Davis Square Hotel Feasibility Study

Prepared For Somerville’s Office of Strategic Planning and Community Development

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Acknowledgements

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Abstract

The city of Somerville is often cited as the densest residential community in New England with most of the city’s land devoted to residential uses. The city believes that a new hotel in Davis Square, one of the key commercial areas in the city and an important public transportation link, would further economic development opportunities by attracting outside resources to the city. This report provides an analysis of city-owned land in the square in relation to existing zoning, parking management strategies, site design, financial feasibility and the public process. This report also includes recommendations for the city that would help make this project a reality.
Executive Summary

Historically, Somerville has been defined as a largely residential and industrial city and is often known for being one of the most densely populated municipalities in New England. In recent years this large population has successfully supported a vibrant retail and food service economy across a number of commercial squares, as well as strong health services and business services and creative design industries. Nevertheless, the city has set aggressive economic development goals in the hope of attracting more commercial development.

Based on the goals that have recently emerged from Somerville’s ongoing 20-year comprehensive planning process, the city is working to promote municipal fiscal independence. To accomplish this goal, the city must bring consumer dollars and jobs to Somerville. The city strives to become a regional employment center that utilizes its close proximity to Boston to foster, develop and retain local business and economic opportunities. Municipal fiscal self-sufficiency will be largely dependent on infill development opportunities in existing commercial corridors and squares that are within close proximity to current and future public transportation hubs.

“Overall, the purpose of this project is to identify the barriers to hotel development in Davis Square, provide recommendations to overcome these barriers, and evaluate any tradeoffs associated with lowering these barriers.”

Davis Square has become one of the economic engines of Somerville and a desired destination for both residents and tourists. In recent years Somerville’s Office of Strategic Planning and Community Development (OSPCD) has worked to promote development of a hotel in Davis Square. A hotel would provide both short and long-term jobs for residents, a destination for tourism, bring outside money into the city, increase foot traffic to local businesses and most importantly, would provide commercial, sales and meals tax revenue to the city. OSPCD has asked our team to carry out a study that would determine the feasibility of developing a hotel, and potentially a parking garage, on two municipal lots in Davis Square. While our team has developed this report, the city has been in ongoing negotiations with Kadima Medical
Properties for the rights to develop on top of the existing Buena Vista lot on Holland Street. Provided the city successfully negotiates the air rights for development at this key site, our team is optimistic that this report will help advance the goals and priorities of OSPCD.

In this report we:

- Evaluate current zoning ordinances and their impact on the viability of a hotel in Davis Square;
- Outline parking management strategies that accommodate the city’s goal of no net loss of parking during and after construction of this hotel;
- Offer site models and design recommendations based on previous hotel layouts;
- Provide updated financial projections for hotel and parking garage development;
- Offer suggestions that guide the public engagement process as well as traffic and construction mitigation effort;
- Provide recommendations based on research and example case studies.

Overall, the purpose of this project is to identify the barriers to hotel development in Davis Square, provide recommendations to overcome these barriers, and evaluate any tradeoffs associated with lowering these barriers. It is our intention that OSPCD and the city of Somerville are able to use this report to help determine whether it is viable for the city to revisit this hotel development project after issuing an RFP in 2009 that did not lead to project development. Recognizing the history of this project, the Field Projects team decided not to engage the public during this phase of the feasibility study. Community engagement is vitally important to the success of this project, and recommendations are provided in this report that guide public participation and outreach should the city decide to move forward with hotel development.

Our team conducted targeted interviews with key stakeholders that included Somerville and Cambridge city staff, developers and architects and local hotel management and industry experts. Overall, the interviews demonstrated support for the city to revisit this hotel development project. However, they also highlighted a few concerns and key challenges. The two proposed development sites in Davis Square present infrastructure challenges that may have high development costs. Although the hospitality market is recovering from the recession, there are concerns about financing, especially for an accessory use such as a garage. Additionally, the city struggles to identify the true parking needs of the community and develop accordingly, but at the same time they recognize the expense placed on developers to provide additional parking capacity.
With these obstacles in mind the team researched and reviewed current best practices in hotel development and design, urban parking management and community engagement. The team concluded that the Buena Vista lot was the best site for the proposed hotel. Placing the hotel on the Buena Vista site brings an active commercial structure to the major retail corridor along Holland Street. The team also concluded that the Day Street site is the preferable location for a parking garage. Located directly behind the main retail corridor, visitors would have easy access to shops and restaurants while maintaining the continuity of the existing streetscape of the Elm and Holland Street retail corridor. Through our analysis we developed suggestions for the city that enhance the feasibility of the hotel development project in Davis Square. Highlighted recommendations include:

- Apply for a map amendment that would eliminate the double zoning and any hindrance to the future best use of the Buena Vista site;
- Consider alternative parking strategies other than the construction of a parking garage. These include shared parking opportunities, parking relief and transit-oriented development incentives;
- Determine concrete fiscal goals for the city for this development project, and work with the developer to negotiate creative financing methods that meet these city goals while remaining profitable to the developer;
- Explore the possibility of a Community Benefits Agreement;
- Conduct a comprehensive traffic analysis to determine the potential changes to the flow of vehicular traffic throughout the square.

Developing a hotel in Davis Square is a critical step in realizing economic development goals emerging from Somerville’s ongoing comprehensive planning process. A hotel would attract and retain tourism dollars within Somerville, support local business development and would grow Somerville’s commercial tax base.

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Chapter 1

Introduction

Davis Square, like other urban squares in Somerville and Cambridge, strives to be both a livable and attractive home for residents and a center for cultural and economic activity. Since the completion of the MBTA Red line subway extension in 1984, Davis Square has undergone dramatic revitalization and transformed into a vibrant cultural and economic engine for the city of Somerville. Historically, Somerville has largely consisted of residential and industrial uses. However, significant redevelopment efforts by the city have continually been aimed at bringing new businesses and jobs to the area, while maintaining Davis Square’s scale and character.

Due to limited land in Davis Square’s Central Business District (CBD), almost any new development will involve strategic infill or rehabilitation projects. The city of Somerville owns several parcels of prime reality in the CBD that can be described as underutilized municipal parking lots. By targeting these sites for redevelopment, the city is able to channel growth that promotes its economic development goals, while avoiding the politically contentious act of relocating private residences or business owners.

The Mayor’s Office of Strategic Planning and Development (OSPCD) is spearheading the city’s effort to develop a hotel in Davis Square. The OSPCD commissioned this report to examine the feasibility of developing a hotel and an ancillary parking garage on one of two municipally owned lots in Davis Square.

1.1 Development Context

The city of Somerville is located just north of Boston in Middlesex County. Somerville is bordered by Cambridge, Arlington and Medford. As of the 2000 Census, Somerville was home to over 77,000 residents. With an overall land area of 4.11 square miles, Somerville is the most densely populated New England municipality with over 18,800 residents per square mile.
Somerville was first settled in 1630 as a part of Charlestown. In the mid 1800's while Charlestown was largely urbanizing, Somerville remained a rural community, and in 1842 Somerville separated from Charlestown and was incorporated as a town. Thirty years later in 1872, Somerville was incorporated as a city. Throughout the 1900's the city's population continued to grow as industrialization attracted immigrants from across Europe. Today, Somerville is an eclectic mix of blue-collar families, young professionals, college students and recent immigrants. The city is defined by city squares that foster unique and diverse communities. In 2009, the median household income for the city of Somerville was $41,944 while the median housing value for Somerville was $119,600. Comparatively, the median household income for Cambridge was $64,420, while the median housing value was $567,200.

1.2 Why a Hotel?

Hotel development on these municipal lots holds a number of advantages over other forms of development. According to the Pinnacle Advisory Groups 2006 market study, the limited lodging options in Somerville suggest that Davis Square has the capacity to support a hotel. By developing a hotel, Davis Square would remain competitive with neighboring communities like Cambridge that currently offer lodging facilities. A limited-service boutique hotel would draw visitors to the neighborhood, increase the daytime population, and stimulate business in the community.

Compared to residential and commercial development, a hotel would generate more revenue through property taxes, sales taxes and meals tax. Big box retail, on the other hand, would be expected to add significant traffic to the area and would stray from the community members' preference for local retailers in the central business district.
1.3 Project History

In 2006, the city of Somerville commissioned Pinnacle Advisory Group, a national hospitality-consulting firm, to conduct an analysis of hotel supply and demand in Somerville. The study identified Davis Square as a viable location for a hotel, and specifically recommended three city-owned parcels in the Square that would be suitable for development: the Buena Vista lot, the Day Street lot and the Grove Street lot. With support from the Mayor and the local Board of Aldermen, these three properties were made available for disposition and ultimately as sites for development of a hotel and a parking garage.

Prior to initiating a competitive bidding process, the city hosted a mandatory kick-off meeting for interested bidders and subsequently put out a Request for Qualifications (RFQ) in 2008. Although more than ten development teams attended the meeting, only four teams submitted qualifications. The city assembled a Hotel Technical Advisory Committee that consisted of Board of Alderman members, neighborhood residents and city staff. The committee was tasked with reviewing the RFQ responses and recommending two of the four firms that would move onto the next phase.

In 2009, the city issued an exclusive Request for Proposal (RFP) for the two most qualified applicants. In the end, the chosen applicant would be responsible for the design, construction and operation of a hotel and parking garage on one or more of the three available sites. Neither team submitted a proposal for this exclusive RFP. In response, the city issued a second RFP that removed a requirement that the developer submit a $50,000 deposit, and updated the project timeline. Unfortunately, these changes were not enough to generate interest in the project.

There are several possible explanations that could explain the low level of developer interest in this project. According to PFK Consulting USA, a national hospitality-consulting firm, the RFP was issued in the midst of the deepest and longest recession in the history of the domestic lodging industry. National hotel occupancy numbers in 2009 fell to 59.7%, the lowest rate of the previous eight years. Revenue per available room, or RevPar, was projected to decline by 7.8% in 2009, the largest single drop since 1930. Based on market conditions in 2009, Hunneman Appraisal and Consulting Company predicted that construction of a limited-service hotel in Davis Square would not be feasible until 2014.

1.4 Project Description

Our team has drawn upon the history of this project to more closely examine the feasibility of hotel development at the Buena Vista and Day Street sites within the current zoning...
ordinances and without the loss of public parking. Due to the small size of the third municipal lot, city staff requested that we exclude the third site from our analysis. Additionally, our team performed a feasibility analysis of several parking management strategies to accommodate the city’s request that there be no net loss of parking. This analysis includes the possibility of constructing a garage on either the Buena Vista or Day Street site to accommodate municipal parking. This enhanced feasibility analysis complements the pre-existing hotel market study and the preliminary evaluation of the garage structure at the Buena Vista lot, which suggested that building atop the parking deck would be structurally sound. The purpose of this report is to provide a better understanding of the barriers facing prospective developers and to clarify the trade-offs associated with lowering those barriers.

This report includes zoning and parking policy recommendations that would support the development of a hotel in Davis Square on a municipal lot, preliminary sketch plans, design recommendations, public participation strategies and updated financial projections.

Figure 2: Map of Businesses in Davis Square
Cartographer: Adam Frank
1.5 Benefits
Currently there are only two hotels in Somerville, both located in the East Somerville area. As a result of this limited selection, visitors to Somerville often choose lodging options in neighboring communities, such as Medford, Cambridge, Arlington, and Boston. Somerville loses out on visitor business for retail and restaurants to neighboring communities that offer these benefits.

A hotel in Davis Square would increase business for Somerville establishments. Additionally, sales and meal tax revenue would grow accordingly, and enhance Somerville’s fiscal health.

