability of the project under alternative parking approaches as expressed by three alternatives presented by the project sponsor and described below.

- Building all parking above grade in one garage;
- Building five levels of parking below grade at 2 Brookline Place while also retaining and expanding the existing parking garage at 1 Brookline Place; and
- Building two levels of parking below grade in a larger footprint than the building above at 2 Brookline Place while expanding the existing parking garage.

To complete the analysis, we requested and were provided with the developer's proprietary financials for the project subject to a confidentiality agreement. Among the documentation we reviewed were plans and specs for alternative development concepts; detailed contractor cost estimates for both parking and office construction; overall project cost budgets including detailed estimates of project soft costs; project revenue and expense proformas; broker market studies and comparables arrays; development cashflows and debt and equity return analyses.

The analyses were fully discussed with the BPLAC Finance Subcommittee. The major findings and opinions as expressed at Finance Subcommittee meetings over the last several months are stated below.

- The market for new office construction is beginning to approach the levels needed for development feasibility as evidenced by improving rents, lower vacancy levels and positive absorption.
- After a long down cycle which deeply affected both the general and medical office markets, the demand for corporate and institutional office expansion space is beginning to fuel new build-to-suit construction projects.

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- Speculative new office projects (those without tenant commitments in hand) remain difficult or impossible to finance in all but the most favorable circumstances.
- While growing demand for office space may allow speculative projects to go forward in the future, the medical office market is likely to remain uncertain until issues around health care and insurance reform become more settled.
- Construction costs have risen sharply in the last two years as Boston is experiencing a building boom in the residential markets. Contractors are busy and quotes are routinely coming in as much as 15% to 20% above proforma estimates prepared only a few months earlier.
- Notwithstanding the medical office market uncertainties, the difficulties of financing speculative construction and the rising costs of construction, 2 Brookline Place, is well positioned to take advantage of its favorable circumstances – an LMA proximate location, a strong owner/development sponsor, availability of public transit, a captive tenant demand pool in the adjacent building, a Brookline address, etc.
- Despite these positives, the margins required for new, speculative office construction feasibility at the site remain extremely thin.
- Our review of the proposed project's feasibility, including its market positioning, revenue potentials and costs, clearly indicates that underground parking construction cannot be supported by the project.
- We have fully tested this conclusion against the array of alternative approaches to parking presented by the sponsor including an options with some but not all of the parking below grade. Project feasibility is only produced by an option in which parking is constructed above grade.