The municipal lots in Davis Square are, on average, underutilized, meaning the lots are generally not full. Emerging recommendations from Somerville’s 20-year comprehensive master plan underscore that strategic economic development and job growth is a city priority. Considering the minimal lodging options for visitors in Somerville, along with tax benefits from a new hotel, the city is interested in hotel development on one the underutilized lots.

Ideally development would also incorporate community assets, such as conference space, restaurants or first floor retail. However, under current zoning ordinances, it is highly unlikely that development could realistically accommodate 100-120 rooms as recommended by Pinnacle’s 2006 market study, in addition to the community assets listed above. Even if these assets are not able to be included in this project, the community would benefit from the hotel tax revenue, which could be redirected to support reliable and comprehensive citywide services.

1.6 Methodology

Literature and Context:
After researching academic literature on the evolution of zoning and the history of land use and community-wide strategic planning processes, our team set out to understand the elements of potential hotel development within the context of the city of Somerville, specifically in Davis Square. Our team utilized past hotel development market studies for the state and specifically for Somerville, along with Massachusetts Office of Travel and Tourism statistics and city documents related to the history of this project. These city documents included Somerville’s 2010 exclusive Request for Proposal #10-46CD RFP along with the initial 2009 exclusive RFP release, 2009 appraisals of each disposition lot, and local plans for other Somerville hotel and condominium proposals. Additionally, we reviewed traffic studies for local projects including One Davis Square (the most recently completed large-scale development in Davis Square) and the traffic study for a proposed hotel at 364 Beacon Street in Somerville.
In addition to becoming familiar with these documents, initial research focused on interpreting current city ordinances applicable to the subject lots, specifically including height and Floor Area Ratio (FAR) requirements, along with on-site parking requirements for new development. Interviews with city staff provided insight into the community viewpoints on those ordinances. In addition to gaining an understanding of the current parking and zoning regulations, our team engaged Somerville city staff regarding the possibility that ongoing planning efforts could result in modifications to these ordinances in the near term.

**Understanding the Community:**
Team members attended the city’s 20-Year Comprehensive Plan Steering Committee meetings to understand ongoing community-wide planning processes in which the city is currently engaged. Up to 60 Somerville residents representing dozens of community groups and each of the seven district wards participated in these monthly meetings led by municipal staff. Meetings were generally held at the Greek Orthodox Church on Central Street and open to the public. By attending these meetings, our team members were able to gauge the city’s level of commitment to community dialogue along with the residents’ visions for the future of Somerville. This comprehensive planning process is ongoing, and meetings continue to be held monthly.

**Interviews:**
In order to determine stakeholder perspectives and interest in hotel development in Davis Square, our team conducted interviews with developers, architects, hotel and parking garage managers, city of Somerville staff, city of Cambridge Traffic and Parking staff, a Tufts University representative, transportation consultants, a Zipcar employee, and a local non-profit Executive Director currently engaged in visioning processes with the Green Line extension. Interviews generally were conducted in person and lasted one hour. At the request of the city, our team did not engage directly with residents who would be impacted by such development. This initial feasibility study is part of a larger community process that would occur when the city pursues hotel development. A complete list of interviewees is included in Appendix A.

**Project Profiles:**
Our recommendations draw upon lessons learned from projects that are comparable to one or more aspects of the proposed Somerville hotel project. Profiles included cities that modified existing zoning, a city that has utilized payment in lieu of parking strategies, cities that operate hotels with limited on-site parking, and a city that developed on a municipal parking lot and successfully managed the project to ensure no net loss of parking. Additionally we included profiles on cities that found a way to engage the public throughout their development processes. In order to highlight the different approaches used to tackle
issues regarding zoning, parking, and public participation, we selected profiles from city projects nationwide, including both local cities like Cambridge, Massachusetts, and cities on the west coast, such as Long Beach, California.

Financial Research:
Our team has researched and synthesized publicly available financial data for local hotel development projects along with parking garage construction costs. Local private developers and hotel/garage operators have also provided general cost estimates to our team.

Hotel construction costs are based on information from interviews with local developers along with standard construction costs for hotel prototypes. Hotel room costs for guests are based on current rates of hotels in the Greater Boston area that are of similar size to the proposed 100-to-120-room project for Davis Square. Similarly, parking costs were collected from hotel websites and interviews with hotel managers and reflect current parking rates at respective hotels.

Garage constructions costs have been estimated based on Boston construction costs taken from a market analysis performed by Carl Walker Inc. Acquisition costs for land are based on the 2009 appraisal values of each municipal lot in Davis Square. Interviews with local developers have provided our team with information on the expected loan terms for garage development in the current 2011 market. Interviews with local garage operators have also yielded estimates on garage operational costs.

1.7 Report Outline
In Chapter 2 of this report we analyze Somerville’s zoning ordinances and their impact on the viability of this project. There are inconsistencies in the zoning of the two municipal sites that will directly impact the feasibility of a hotel development project unless they are addressed. In Chapter 3 our team outlines parking management strategies that accommodate the city’s goal of no net loss of parking during and after construction of this hotel. These include construction of a parking garage, along with incentives and strategies to reduce parking demand for beneficiaries of this project. In Chapter 4 we provide physical site and design analyses for both the Buena Vista and Day Street sites. We provide site models and design recommendations that build on previous hotel layouts.

In Chapter 5, we offer suggestions that would guide the public engagement process if this project were revisited. Our analysis includes a summary of the benefits and drawbacks of engaging the public after an RFP is issued, as well as restarting the public participation process from the beginning. Chapter 6 provides updated financial projections for hotel and parking garage development on the two sites in Davis Square. Chapter 7 summarizes our findings and provide the city with our recommendations moving forward.

ibid.


"ibid.

"ibid.


ibid.

Hunneman Appraisal and Consulting Company, “Hotel Market Overview,” 2009; 1


Hunneman, 2009. 1

ibid.


Draft recommendations from Somerville’s 20-year comprehensive plan.


Hunneman, 2009, 6.
The following chapter analyzes current zoning ordinances in Davis Square, specifically identifying regulations that have the potential to impact the feasibility of this project. We also look at the future of zoning in Somerville, and ultimately make recommendations on how the city can address any inconsistencies that may hinder this project.

2.1 Regulatory Overview

Downtown Davis Square has two major zoning districts: the Central Business District (CBD), and the Neighborhood Business District (NB). Both are mixed-use zones that permit residential, office, service and entertainment uses, among others. The Day Street site is located solely in the CBD, while the Buena Vista site is located primarily in the CBD, but partially in the NB districts. The purpose of the CBD is to preserve and enhance the central business areas for retail, business services, housing, and office use and to promote a strong pedestrian character within those areas. According to the Somerville zoning ordinance, the purpose of the NB district is to “establish and preserve...
areas for small-scale retail stores, services and offices which are located in close proximity to residential areas and which do not have undesirable impacts on the surrounding neighborhoods.”

Permitted Uses
The NB and CBD zones regulate land use and development in the heart of Davis Square. Each parcel faces unique challenges as a result of their respective zoning districts. Currently, a hotel is not permitted on either parcel, it would therefore require a special permit. Under Article 7 of the Somerville Zoning Ordinance (SZO), any hotel project over 10,000 square feet is permitted only after approval of a Special Permit with Site Plan Review (SPSR). For this project the Planning Board would serve as the Special Permit Granting Authority (SPGA). Information required for the SPSR is detailed in Article 5.2.3 of the SZO.

Dimensional Requirements
The two zones have very similar dimensional standards. Both districts limit ground coverage to 80% with an open space requirement of 10%. An FAR of 2.0 is permitted in both districts. While the NB district allows a maximum height of 40 feet or three stories, the CBD district allows a maximum height of 50 feet, or four stories.

2.2 Buena Vista: Two Overlapping Zoning Districts
As previously mentioned, the Buena Vista site is located within both the NB and CBD districts. Based on rough calculations using assessor maps, about 4,600 square feet, or roughly 14% of the northern most section of the parcel is in the NB district. This has not been a problem for the present development on this site because the existing parking structure has one floor below-grade and one floor at ground level, so the maximum zoning was never reached. However, this would be problematic for a future developer if 14% of the hotel is held to a maximum height that is 10 feet, or one story, shorter than the rest of the structure.

Variances
In many communities, the problem of one parcel within two different zones with different building height restrictions could be overcome by applying for a variance that would allow the developer to build the entire structure up to the maximum height in the less restrictive zoning district. However, our research has revealed that variances present a special challenge in Somerville, and in Davis Square, in particular. George Proakis, Somerville’s Planning Director commented, “The Zoning Board of Appeals takes variances very seriously and rarely grants them unless there is a substantive reason why the development must happen this way. The support of OSPCD is not reason enough to grant a variance. You must prove that the lot in question is unique, and that the same rules that apply to
neighboring lots, should not apply to this lot. It must be more than just a good project.”
Since the parcel is split within two districts, which is a unique situation relative to
neighboring parcels, developers would appear to have a strong case for the need to obtain
a variance for development on this site.

Common qualifying standards necessitate that the hardship triggering the variance should
be significant and must be related to the property in question rather than the personal
circumstances of the petitioner. Additionally, the situation triggering the variance must be
very unusual, so that an ordinance amendment is not a more appropriate solution. Hotel
development, or development of any kind, on the Buena Vista site, appears to fit within
these standards. Potential developers are faced with unique challenges that are not an
issue on the majority of lots in Davis Square. For example, potential infrastructure
challenges of constructing the proposed hotel over the existing garage may provide an
uncommon problem that could increase the likelihood of obtaining a variance.

Residential Abutters
Both the Day Street and Buena Vista lots abut residential neighborhoods, which present an
additional challenge to future development. Proakis believes that there is support for a
hotel within the Davis Square community, as well as in the municipal government. However
the “support for a hotel in concept will not overcome a variance challenge by any aggrieved
individual.” In actuality, even in instances when the Zoning Board of Appeals approves
variances, residents will often bring these battles to court. Proakis noted “that the courts
overturn variances all the time, and historically side with the individual filing the appeal.”

While it is possible for developers to construct a hotel and a parking garage on these two
sites, questions remain on the Buena Vista site as to whether a hotel of the appropriate size
and amenities could be constructed within the existing zoning ordinances. A detailed
analysis of the dimensional envelope of the proposed hotel is presented in Chapter 4.
Given the existing regulatory challenges, as well as Somerville’s reluctance to grant
variances, it is possible that developers may be hesitant to respond to a new RFP or
pursue development on these sites unless the allowable zoning envelopes are increased.

2.3 Parking Requirements
The purpose of SZO Article 9 is to establish standards that ensure that parking remains
available and safe across the city of Somerville. The parking requirements for a hotel in the
NB and CBD districts are identical. Under the existing zoning, a hotel on either the Day
Street or the Buena Vista site would be required to provide 0.8 spaces per guest room, and
0.5 spaces for each employee on peak shift.
Based on assumptions from the market research conducted by the Pinnacle Advisory Group in 2006, it is estimated that the hotel would need between 100 and 120 rooms to interest potential developers. By the end of 2011, a new, full-service, 65-room hotel is scheduled to break ground in Cambridge at 1924 Massachusetts Avenue. This hotel will sit less than a mile from Davis Square, and we believe it will modify the recommendations put forth by Pinnacle in 2006. While it would be possible to construct a 120-room hotel, our research and interviews with key stakeholders suggest that a hotel with between 60 and 80 rooms might be more attractive and potentially feasible for local developers. By reducing the total number of rooms, it may become more viable to include community amenities such as a restaurant and first floor retail or conference space. Nonetheless, for the purposes of this report we are using the maximum capacity for hotel development as outlined in the 2006 market analysis.

Under current zoning regulations, a 120-room hotel with 12 employees on peak shift would be required to provide a minimum of 102 parking spaces for guests. Under Somerville zoning ordinance 9.6.3, all development within 1,000 feet of a rapid transit station is entitled to a 20% reduction in required parking.8 This reduction would reduce the required parking for a 120-room hotel to 82 spaces.

**Parking Relief**

One of the challenges of this project is that a developer would need to offset any municipal parking loss. Instead of constructing a hotel and only providing the required parking for hotel patrons and employees, the developer must also provide parking to replace either the 97 spaces lost on the Buena Vista site, or the 61 municipal spaces lost on the Day Street site. Parking management solutions will be discussed in detail in Chapter 3. However, the traditional solution would be to construct a parking garage on one of the two available sites.

In 2007, GLC Development Resources and Utile Design were commissioned by the city of Somerville to conduct a preliminary analysis of building on top of the underground garage at the Buena Vista lot. The analysis looked at the sites’ potential for redevelopment for use as condominiums or a hotel using the air rights above the current structure. Their analysis, using preliminary site massings provided by Utile, were based on a hotel that met the maximum height capacity of the CBD district (four floors), on the entire Buena Vista site. The Utile massings predicted that a hotel on Buena Vista would leave 67 parking spaces on the ground floor level after development. These parking spaces could be used for the hotel, and would almost completely satisfy the parking requirements in the Somerville Zoning Ordinances. However, future developers may have different visions of the hotel design and layout, which could reduce the number of parking spaces available on site if the
size or layout of the hotel differs. Therefore, developers may be interested in seeking parking relief.

While height variances are difficult to obtain, Somerville does offer parking variances for development and redevelopment projects, also called “parking relief”. According to Matt Dias, Director of Somerville’s Office of Traffic and Parking, Somerville has granted projects parking relief in the past, and will continue to be amenable to such requests as long as the existing parking supply is sufficient. Parking relief efforts in Somerville rely on two methods: ad hoc parking relief and payment in lieu of parking.

- **Ad Hoc Parking Relief**: Historically, there has not been a formal process for obtaining parking relief in Somerville. If a planned development project is short parking spaces, as required by Article 9, developers are able to work with the department of Traffic and Parking to reach an agreement on what they can offer in lieu of the required spaces. According to Dias, the city evaluates each project on a case-by-case basis, whereby many internal departments work hand-in-hand to determine an optimal solution for the city and community. If mitigation is required, the city may request that the developer or property owner provide monetary commitments for the purchase of traffic calming measures, such as raised crosswalks, bike racks, updated traffic signals, radar feedback signs, and upgraded parking technology equipment, such as parking meter kiosks.

- **Payment in Lieu of Parking**: In 2009, the city of Somerville created six new zoning districts in Union Square and Assembly Square. As part of the new Transit-Oriented Development (TOD) and Commercial Corridor District (CCD), a more formal payment in lieu of parking procedure was made available to new development. If a project cannot meet the required number of parking spaces, the developer is required to pay $18,000 per space into a fund operated by the city. The city would then use these funds to acquire land and finance and/or construct municipal parking.9

One benefit of in lieu fees is that they create certainty for the developer and the city. They reduce the need for parking variances and allow the city to treat developers consistently, which may reduce barriers for development in Davis Square. On the negative side, there is no guarantee when and how the city would be able to use the funds to finance public parking. In lieu fees also require the city to be directly involved with future parking development, when it would likely prefer to leave this to the private market.10

It is commonly assumed and sometimes written into a city’s in lieu ordinance that the fees must be used to replace public parking. However, according to literature on the subject, there are instances where cities use the funds to support a variety of transportation
improvements instead of providing more parking. For example, British and German cities often use the in lieu revenue to improve public transportation. Davis Square could use in lieu fees to subsidize public transportation upgrades, purchase new parking management infrastructure, or expand local parks or other assets that may reward the community for their support of economic development projects.

2.4 Long-term Regulatory Procedures
This hotel development project provides an opportunity for the city to rethink its long-term regulatory goals and the potential for this project to utilize Davis Square’s transportation assets to promote transit-oriented development (TOD) on these two sites.

TOD is compact, higher density, pedestrian-oriented development located in direct proximity to transit stations. TOD is focused on creating a mix of uses that put transit and pedestrians as priorities over automobiles. In a community like Davis Square, TOD can create an environment that preserves and promotes a mix of uses while remaining friendly to pedestrians in their central business district. Most American cities reduce their parking requirements in CBDs, however this is not the case for Somerville.

The city’s long-term development and regulatory approach should focus on TOD that reduces parking demand and vehicle use. Continued use of high minimum parking requirements raises the cost and decreases the density of development. Developers pay to provide required parking, but they pass these costs onto the public through higher prices and lower wages. For example, developers pass on the cost of parking to employers, who pay higher rents for office space. In order to pay these higher rents, employers are forced to pay their employees less. In the meantime, parking remains plentiful and cheap for the motorist. By updating Somerville’s zoning and parking ordinances, the city can reduce the costs of parking construction and decrease traffic while making development in Davis Square more attractive to developers, the city and residents.

2.5 Zoning Changes on the Horizon
Somerville’s zoning code was written over 20 years ago and is limited by the outdated Euclidian system of segregating land into geographical districts based on single uses. Over the years, this system has transformed the United States, including Somerville, into a sprawling, auto-dependent society. While Euclidian zoning is considered by many to be easy to implement, it is extremely inflexible and does not accommodate the vibrant, mixed-use, high-density and pedestrian-friendly development that Somerville strives to create today.

The new direction in zoning is the application of form-based codes. Instead of focusing on the segregation of land uses, form-based codes allow for a mixture of land uses based
upon the context of building forms. Compatibility is achieved through clear design guidelines that shape a streetscape to blend with the surrounding environment while protecting community and environmental assets. Form-based codes provide clarity and reduce the need for variances and special permits. Utilizing clear building envelopes establishes strong development parameters. Neighbors are comfortable knowing exactly what can and will be built next to them while developers know exactly what they can build.

As mentioned previously, Somerville has created the foundation of what will eventually result in a complete overhaul of its zoning ordinances. Six new zoning districts were created in Union and Assembly Squares in anticipation of the new Green Line extension. Depending on the ultimate timeline of the Davis Square hotel project, the long anticipated citywide zoning reform initiative could have an impact on the feasibility of this project. If nothing else, this serves as an opportunity to evaluate how this project fits into the city’s long-term zoning and development plans. Similar to the new TODs, the proposed hotel’s design and parking requirements should take advantage of the existing public transportation and pedestrian infrastructure of Davis Square.

Undertaking rezoning of two small sections of Somerville was time consuming. The new TOD and CCD took about 18-24 months to implement in Union Square. Much of this time was devoted to the development of the new standards. The same zones were then applied to the Broadway corridor between Winter Hill and East Somerville in about 12 months. Though the new zones in Assembly and Union Square are a step in the right direction, however they still rely heavily on special permits and not enough on form-based code. Ultimately, a larger and more diverse form-based code will be developed for the rest of the city. According to Proakis, the city will complete an overhaul of Somerville’s zoning ordinances by the end of 2013. Given this timeframe, it is likely that these new ordinances

Profile: Transit-Oriented Development Along Culver Expo Line
The Expo Line is a light rail project currently under construction that will connect downtown Los Angeles to Santa Monica. Although the project is at least a year away from completion, developers have scrambled to purchase land adjacent to the Culver station that for years has been a desolate stretch of abandoned parcels and out-of-date shops. Developers have put forth plans for mixed-use development on three abandoned sites that surround the proposed station that include office space, retail, residential and a boutique hotel.

Due to the recession, developers have had ample time to hone their proposals. Culver city has encouraged developers to focus on TOD that relies heavily on foot traffic to and from the rail line. The city hopes to entice developers to these parcels by allowing slightly higher densities than allowed by the current zoning. In exchange, developers will be asked to
provide or pay for one of the following community benefit options: additional parking, more open space, streetscape improvements or a shuttle service from the rail station to nearby destinations.\textsuperscript{21}

(continued)

This project suggests that the city of Somerville could provide incentives to developers for the proposed hotel project. Due to a relatively small building envelope on these sites, developers may be limited in the amenities they can provide to both hotel patrons and the community, while developing a financially feasible hotel. The city could work with developers and the community to secure a greater maximum height or density allowance, in exchange for one or more community benefit options. These benefits could include the addition of community-accessible meeting rooms in the hotel, improved stormwater management practices or first floor retail in the hotel or in the associated parking garage.

will have an impact on this development project. With updated zoning ordinances, the proposed hotel project could be subject to reduced parking requirements and an enhanced allowable building height.

**The Future of Davis Square: Transit-Oriented Development**

The new zoning ordinances that were recently adopted are not very different from the existing ordinances. The TOD - 55 and CCD are different in that that they permit an FAR of 3.0 and a maximum allowable height of 55 feet or four stories, up from 40 feet in the NB and 50 feet in the CBD.

**Profile: Parking Management at The Inn At Harvard**

The Inn at Harvard is a 111-room hotel located on Harvard University's campus in Cambridge. The hotel averages an annual occupancy rate of 75\% or greater and receives the majority of its business from visits associated with the graduate schools at Harvard. The hotel offers an on-site restaurant available for both hotel and non-hotel guests.\textsuperscript{22}

The Inn provides 56 parking spaces for 111 guest rooms in a sub-surface parking garage. The allotted spaces include 10 designated parking spots for managers, but no parking for general staff. The garage is available to guests and the public at a rate of $20 per day and $30 overnight. The hotel chose not to hire a management company and manages the garage with internal staff. The garage operates at, or close to, occupancy year round.

The Inn at Harvard experience demonstrates that a 111-room hotel can operate and manage a successful parking system with internal staff. Additionally, a parking-to-room ratio of 0.5 spaces with no additional required employee parking is sufficient for a hotel of this size.
There are three additional TOD sub-districts, which are distinguished by their respective height limits; the TOD – 70, TOD – 100 and TOD – 135. These districts also offer significantly higher FARs, which encourage denser development that encourages building up, instead of out. These three districts serve as a stepping-stone for future zoning changes that will encourage taller and denser development in many areas of Somerville.

Parking Requirements
The new zoning districts also updated the required parking for new and redevelopment projects. The city reduced the required parking per guest room to 0.5 spaces in a TOD and 0.6 spaces in a CCD. They also eliminated the requirement that hotels provide parking for employee

These numbers are an improvement over the old code and put Somerville in line with nearby cities in terms of required parking for hotels. In Quincy and nearby Cambridge for example, hotels are required to provide 0.5 spaces per guest room, with no parking space requirement for hotel employees.

2.6 Conclusion and Recommendations
Ultimately, the city can direct, but not control, what potential developers view as an economically-feasible hotel. The recommendations below are made with the assumption that to build a hotel on these sites, the maximum zoning will be met or challenged. If the city is intent on developing this hotel, it must be prepared for and resolve any uncertainties in the zoning code that could hinder the feasibility of development on these two sites and focus on reducing barriers to entry for qualified development teams.

- Zoning Map Amendment: The city should take a preemptive step to address the zoning discrepancy on the Buena Vista lot. Given the small percentage of the site currently zoned in the NB district, the city should apply for a map amendment that would eliminate the double zoning and any hindrance to the future best-use of the site. This would require a public meeting, review by the Planning Board, and support from the Board of Aldermen.

- Nuanced Variance Argument: If the city decides not to undertake a map amendment, then it should then prepare the appropriate special permit granting authorities for the possibility of a variance. By working to gain the support of key city officials in advance, the chances that an application for a variance would succeed would increase. The city can help the developer craft a nuanced argument for a variance that would demonstrate the financial or architectural infeasibility of building 14% of the hotel at three floors.
Overlay District: The city could also consider creating an overlay district for one or both of these sites. Either a CCD or a TOD-55 would work well. However, we believe that this option should be a last resort. Given the timeline of Somerville’s zoning overhaul, it seems costly and time consuming for the city to undertake this process when the underlying base zoning likely will be changed within the next two to three years. A CCD and TOD-55 overlay would provide a small increase in FAR, but due to the small size of these parcels, and the limited five-foot increase in maximum height, the benefits derived would be negligible and certainly not worth the effort. The city should also consider waiting to issue an RFP until it is clear how anticipated zoning changes will impact this project and Davis Square.

Build a Three Floor Hotel: If the city believes that the proposed zoning recommendations above are not viable, then it must include language in the RFP that clearly recognizes the zoning inconsistency, as well as the subsequent steps and or barriers to a solution. If local regulatory conditions are clear, developers can decide if they can build a financially feasible hotel within the existing zoning. This may prevent protracted legal battles over variances, however any excessive limitations on dimensions are likely to make this project less attractive to developers.

Reduce Intended Number of Rooms in the Hotel: Due to the new hotel development in Porter Square, less than a mile from Davis Square, we recommend that the city re-evaluate the market for a 100-120-room hotel in Davis Square. A hotel with fewer rooms could allow developers to include first floor retail and other community amenities, while still building to the same height. Also, for a smaller project, the required parking spaces would be reduced.

The Potential for a Spot Zoning Challenge:
The first three recommendations above require the city to alter or amend the current zoning on these parcels. The city should be aware that any zoning changes could be subject to spot zoning challenges, if the beneficiaries of the changes are limited to only one or two parcels. Spot zoning occurs when a small area of land in an existing neighborhood is singled out and given favorable treatment from the surrounding community. The rationale is that the action produces zoning changes that fail to treat properties in a uniform manner. While the zoning changes discussed above are small and do not deviate greatly from the surrounding zoning, this could be a challenge that opponents of the project could use. Although the city has a strong desire to see this project realized, it must make sure this project fits into its larger overall development plans, and it must be careful that its actions are not construed as providing preferential treatment for one project.
1 Somerville Massachusetts Zoning Ordinances. Municode, “Article 6.1.5 Establishment of Zoning Districts”. March 1, 2011


4 Floor area ratio = (Total covered area on all floors of all buildings on a certain plot)/(Area of the plot)


6 Owens, 2004. 318


8 Somerville Massachusetts Zoning Ordinances. Municode, “Article 9.6.3 Off Street Parking and Loading” accessed March 2011


11 Schoup, 1999. 310


13 Shoup, 1999. 307

14 Shoup, 1999. 307

15 Shoup, 1999. 307


19 Somerville Massachusetts Zoning Ordinance No. 2009-03. April 23, 2009

20 Cambridge City Zoning Ordinance, Article 6.36.1

21 Carbone, Richard (General Manager, the Inn at Harvard), interview with the authors, February 2, 2011 and March 2, 2011


Chapter 3
Parking Management

This chapter provides an analysis of parking management strategies that could be used in order to ensure that hotel development results in no net loss parking.

3.1 Parking Analysis Overview
As mentioned in Chapter 2, it is important to the city that any development on the Buena Vista or Day Street lots result in no net loss of parking in order to meet the growing parking needs of local residents and businesses in Davis Square. Based on initial estimates in the 2007 GLC/Utile study, the developer will not be able to satisfy the minimum required parking of 82 spaces on site for a hotel on the Buena Vista lot. Our team’s hotel designs for 120 rooms, detailed in Chapter 4, allocate similar levels of on-site parking spaces, which do not meet the required number of spaces. Because the city is intent on maintaining the current levels of municipal parking in the square, the developer would have to offset the net loss of 97 municipal spaces from the upper deck of the Buena Vista Site in addition to the 61 spaces lost on the Day Street site. Due to the dimensions and size of the Day Street site, accommodating lost parking is a challenge. However, this could be accomplished through implementation of creative parking management solutions. The following sections outline several approaches to parking management that could satisfy the city’s desire to develop a hotel in Davis Square with no net loss of parking.

3.2 Garage Building Options
The traditional approach to replacing parking loss to development is to build a parking garage. Since the city has earmarked both the Buena Vista lot and the Day Street lots for disposition, the developer has the flexibility to devote one of these lots to a parking structure. Though a parking garage may seem like the simple solution, it can be cost prohibitive. The average hard costs to build underground parking garages in the Boston area range from $90,000 per spot to $100,000 per spot. At this price an underground structure would be difficult, but in a recovering market with appropriate financing, an underground garage could be possible. Table 1 highlights costs to develop various types of parking structures.
Table 1: Parking Garage Infrastructure Costs Typical in Boston
Source: John W. Nolan, Director of Transportation Services, Harvard University

<table>
<thead>
<tr>
<th>Type of Parking</th>
<th>Cost per space</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface Parking</td>
<td>$10,000-15,000</td>
</tr>
<tr>
<td>Above ground Parking Garage</td>
<td>$20,000-25,000</td>
</tr>
<tr>
<td>Underground Parking Garage</td>
<td>$90,000-100,000</td>
</tr>
</tbody>
</table>

Some local underground garages have far exceeded the average development costs. For instance, the MIT Stata Center garage cost up to $125,000 per space, while a new garage at Harvard University cost $200,000 per space to build. In light of the high cost of underground parking, the following analysis explores more financially feasible garage options.

As detailed in Chapter 4, a 37-foot, 3-story garage on the Day Street lot could accommodate a total of 170 cars, as compared to the current surface parking which accommodates only 61 cars. A structure of this size on the Day Street lot would meet the overall parking goals for the project, provided hotel development at the Buena Vista lot is able to supply 67 on-site parking spaces for guests and employees as outlined in the GLC/Utile study and parking relief was approved for three spaces. Due to zoning code height restrictions, a 50-foot structure is the maximum allowable height in the CBD and unfortunately, does not include space for first floor retail. Should first floor retail at this location become a priority for the community, developers would need to consider requesting a height variance to accommodate that need. Again, as mentioned previously in Chapter 2, height variances in Somerville are difficult to acquire and have been met with community and municipal resistance in the past. A combination of the following recommendations may facilitate development of first floor retail while allowing for two levels of parking above. The expense per space to construct a garage that only doubles the number of current spaces would be high, but if first floor retail is a city priority, it will be important to articulate this before requesting proposals for the project.

**Parking Garage Constraints and Solutions**

There are three major considerations in moving forward with garage development in Davis Square. Each issue can be overcome, but should be taken into account.

- Traditional Parking Lot Design: Architectural character in Davis Square is important to Somerville residents, and a 3-story garage would need to be aesthetically pleasing. In order for a garage to fit into the character of the Square, the developer would need to incorporate attractive design elements. Since the design may not clearly distinguish the building as a garage, clear signage would need to be posted to direct drivers from the CBD to the garage.
• Resident push back: Parking garages generally do not add to the character to a neighborhood. A garage casts shadows and has the potential for increasing traffic on neighboring streets. Although a garage may not be well received by many residents, the city is aware of the public perception that there is a parking shortage in Davis Square. Residents have insisted that recent development in Davis Square meet existing on-site parking requirements to keep competition for street parking to a minimum. Because of this city official have confirmed that a new parking garage likely would be well received by the community. Nonetheless, it is also likely that abutting residents would be resistant to adding such development in close proximity to their homes.

• Low Parking Demand: Based on Mark Chase’s 2008 parking study, space within municipal parking lots is underutilized much of the time (i.e., during the day), but full at high-peak times, namely nights and weekends. Based on the community vision expressed during the ongoing 20-Year Comprehensive Plan Steering Committee meetings, the long-term vision for the Davis Square does not include a park and ride garage for commuters to the Boston area, as is the case with the Alewife T stop in Cambridge. If the long-term vision of citywide parking management includes an increase to on-street parking prices, then demand for a garage in the square could increase. Alternatively, if the pricing remains unchanged, the lot would not be filled regularly, and the city may then want to consider consolidating spaces from a nearby municipal lot such as the Grove Street lot. The city could relocate the Grove Street spaces to the new garage, which would allow for redevelopment of the Grove Street lot as community space. Specifically, the park and playground on Grove Street, between Highland and Elm, could be expanded to include the current parking lot (see figure 5).

If the city is ultimately interested in the development of a garage in Davis Square to accommodate future growth, then pairing garage development with the proposed hotel is a great way to accomplish this with little to no capital outlay from the city. Somerville Economic Director, Rob May indicated that city officials feel that it is important to connect the parking garage to the hotel project in order to ensure replacement parking for the lost
spaces. He went on to suggest that it is likely to be more difficult to interest developers to develop a garage without an associated commercial project.\textsuperscript{5} If parking demand in Davis Square is ultimately expected to exceed a 170-space parking garage at this location, the city may want to delay the start of the development process until new zoning changes are implemented in the CBD. Once zoning changes have been made, the city can move forward with a garage that is built to the new maximum zoning capacities of the square, which are expected to exceed current height and density limitations.

Garage Financing

If the city determines that a garage is an important asset to the city, staff members should consider financing structures that would assist developers in meeting city goals, while reducing the risk to the developer. The city may want to consider some level of flexibility on land cost. For example, the city could request approval from the Board of Aldermen to sell the land under market value, with the agreement that parking lot revenues be directed to the city until total land value is paid, or for a period of 5-10 years. Based on interviews with local developers, upfront capital for the cost of a garage (above or below ground) is a difficult hurdle for developers to overcome. As financial and real estate markets continue to improve, assistance from the city could make this project more attractive and more feasible.

We also recommend that the city consider alternative financing mechanisms that may offset large upfront capital costs. For development of the garage in particular, Tax Increment
Financing (TIF) would allow the city to sell bonds to cover the capital costs with the understanding that the bonds would be paid back by the developer with the increase in annual tax revenues on the parcel. Other creative financing options are explained further in Chapter 6.

3.3 Use of Existing Parking Capacity

Based on the existing available parking capacity within 0.6 miles of Davis Square, it may be possible to replace the 97 municipal parking spots at the Buena Vista lot by negotiating with nearby private lot owners to make use of underutilized private lots during off-peak hours in exchange for a fee. Current utilization of the Buena Vista lot is near capacity during nights and weekends, the exact times that Davis Square office lots are underutilized.

This presents an opportunity for partnership. Other cities across the nation are starting to use the existing underutilized parking capacity in their CBDs through partnering with churches, as has been negotiated in Friendswood, Texas and parts of Montgomery County, Maryland. The map highlights municipal lots and private lots close to Davis Square and includes the number of parking spaces at each location.

Currently, 100 privately-owned spaces are located underground at the Buena Vista site,
with 84 more spaces attached to that lot under the building leased by Kadima Medical Properties. This lot is at capacity during daytime office hours, but remains nearly vacant at night. If the city were able to successfully negotiate with Kadima Medical Properties for use of this lot during nights and weekends, adequate public parking would be available to visitors who would have previously used the Buena Vista lot. Though public parking in this lot would have restricted hours, the times that public parking would be permitted, nights and weekends, coincide with the heaviest demand for parking spaces. This would likely satisfy the parking needs of the community. The city is currently in negotiations with Kadima Medical Properties for both the air rights to build over the upper parking deck and for shared lot use during nights and weekends. This lot is an ideal location for municipal parking due to its proximity to the current parking that would become unavailable if a hotel were built.

Based on negotiations to date, city staff members have reported that Kadima Medical Properties is not amenable to allowing public parking customers to access the garage through the existing elevator core. If Kadima Medical Properties wishes to allow public parking in the garage, a second pedestrian egress must be constructed in order for the downstairs garage to meet fire code. Although this would be costly, acquiring public parking in this lot during select evening and weekend hours would make it easier for hotel developers to meet the city’s overall goals for adequate parking availability for residents and businesses.

In addition to the lots shown in Figure 6 there is a large surface parking lot on Russell Street in Cambridge that currently accommodates parking for neighboring businesses. Although this lot is in Cambridge, it is only 0.6 miles from the heart of Davis Square and could be included in negotiations. The city should also consider use of the Powder House School lot in Teele Square, which is only 0.3 miles from Davis Square.

Moving forward with a shared parking management option utilizing existing lots would require the city to update the text from the 2010 RFP. The 2010 RFP noted that the replacement of municipal parking spaces must be “available to the public 24-hours per day, seven days a week.” It should be noted that if private lots in the area, including Kadima Medical Properties were to negotiate a contract to share existing parking then municipal parking would be restricted to select off-peak business hours.

Use of Existing Parking Capacity Constraints and Solutions

- High Administrative Costs: This parking management strategy requires negotiations with many property owners and would likely result in high administrative costs. Negotiations with private lot owners to replace lost parking capacity on the Buena Vista site would require a great deal of time, especially if small lots are used. There
are private companies that could be hired to complete these negotiations, however this would entail an additional cost for the city. Additionally, off-peak times at each office may differ, so contracts for public lot use should all begin at the same time (i.e., after 6 p.m. – 6 a.m.) to limit confusion for drivers. Clear signage directing drivers to a patchwork of private lots would be integral. This could be a significant challenge for visitors who are not familiar with the challenge of navigating Davis Square.

Table 2: Largest Private Parking Lots in Davis Square Area
Field Projects Research Team Analysis

<table>
<thead>
<tr>
<th>Largest Lots With Private Use</th>
<th>Number of parking spaces</th>
<th>Barriers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buena Vista (Lower Deck)</td>
<td>100</td>
<td>Negotiation for use of this lot on nights and weekends may be possible, as the city is currently in negotiations with the lessee, for the air rights over the upper deck.</td>
</tr>
<tr>
<td>CVS</td>
<td>64</td>
<td>Negotiation for this lot may be difficult should the owner of this lot not be selected as the hotel developer.</td>
</tr>
<tr>
<td>VFW</td>
<td>85</td>
<td>Negotiation for use of this lot may be possible since the lot owner currently rents spaces to other locales, such as Red Bones. However, a developer is interested in developing condominiums on this lot and the proposal is in progress.</td>
</tr>
<tr>
<td>Powder House School</td>
<td>92</td>
<td>At this time the Powder House School is vacant and the city has acknowledged that temporary parking on this lot would be possible. In the future, this land will be used, and therefore this is not a long-term parking solution. This site is 0.3 miles from the current lot on Buena Vista.</td>
</tr>
<tr>
<td>Tufts Administrative Building</td>
<td>67</td>
<td>This lot is currently in use, although it is underutilized according to a recent traffic and parking study of Davis Square. This site is 0.3 miles from the current lot on Buena Vista.</td>
</tr>
<tr>
<td>Russell/Mass Ave, Cambridge</td>
<td>133</td>
<td>This lot is 0.6 miles away from Buena Vista and currently accommodates parking from neighboring businesses. The number of available spaces that are not already allocated to businesses in area has not been quantified.</td>
</tr>
<tr>
<td>Other small/or farther away lots</td>
<td>596</td>
<td>These lot owners may be interested in individual negotiations. However, contracting for these small lots would likely be time-consuming. On-street parking is currently inexpensive. Should on-street lot prices increase based on high utilization, private lot owners may show more interest in making their lots public during set hours (i.e., week nights or weekends). Private lot owners would need to be certain that demand was high enough for moderately priced off-street lots as compared to high on-street parking costs.</td>
</tr>
<tr>
<td>Total: Private Parking Spaces</td>
<td>1037</td>
<td></td>
</tr>
</tbody>
</table>

- Contract limits: Based on current demand for parking, the use of existing capacity would be a feasible short-term solution. However, contract negotiations with
private lot owners are likely to have a limit. After a five- or ten-year contract expires, a private lot owner could decide not to renew. If enough lot owners decided not to renew their contracts, the result would be a significant parking shortage in the Davis Square. However, if leasing unused spaces at off-peak hours were a key source of revenue for private lot owners, then it would be likely that the lot owner would want to renew the contract. Table 2 outlines the largest private lots in the Davis Square area and the barriers to negotiating potential shared-lot contracts.

Profile: City of Monrovia, California

Economic Development and Downtown Parking Management
The city of Monrovia, California, recently developed a 2,400-seat movie complex in the compact Old Town business district on a municipally owned lot. Unlike most large projects, the theater was constructed without building the traditional parking on site. Instead, Monrovia identified 1,200 free municipal spaces that were never utilized beyond 80% capacity. The city also recognized that business employees generally vacated public parking spaces by 5 p.m. and few stores remained open beyond 7 p.m. This excess capacity of free municipal parking would be made available to theater patrons.

In the past, the city hosted community events that brought over 8,000 visitors to the CBD. During these events there was minimal parking overflow into residential streets, so the city remained confident that the theater development did not necessitate additional on-site parking. Because the theater was built on an existing municipal lot, those municipal spaces did need to be relocated. This was done by expanding a nearby municipal lot and reconfiguring a side street. However, parking capacity, specifically for the new moviegoers, was never added.

The city initially met community resistance due to the fear that parking demand for the theater would spill over into residential neighborhood. However, during the first six months of operation, there were no parking issues. As the theater continues to draw more traffic, the city is exploring a second phase of parking management, but the initial phase has been a success. This case demonstrates that it is possible to capitalize on existing available parking capacity and avoid the expense of constructing a new garage.

- Revenue: To ensure participation in this program, it is necessary to create financial incentives for private lot owners. Currently, with free or inexpensive on-street parking, drivers have no incentive to pay to park in an off-street lot. Somerville’s Director of Traffic and Parking, Matt Dias, noted that city staff have been
researching upgrades to the current metered parking methodology used by the city to allow for demand-based pricing in business squares, potentially eliminating time limits altogether, and allowing for marginal pricing for additional time beyond traditional time limits. This type of comprehensive parking management strategy would encourage visitors to use cheaper private lots, thereby creating the demand necessary to entice private lot owners to make their lots open to the public during select hours.

Ultimately, private owners of small lots may not feel that the financial incentive offsets the upfront cost of installing parking meters. New, high-tech, pay-on-foot, multi-space meters cost roughly $12,000 per unit depending on the volume ordered. It is possible, however, that the developer or the consultant managing this shared parking opportunity to cover this cost in order to avoid the costs needed to build a garage.

3.4 Reduced Parking Requirements

As mentioned in Chapter 2, Somerville’s current zoning requires that hotels provide 0.8 spaces per guest room and 0.5 spaces per employee on peak hours. Compared to other local urban settings this parking requirement is high. The Inn at Harvard, the Harvard Square Hotel, and Hotel Marlowe in Cambridge are required to provide 0.5 spaces per guest room, with no required parking for employees. Hotel managers at these hotels felt this requirement provided ample parking. Table 3 highlights the parking space per room ratio at local hotels. The table also shows space per room ratios for hotel prototypes that typically adhere to a more suburban parking model that provides one parking space per guest room.

Since hotels in neighboring municipalities are able to manage with a parking/room ratio of less than one parking space for every two guest rooms, it is realistic to believe that Davis

Field Projects Research Team

Table 3: Parking to Guest Room Ratio

<table>
<thead>
<tr>
<th>Hotel/Prototype</th>
<th># of Rooms</th>
<th># of parking spaces</th>
<th>Cost of parking</th>
<th>Parking/Room Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inn at Harvard, Cambridge, MA</td>
<td>111</td>
<td>56</td>
<td>$20/day, $30/overnight,</td>
<td>0.50</td>
</tr>
<tr>
<td>Harvard Square Hotel, Cambridge, MA</td>
<td>76</td>
<td>38</td>
<td>$20/day, $30/overnight,</td>
<td>0.50</td>
</tr>
<tr>
<td>Sheraton Commander, Cambridge, MA</td>
<td>175</td>
<td>64</td>
<td>$29/day, $29/overnight</td>
<td>0.37</td>
</tr>
<tr>
<td>Hotel Marlowe, Cambridge, MA</td>
<td>236</td>
<td>Shares with Cambridgeside Galleria Mall (75-100 spots)</td>
<td>$20 self, $30 valet</td>
<td>.32-.42</td>
</tr>
<tr>
<td>Aloft by Starwood Developers, Prototype</td>
<td>136</td>
<td>150</td>
<td>Bundled with room rate</td>
<td>1.10</td>
</tr>
</tbody>
</table>
Square’s similarly urban location would allow a hotel to successfully operate at a ratio below the current zoning requirements. Provided the city adopts less stringent on-site parking requirements, the hotel developer could allocate more hotel space for community benefit (i.e., a restaurant or conference space). Less stringent parking requirements would also allow the city to build on-site parking to capacity, but devote a larger percentage of the spaces to serve public parking needs. Fewer additional parking spaces would then be required to be replaced in a neighboring lot or garage.

Acquisition of a parking variance, also known as parking relief, is another option for developers seeking to reduce the required parking for new development. As mentioned in Chapter 2, Somerville’s Director of Traffic and Parking, Matt Dias, confirmed that parking relief negotiations are common for projects in Somerville. For instance, the MaxPak site provided $200,000 in traffic mitigation in the area in exchange for parking relief. Similarly, the Foundry on Elm Street provided a parking kiosk in exchange for approximately 15 parking spaces. If the city opposes a reduction in the number of parking spaces for the hotel, parking relief is the next base alternative. Both options result in fewer required parking spaces to be built to support the hotel guests and employees.

**Maximum Required Parking**

Several cities, such as Seattle, Washington, are starting to update outdated parking requirements that were originally designed for single-use districts in suburban areas. A one-size-fits-all parking requirement is not always appropriate for downtown commercial districts where an emphasis is placed on mixed-use development, public transportation is often accessible, and pedestrian activity is generally high. Many cities are re-evaluating minimum parking requirements and implementing caps, or maximum parking requirements. Land is at a premium in urban environments and municipalities are emphasizing uses that enhance economic opportunities and revitalize neighborhoods with new developments, attractions, and public spaces for people to gather. Based on the success of hotels in Cambridge and neighboring communities with fewer on-site parking spaces than required in Somerville, the city should consider reducing minimum parking requirements, or instituting parking caps per site in Somerville’s CBDs. Instituting a low parking cap is another method to limit the number of parking spaces required for each land-use.

### 3.5 Alternative Parking Management Incentives

While the city has the power to reduce on-site parking requirements, the hotel management has the ability to reduce the demand for parking on site so that guests remain satisfied with the reduced availability of on-site parking. Should hotel management be able to consistently use fewer parking spaces than required on-site, extra spaces may be able to be re-assigned for public use. If the hotel is able to allocate on-site parking spaces for
public use, fewer spaces would need to be reallocated to a garage or another private lot, which would save the developer money. Therefore, it can be financially viable to encourage hotel employees and guests to arrive at the hotel without a car. Recommended incentives are listed below.

- Unbundled Parking: As a basic, first-tier parking management strategy, it is imperative that hotel room rates remain independent from on-site parking rates, also known as unbundled parking. Hotels that offer free parking encourage guests to bring their cars onsite. As Donald Shoup argues in his book *The High Cost of Free Parking*, “when the cost of parking is hidden in the prices of other goods and services, no one can pay less for parking by using less of it.” He goes on to say that, “bundling the cost of parking into higher prices for everything else skews travel choices.” By unbundling room rates from parking rates, guests have an economic incentive to think twice before deciding to have a car to park onsite during their stay. In addition, high parking pricing further discourage guests from having a car at the hotel, but the price needs to be low enough for the guests to still select that hotel over neighboring hotels, even if they do have a car. For this reason, we recommend that hotel management use the parking prices at nearby hotel lots as a guideline.

- Shuttles: Shuttles to local transportation hubs are often offered for hotel guests in order to facilitate an easy travel experience. Shuttles are considered to be a parking management strategy and should be offered to guests as a method to reduce on-site parking demand. Other local hotels including the Holiday Inn in East Somerville and the Hyatt in Medford offer shuttles from their respective hotels to and from Tufts University. They also offer shuttles to other locations within a 2 to 3-mile radius.
prospective students and their families, along with visiting lecturers and professors, are likely to use a hotel in Davis Square during their visits. Offering free shuttle rides to and from Tufts for hotel guests, or partnering with Tufts University’s existing shuttle service to Davis Square, would reduce the need for these guests to bring or rent a car in the area, and would keep the Davis Square hotel competitive with other nearby hotels.

Profile: Long Beach, California

D’Orsay Hotel Development Parking Management Strategy
The city of Long Beach, California was eager to negotiate a successful project at the D’Orsay Promenade. Despite the city’s commitment to urban revitalization in the Long Beach area, several previously proposed projects failed due to the city’s stringent minimum parking requirements. When the Embassy Suites, 162-room boutique hotel with retail was proposed for development on an empty parcel in the area, the city decided to re-evaluate their current parking requirements.

At the time of the development, the parking requirements for hotels necessitated a 1 to 1 parking space to room ratio, while the retail portion of the project required an additional 4 spaces per 1,000 square feet. Building a total of 302 spaces, at a cost of $4.83 million dollars would have crippled the project. In response, the city commissioned a traffic study of existing local hotels that reaffirmed their belief that parking requirements were unnecessarily high. Subsequently the city decided to reduce hotel parking requirements to 0.7 spaces per room, and retail requirements to 3 spaces per 1,000 square feet.

Even with the parking reductions and a proposed valet parking system, the D’Orsay Hotel project was still required to provide 218 parking spaces at a cost of $3.49 million. Recognizing that this was still too high, the city further reduced parking requirements by implementing a payment in lieu of parking fee of $3,000 per space for 56 spaces at the proposed development project. The money from these payments would be used to provide supplementary parking in close proximity to the hotel. The hotel was also responsible for paying an additional $50 per space per month for operating and maintaining the city lot. In the end, this development project was able to move ahead thanks to creative problem solving, and it is projected provide $300,000 per year in property taxes to the city.

- MBTA Vouchers: Employers often are able to subsidize employee travel by offering a MBTA transit subsidy. With the hotel located in such close proximity to the Davis Square T stop and several bus lines, this incentive could significantly reduce the number of employees who drive to work. Additionally, if guests were offered two T rides per person per room, they may be less inclined to rent a car
when in town and may instead use public transportation options during the visit. When compared to the cost to build a parking space in a garage, the cost to offer T-passes to guests could be attractive.

- On-site Zipcar: Somerville currently has over 30 spaces devoted to Zipcars\(^{25}\), and has supported car-sharing programs as a general practice. Zipcar’s mission is to get more single-occupancy vehicles off the road and fleet coordinator, Scott Marszalek, noted that the company has a Z4B (Zipcar For Business) program, eligible to hotels. Although employee benefits could include discounted Zipcar use, Zipcar is not a financially viable way to commute to work on a daily basis. Employees might instead use this mid-day during a break to run an errand. The true value of offering a Zipcar spot at the hotel would be to advertise it as a day-trip option for hotel guests. For instance, instead of renting a car at the airport, guests could catch a hotel shuttle to Davis Square and reserve a Zipcar from their hotel lot for use during a portion of their stay. To date, Zipcar has not contracted with hotels to offer a discounted rate to hotel guests. However, hotel management may still want to consider negotiating with Zipcar for a guest-only Zipcar, or potential discounts for guests.

- Valet: Providing valet service to nearby off-site lots would free up on-site space that could be offered as municipal parking. Valet drivers can double-park cars, which can increase the number of cars that can be accommodated. Sheraton Commander parking manager, Selso Regalise, noted that the Sheraton Commander is able to do this quite effectively in their Harvard Square location.

3.6 Conclusion and Recommendations

There are a number of parking management options that could work to meet city goals. Other cities have been successful in utilizing a combination of parking solutions to complete an economic development project. When considering each parking management option, Somerville should consider the level of effort required by all parties for successful implementation to understand if the burden would fall mostly on the city or the developer, or if both parties would equally contribute to implement the selected parking management strategy.

- Reduce Parking Requirements: This is our principal recommendation as we feel this would be well received by the development and hospitality community, and would require almost no cost to the city beyond staff time. A reduction in required parking would bring Somerville’s requirements in line with neighboring communities, and would also demonstrate the city’s commitment to TOD, an emerging theme in the planning meetings for the proposed Green Line extension. As with other zoning
amendments, the public process to make this change may be lengthy. However, this change would likely increase developer interest in this project.

- **Use Existing Parking Capacity:** Based on the weekend and weeknight peak demand for public parking in Davis Square, the city may not need 24-hour access to the parking that replaces the spaces on the surface Buena Vista lot. Instead of building a garage, we recommend that the city prioritize negotiations to secure nighttime and weekend access to the spaces located on the lower level of the Buena Vista lot. Additionally, the city should modify the language of a future RFP to exclude language that indicates that parking replacement for development on these sites must be publicly accessible 24-hour per day.

- **Create a Comprehensive Citywide Parking Management Strategy:** Developing a comprehensive citywide parking management strategy would significantly improve the chances that private lot owners would be willing to open their lots to the public. By increasing the price of on-street parking, demand for private, off-street lots would increase, and privately-owned lots that are open to the public would be used.

- **Identify City and Public Priorities:** If first floor retail/commercial space in new developments is a city priority, indicate whether the city may be flexible on other aspects of the project (FAR, height) in exchange for first floor retail.

- **Negotiate with Developers:** If the city identifies a qualified development team, then we recommend that the city negotiate with the team in order to make this project a reality. Consider incorporating a combination of the parking management strategies outlined in this report in order to make this project financially feasible enough for a developer by using the D’Orsay hotel development profile as a model.

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**PARKING MANAGEMENT SOLUTIONS DURING CONSTRUCTION**

If the city moves forward with the hotel development, a key step in the process would be to address short-term parking losses as a result of construction. Construction mitigation involves the practice of limiting the impacts of an ongoing project on the surrounding community as much as possible. A comprehensive plan includes the following provisions, as outlined by Harvard University’s construction mitigation plan:

- Vehicular and pedestrian re-routing plan;
- Noise and vibration monitoring and support;
• Dust control, street sweeping and surface water pollution prevention;
• Emissions control including a five-minute idling limit;
• Trash and rodent control;
• Communication (including community meetings); and
• Enforcement through warnings and infractions.

Harvard has also implemented a construction mitigation hotline, available at all hours to provide information for residents or abutters who may have concerns about construction. Somerville would be wise to use the above criteria as a guide in requiring specific measures to be addressed in any construction mitigation plan that may be developed by a prospective construction manager. The sites in Davis Square would also provide site-specific challenges that would need to be addressed.

During the construction, Kadima Medical Properties employees who park on the bottom floor would need to park elsewhere. Figure 6, depicts the numerous private and public parking lots throughout the square that may be able to share this temporary load. The VFW lot on Summer Street is less than a half-mile from the Buena Vista site and is an adequate space for temporary parking, should the VFW lot owners agree to lease these spaces. However, a developer has submitted a proposal for development of this lot. If this development were to proceed prior to or during the hotel development project, this lot would no longer be suitable for temporary parking.

Another lot that could be used as a temporary solution is the Powder House School lot, located between Davis Square and Teele Square. If the city continues to own this property, it would represent a slightly closer option than the VFW lot for temporary parking for employees of the Kadima Medical Properties building.

Matt Dias, Director of Traffic and Parking for Somerville, noted in an interview that short-term solutions regarding the displacement of individuals are acceptable. For instance, in past projects Somerville has allowed businesses to purchase city parking permits that allow day parking close to the construction site. Although this is an option, the Kadima Medical Properties lot holds too many cars for this to be a viable solution for all cars, even temporarily.

Therefore, we recommend that the developer consider offering a shuttle service to and from temporary lots to the Kadima Medical Properties building. Dias discussed possible locations for shuttle services could include the Assembly Square Mall, which currently serves as an off-site lot with shuttle service for Cambridge Health Alliance employees, or Dilboy Stadium, which has 100 spaces in excess daytime parking capacity. (Figure 8).
1 John W. Nolan (Harvard University, Director of Transportation Services), email exchange with Professor Mark Chase and the authors, April 5, 2011.


5 Rob May (Somerville Economic Development Director) interview with the authors, March 9, 2011


12 Re-bid of 2010 hotel

13 This is a resident document regarding the proposed parking management strategy at the Monrovia theater: http://www.uryl.com/Monrovia/theater/Dear_Neighbor.html


17 Matt Dias (Somerville Director of Traffic and Parking), interview with the authors, February 24, 2011.

18 Brad Rawson, email message to the authors, February 23, 2011

19 Matt Dias (Somerville Director of Traffic and Parking) and Terrence Smith (Somerville traffic Engineer), interview with the authors, February 24, 2011.


The following chapter provides an analysis of potential physical development and design considerations for a hotel and a parking garage on the Buena Vista and Day Street sites.

4.1 Development Context

Our design analysis is based on the Pinnacle Advisory Group’s findings that outline a maximum capacity of a 100-120-room hotel. However, we believe that a hotel having 60-80 rooms would be more appropriate, due to both height restraints, and a new hotel development project less than a mile from the proposed hotel site in Davis Square. While we do recommend reducing the number of rooms from the original 100-120 proposed, our analysis reflects this 100-120-room capacity in order to test the limits of the current zoning envelope.

4.2 Preliminary Design Analysis

The preliminary design analysis began with an examination of what uses would be appropriate and physically feasible on the two available sites. From the outset we approached our initial designs with current zoning constraints in mind, but did not limit our design to the maximum constraints of the zoning envelope. After careful design analysis, we identified three key factors that led us to believe a limited-service hotel would be the most appropriate use for the Buena Vista site:

- Location
• On-site parking feasibility as related to lot size, and
• Feasibility of hotel service access.

Based on these same design elements, we identified the Day Street site as the optimal location for erecting a parking garage, if a garage is deemed to be the preferred parking solution. The analysis below examines the best use for each parcel by reviewing the surrounding context of each site.

**Location of Hotel Use:**
Both sites offer quality locations for a hotel. The Day Street site has clear visual access to the main retail corridor on Elm Street through a retail courtyard anchored by Starbucks. Having a hotel at this location would add retail-supporting density to the heart of the square, while providing a viable location near restaurants and the T station. The Buena Vista site is also located only steps away from the Davis Square T stop and the Davis Square CBD. This site would provide continuity to the existing streetscape by adding another active commercial use to a major retail corridor along Holland Street.

**Location of Garage Use:**
After careful analysis, detailed below, the team concluded that the Day Street site would be the preferable location for the garage. Because it is located directly behind the main retail corridor of Davis Square, it would provide the most convenient access for visitors to frequent the numerous retail establishments within the square without interrupting the continuity of the existing streetscape.

In contrast, the Buena Vista site is located further from the core of Davis Square and a parking garage at this location would add distance to the pedestrian travel of most visitors. Since most people are willing to walk up to a quarter of a mile before seeking an alternative mode of transportation, we felt that the location of the garage should be as
central as possible to better accommodate the largest number of visitors to the square.\(^1\)

If a garage were to be placed on the Buena Vista site, it could disrupt the continuity of active uses along Holland Street. This disruption could be overcome by allocating the ground floor for retail along Holland Street. Parking would be located on the top three floors. There is promise for a design of this nature to work well with the existing two-level parking structure on site. More detailed design analysis would be necessary to test whether or not ground-floor retail would be viable given the existing zoning envelope.

In order to accommodate both retail space and an efficient parking layout, a garage would need to maximize its ground coverage, similar to the existing surface parking lot. This would minimize any possible buffer between the garage and the existing Kadima Medical Properties office building, making air rights negotiations more complicated. Additionally, this would likely result in a FAR and ground coverage that exceeds what is allowed by current zoning.

It is important to note that if a garage were to be constructed on either site, design considerations would need to consider abutting residential uses. When designing the garage, it would be important for the architect to be sensitive to the surrounding uses and provide creative façade treatments and fenestration to subtly integrate the garage into the existing fabric of the neighborhood.

When designing a garage, vehicular access must be oriented in such a way that minimizes traffic impacts on the existing residential neighborhoods. As mentioned in Chapter 2, any development over 10,000 square feet is required by Somerville zoning ordinances to conduct a formal traffic study. A traffic study would be particularly critical on the Day Street

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**TRAFFIC MANAGEMENT**

An essential piece of feasibility relates to the traffic management issues that may arise from new development within a congested urban environment. The Somerville zoning ordinance stipulates that any project that is over 25,000 square feet must submit a Special Permit Application and conduct an independent traffic study to analyze the effects of increased development on the surrounding area.\(^2\) The roadway access to Davis Square is relatively simple from both sites, but the Day Street lot is going to experience increased vehicular flow if a parking garage is constructed. In our garage design, explained in Chapter 4, we deliberately placed the entrance on Herbert Street in an effort to mitigate many of the possible effects of increased traffic flow in the neighborhood directly behind Davis Square.
As seen in Figure 9, the design emphasizes the goal of keeping the vehicles within a one-block area, directing all of the garage traffic back into the main square.

After speaking with a traffic engineer familiar with Davis Square, a number of issues were identified as potential obstacles to development. All of these issues must be addressed in the traffic study to ensure the feasibility of the future development.

The first set of problems relate to how well Day Street can handle increased vehicular traffic. How would that change the overall traffic pattern of the square? Day Street is part of a major intersection that feeds into Davis Square, but is currently one of the minor feeders into that intersection. During peak hours, if a garage is built, Day Street may have enough vehicles to become a major feeder into the main square. There could also be a concern regarding the width of Day Street. If the traffic light is red for long periods of time, Day Street may back up into the garage causing a bottleneck within this relatively short route, causing more cars to idle closer to a residential neighborhood. It is possible that nearby residents may be concerned about the increased exhaust and noise as a direct result of vehicles idling closer to their residence.

The final concern deals with the overall increase in traffic through the neighborhood. Even though the garage has been designed to encourage entry on Herbert Street via Chester Street from Davis Square, it is possible that a certain number of visitors to the square would attempt to travel down Day Street from Massachusetts Avenue and turn right at Herbert Street to access the entrance, thus increasing neighborhood traffic (Figure 10). What percentage of vehicles would take this path to the garage? This number is pivotal as
community resistance to a garage may be centered on this concern. Day Street will require a complex set of assumptions to determine the true traffic impact of a garage.

The Buena Vista site raises different concerns, given that the entry and exit for the parking would be very similar to the current traffic directions. Overall, the number of parking spaces would be reduced by nearly one-third, but the behaviors of the drivers when they enter and exit the garage is unknown given the different subset of people parking at the hotel versus the current metered parking situation. Additionally, the Buena Vista site would most likely have trucks servicing the hotel and potentially a restaurant depending on final design plans. This leads to an increased number of large vehicles navigating the road. The traffic study would be necessary to evaluate the effects of new traffic patterns given the vastly different nature of a hotel compared to a public parking lot.

When looking at Davis Square as a whole, the decreased parking at the Buena Vista site coupled with the increased capacity at the Day Street site would change the routes that vehicles use to search for parking. More vehicles would head to the Day Street area in the hope of finding a spot, and the distribution of lots throughout the square would decrease as the city tries to concentrate most of the spaces in a main garage. Overall, the traffic study represents a major hurdle in the hotel building process, and the city should address the issues by compiling a comprehensive study as early in the process as possible.

Recommendations:

- Comprehensive traffic analysis must be conducted to determine the potential changes to the flow of vehicular traffic throughout the square. Concentrating
parking on a limited-access street would change the current behaviors of drivers within the square, especially during peak hours

- Traffic study must evaluate: (1) the roadways and the proposed parking scenario to determine overall feasibility; (2) the vehicular load increase on the Square based on development at both sites; and (3) how an increased vehicular load may affect overall traffic flow

site where the access, if possible, should be established to maximize the use of Herbert Street. Herbert Street is a two-way street that is mainly characterized by the service access to existing commercial buildings. Placing any vehicular access along the Day Street side of the site has the potential to significantly increase traffic along the heavily residential neighborhood located to the west of the site (see Figure 10).

**On-Site Parking**

Successful hotels require a certain amount of on-site parking available for guests. In urban settings such as Davis Square, some hotels may be able to survive with only a vehicular drop-off area on site, as long as parking is provided in an abutting lot.

Given the relatively small boundary of the Day Street lot and the desire to fit 100-120 rooms within the existing zoning envelope, it could be a challenge for the developer to build the 82 on-site parking spaces required by zoning. Even when taking into account a reduced rate of 0.5 spaces per room, recommended in the Pinnacle study, there would be significant challenges to accommodating on-site, above-grade parking within the constraints of the current zoning regulations. One solution may be to provide below-grade parking. However, below-grade parking is extremely expensive and may prove financially prohibitive.

One of the benefits of the Buena Vista site is that it is significantly larger than the Day Street site. The results of our design analysis confirms the findings of the previous study performed by GLC/Utile, (see Figure 11) which demonstrates that the Buena Vista site can accommodate a mid-scale hotel along with roughly 65 spaces on the ground level. Sixty-five parking spaces is less than the required number under the Somerville zoning ordinances, but roughly equivalent to the ratio of 0.5 per guest room. Therefore, when taking into consideration parking demand and the zoning, the Buena Vista site can accommodate both a hotel and nearly all of the on-site parking. From this, we concluded
that the Buena Vista lot, rather than the Day Street lot, appears to be a more feasible location for a hotel with on-site parking.

It is important to note that if underground parking were shown to be financially feasible for a developer, the city should reexamine the potential for a hotel on the Day Street site. For instance, the nearby Porter Square hotel development project is building below-grade parking and will maximize parking space within the garage by utilizing car stackers that elevate one car above another. Monitoring the success of this project will be crucial in determining next steps in Davis Square.

If other privately-owned Davis Square parcels become available for parking development, the city should revisit the Day Street site as an option for the hotel. For instance, if the vacant lot directly...
abutting the Day Street site, located behind One Davis Square, were to become available for a garage with capacity to accommodate both hotel parking and public parking spaces displaced by the new hotel development, then the Day Street site may become more feasible as a location for a hotel.

**Service Access**

Hotels require service access with minimal intrusion to guests’ lodging experiences. As such, hotels are often designed to incorporate separate service access points that do not require the use of the lobby or guest elevators. Assuming that guest parking would be needed on the ground floor, and because the Day Street site is bound on two of its four sides by existing structures, it would be difficult to incorporate the necessary service accesses required for the day-to-day operations of the hotel without significantly cutting into the limited amount of space needed for parking. However, if parking can be placed underground or off site, it may be possible for future developers to provide service access from the west side of the site along Day Street.

The Buena Vista site is bound on three sides by existing roads, thereby providing site access on three sides of any potential development. This would enable service vehicles to access the service elevators at the core of the structure through the west of the site, which abuts the Somerville Community Path. However, changes in the grade at the west end of
the site present additional challenges to providing the necessary service access points. Ultimately, further engineering and design analyses would be required to determine the best service access point at the Buena Vista site. This site has significantly more options to work with than the Day Street site.

Given the limitations and opportunities related to location, parking, and service access, we have determined that, the Buena Vista site is more suitable for a hotel, while the Day Street would serve as the best location for a new parking garage, if deemed necessary. However, if the parking requirements are reduced, or new lots become available to host a parking garage, the Day Street site should be considered as a potential location for a hotel.

4.3 Physical Feasibility Analysis
Following our preliminary design analysis we continued to test the physical feasibility of a hotel on the Buena Vista lot and a garage on Day Street. Our designs were prepared without access to engineering studies or surveys of the property. Future studies may identify challenges that were not taken into consideration for our analysis. Similarly, any future development would have a design unique to its own development plan. The following analysis is an exercise to examine physical feasibility while highlighting some of the specific limitations and opportunities of each site.

The Buena Vista Site

Building Dimensions:
We began our physical analysis of hotel development on the Buena Vista site by building upon previous designs produced by Utile on behalf of GLC in 2007. Assuming zoning issues are addressed, a limited-service hotel of 100-120 rooms could fit on the site and within the zoning envelope of four stories or 50 feet, and FAR of 2.0. Our design indicates that a hotel on this site would sit at four-stories, or approximately 50 feet tall with a FAR of 1.71.

The average floor consists of 18,258 square feet with a gross area of 56,274 square feet. The gross area calculation includes 1,500 square feet for a lobby, but does not take into account the space allocated for parking, as accessory parking does not contribute to the calculation of FAR under the Somerville zoning ordinances. According to the report completed by GLC/Utile, the Buena Vista site is 32,840 square feet. At 80% ground coverage this would allow for a building footprint of roughly 26,272 square feet. Our hotel design occupies a footprint of roughly 18,000 square feet and would be well within zoning standards (see Table 4).
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<th>Dimensional and Use Standard</th>
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<th>CBD</th>
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</thead>
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<tr>
<td>Max height (ft)</td>
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**Hotel Bay Dimensions:**

The standard hotel room size used in our design is based on industry prototypes and discussions with local architects. As designed, our standard room size or “hotel bay,” is roughly 13’ by 24’, with an average net room area of 312 square feet. As illustrated in Figure 14, the proposed layout could accommodate about 141 bays or 131 rooms when taking into consideration bays consumed by other uses such as stairwells, service closets, and elevators. The ground floor would serve as a lobby, drop-off/pick-up area, and parking location for guests. The second floor can hold 47 guest rooms, though we anticipate 4-10 of the rooms may be converted into other uses such as conference space, a business center, community meeting rooms or an exercise room. The third and fourth floors would each contain 47 guest rooms. In our design that follows Pinnacle’s previous recommendations, there is no space for a full-service dining facility, but space is available for a self-service breakfast amenity area within the 1,500 square foot lobby.

Figure 14: Sketches of Hotel Layout
Designer: Tyler Norod
Developers often must build hotels within a proven prototype in order to attract hotel operators. This is particularly true with room dimensions and average square footage. We have taken this into account in our design when laying out the dimensions of each bay.

If it were possible to capitalize on a partnership between a developer and hotel operator that could agree on building smaller bays, then it may be possible to reduce the scale of the building while maintaining the same number of rooms and thereby alleviate some of the potential concerns residents may have regarding the size of the hotel. This could also free up space for additional on-site parking, conference space or a full restaurant.

**Pedestrian Friendly Lobby:**

Our design includes a 1,500 square foot lobby. This size is consistent with many of the hotel prototypes and existing hotel layouts that we found through our research including Starwood hotels such as Aloft and Element, Best Westerns, among others. Although the hotel in Davis Square would not necessarily aim to replicate the design of these particular hotels, the amount of space allocated to each use is a useful guide.

It would be important to keep the lobby’s edge along Holland Street relatively transparent in design. At the ground floor, the lobby would act as the building’s front door and should seamlessly promote the active pedestrian-friendly use that has already been established along the existing retail corridor. Also, the building should be in line with the surrounding streetwall in order to maintain continuity with the local built environment.

**Design Guidelines for Abutting Community Path:**

The Community Path, a well-traveled pedestrian and bicycle path, directly abuts the rear of the Buena Vista site. This provides an opportunity to design the hotel in a manner that acknowledges this great public resource and green space. Therefore, the building should incorporate an attractive and pedestrian-friendly design on the west of the hotel. Further recommendations for incorporating community art in this area are included in section 5.2.

**Drop-off Area and Service Access:**

As shown in Utile’s drawings, found in the GLC report, the drop-off area and guest parking of roughly 65 spaces should be accessed from Buena Vista Road so as to limit the congestion on Holland Street. This would have the added benefit of maintaining an active and pedestrian-friendly streetscape with no curb cuts on Holland Street. The guest elevators would be located in the core of the building and abut the service elevator with direct access to the service closets on each floor. Access to the service elevator could be attained through the ground level parking area.
**Hotel in Relation to Abutting Office Building:**

The building footprint in our study and the GLC/Utile study demonstrate the ability to locate the hotel away from the north façade of the existing Kadima Medical Properties office building located at 40 Holland Street. This recommended massing strategy would provide sufficient space between the hotel and the abutting office building in order to maximize access to light and air while providing improved views and greater privacy for the hotel guests and office tenants. The streetwall should be as contiguous as possible with the existing Kadima Medical Properties building and the separation between the two buildings is approximately 60 feet in width for a majority of the proposed structure. A design with this amount of buffer space between the existing building and the proposed hotel demonstrates that it is possible to minimize impacts on the existing abutting office building. Demonstrating that a buffer area is physically feasible for a hotel design of this size would reduce the challenges associated with air rights negotiations between the city and the abutting landowner.

**A Garage at the Day Street Site**

**Site Dimensional Requirements of a Parking Garage:**

Based on standard garage dimensions, we used these configurations of width and depth to estimate combinations of ramps, turning radii and parking space depths. According to the assessors map, the Day Street site’s minimum width, which abuts the four story
residential building on the west of the site, is 128’ 6” (see Figure 15). This dimension has the 120’ width needed to accommodate the required features listed previously. This lot is just barely big enough to accommodate a garage of any size due to the necessary dimensions for ramps and turning radii.

Given the limitations and dimensional configuration of the Day Street site, the most space-efficient parking design requires the use of two-way ramps without parking running along the south side of the garage. In an attempt to maximize efficiency on a relatively small lot, the garage would require a short steep ramp at a 15% grade with blended transitions at each end. Parking would be available throughout the remaining structure, including the exposed fourth floor that is not composed of ramps.

Table 5: New Garage Design Relative to CBD Zoning Regulations
Source: SZO: Dimensional Requirements Section 8.5

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</tbody>
</table>

The proposed design assumes parking spaces with a width of 8’6” by 18’0” (with a 15’0” depth for a limited number of spaces for compact cars) at 90 degrees on double loaded aisles (see Figure 17). After taking into consideration space needed for ramps, turning radii, stairwells, entry and exit points, along with ticket dispensers, the proposed garage would
provide approximately 170 spaces in the following distribution: 39 spaces on the ground floor; 43 spaces on floors two and three; and 45 spaces on floor four. Three of these spaces are designed to be ADA accessible and located on the first floor closest to an at-grade exit, as required by law. The clearing height of the parking structure in this area is designed to be slightly higher to accommodate vans.

The following analysis demonstrates that a parking garage of approximately 170 spaces would provide adequate replacement parking for the 97 existing spaces that would be consumed by the hotel development on the Buena Vista lot and the 65 spaces of the Day Street lot.

Profile: Hotel Development in Porter Square, Cambridge, Massachusetts

Bandar Development, in partnership with Collegiate Hospitality, will be breaking ground for a new full service hotel in Porter Square in late Spring 2011. The hotel will utilize green building techniques, renewable energy technology, and will offer 65-rooms with 40 spaces of underground parking. The hotel will accommodate smaller guest rooms than many prototypes. This will allow for space for a restaurant and lounge, conference area and a large outdoor garden to the rear of the hotel. By building smaller rooms, the developer is able to build a less dense and more financially feasible project.

The city of Somerville should monitor this new hotel as it moves forward with its own development project in Davis Square. If building smaller bays, underground parking, and an on-site restaurant proves to be successful in Porter Square, the city may want to reevaluate these design elements in order to determine which site in Davis Square would be most appropriate.
Structured Parking Garage Dimensions:
As shown in Table 5, our garage design is three stories, or 37’ tall and provides room for parking on the roof. Each level would be 11’ in height with a 3’6” parapet wall around the roof to provide safety and to conceal the view of cars from the street. At this height, the garage would be two feet taller than the abutting two-family residences along Herbert Street and a full story lower than the four story residential building to the rear of the site along Day Street.

The garage would also be within context given the scale of existing commercial buildings to the east along Herbert Street. The single-story commercial buildings to the north of the site along Day Street offer some contrast, but given that they are built well under the limits allowed by zoning, and considering the high value of real estate in the area, it is possible to assume that these sites would be redeveloped in the future at a scale more reflective of the surrounding uses.

Garage Access and Site Visibility:
The design analysis acknowledges the importance of maximizing visibility from the Day Street lot to Elm Street along the retail corridor, as shown in Figure 17. This edge of the garage along Herbert Street would be an important visual landmark as it reinforces a strategic site line from the main retail corridor on Elm Street. Future developers should take this into consideration when designing a garage by putting the vehicular and pedestrian entrances along this edge. Strategic implementation of signage and wayfinding programs would be important to augment the visual access through the retail alley in order to aid in the successful operation of a garage at this site.

4.4 Community Impact Related to Design
With any development, it is critical to manage the integration of a new building(s) into the existing fabric of its surroundings. It is important that developers and the city are aware of potential impacts that are inherent in the development of each site. We have identified a few of
the potential concerns related to the design and development of both the Buena Vista and Day Street sites.

**Buena Vista Hotel Design Concerns**

**Shadow Impacts**
There is potential for significant shadow impacts during certain times of the year on the abutting residences along Buena Vista Road. Further shadow studies should be performed in order to understand any potential impact on the abutting residences to the northwest. Given the orientation of the site and the width of Holland Street, the buildings to the south and east of the site may not be impacted as significantly, if at all. The Minuteman Community Bike Path, located to the southwest of the site, should not be as significantly impacted as those properties directly north of the site.

**Scale**
It is also important for the city to be aware of the perceived size and scale of the hotel as designed. We believe that the hotel's density and scale is appropriate as designed, especially when examined in comparison to the Kadima Medical Properties office building, which directly abuts the site. Even though the hotel generally fits within the parameters provided in local zoning, (other than the 14% of the site that sits in the NB district), developers should be cognizant that local residents may express concern over the scale of any proposed development at this site, especially when viewed in comparison to the abutting residential uses along Holland Street and Buena Vista Road.

**Opportunity for Public Space**
In an effort to mitigate the impacts of future development and provide a benefit to the community, there may be an opportunity for a small-scale open space area along Holland Street where the hotel and Kadima Medical Properties building meet (see Figure 18). At this end of the Buena Vista site there is a small triangular piece of land controlled by the Kadima Medical Properties that is currently underutilized and has potential to house community use such as public art, benches, or green space. This area, located to the south of the Buena Vista site would not have shadow impacts. Provided abutting landowners approve, the future developer of the Buena Vista site could use this space to solicit community artwork and thereby enhance the public realm.

This public space would serve as a resource for office workers, hotel guests and residents alike. This area is currently used as the location for utility equipment. Further analysis would be needed in order to understand the physical and financial feasibility of moving this equipment, perhaps to the underground parking area below should space permit.
Spatial Limitations
As designed, the hotel is meant to offer limited service without providing large on-site amenities such as a pool or restaurant. The design analysis shows that when incorporating only 100 guest rooms, one or two small conference rooms, each consisting of two combined bays and a small exercise room of similar size, would be feasible on the first or second floor. However, given the dimensional limitations and high parking requirements under Somerville’s zoning ordinances, it would be a challenge to find sufficient space for first floor retail, a full-service restaurant or a large public meeting space without reducing the number of guest rooms from 120. An increased number of community amenities could be offered on site if the community would support the developer obtaining variances to provide greater density. As both the design and financial analyses demonstrate, this project would require tradeoffs from the community and the developer in order to develop a financially feasible hotel with large-scale on-site community benefits.

Day Street Garage Design Concerns
Shadow Impacts
In comparison to the Buena Vista site, a garage on Day Street should have less impact on residents from shadows, since neighboring residences are located to the south and west of the site. There is an existing surface parking lot and single-story restaurant/bowling alley to the north on Day Street, which may be impacted by shadows. A future shadow study would be needed to better gauge the impact on the abutting structures and open spaces.

Design
Historically, parking garage design has been associated with brutal concrete structures that, in urban centers, break up existing street blocks with an unfriendly pedestrian streetscape. In an effort to alleviate these concerns, the garage exterior should be
designed to enhance the context of the surrounding neighborhood. Possible creative solutions include adding exterior façade treatments, (such as bamboo), green plantings around the edges of each floor, or including public art or murals along the exterior walls. In particular, involving local artists to aid in the exterior decoration of the building may serve as an interesting means of increasing public support while creating a unique visual asset for the square. Public art installations in the Davis Square T station, for instance, have provided a way for the community to be involved in development projects.

Traffic
Addressing concerns over increased traffic would be a key component of building a garage on the Day Street site. A more detailed traffic study would be needed prior to any development. The design analysis has shown a possible solution to alleviate some of the concerns related to increased traffic flow. By locating the garage’s vehicular entrance and exit at the same point along Herbert Street we believe that traffic impacts on Chester Street and Day Street can be minimized. As shown in Figure 19, placing the vehicular access on Herbert Street would reinforce a cyclical traffic pattern back into the main traffic corridors of Davis Square.

Density
A major hurdle for the feasibility of building a garage on Day Street is related to the structure’s FAR and site coverage. As established earlier and demonstrated through the design analysis, the Day Street site provides close to the minimum amount of space necessary to build a garage and accommodate the necessary number of spaces lost to the development of a hotel. In doing so, the structure would have a FAR between 3.0 and 4.0 in comparison to the 2.0 maximum FAR allowed by zoning. The site may also have difficulty conforming to the 80% ground coverage and 10% open space, as the analysis shows a tight fit of 78% coverage. Depending on the results of a formal site survey, this may or may not fit within the allowed percentage by zoning.

Density would likely be a point of contention among opponents of a garage on Day Street. Our design analysis does not offer solutions other than a variance for increased FAR, or an increase of the ground coverage ratio. It is important to remember that even if the garage were to be placed on the larger Buena Vista site, there would likely still be issues accommodating ground floor retail within the FAR limit imposed by zoning.

In an ideal situation, a garage would provide ground floor retail so as to integrate the structure with the surrounding neighborhood and present a friendlier pedestrian streetscape. Unfortunately, the analysis demonstrates little flexibility to incorporate such a use, as the site is already past its allowed FAR capacity according to zoning, and needs almost all of its space in order to achieve the desired parking count.
Buffers
Because the site is abutted on two of its sides by residential uses, particular attention must be given to the design of these edges. The design should push the garage to the edges of the site along Herbert and Day Streets in order to maximize the distance between the abutting two-family residential buildings. This buffer area should include fencing, evergreen trees and shrubs, where possible, to act as both visual and sound barriers to the garage. However, greater analysis would be needed to assess the environmental viability of certain plants surviving in such a location. Additional consideration should be given to creating a gated buffer area to act as a deterrent for those who would use this space for undesirable activities.

The four-story residential building along Day Street immediately to the west of the site has an existing driveway that could provide some separation from the garage. Again, the garage developer should do his or her best to provide creative and functional buffering materials to mitigate any potential visual or noise impacts from the garage.

Noise Pollution
The operation of a garage may also result in some noise pollution for the surrounding residences. In an effort to mitigate these concerns, the design should accommodate sound dampening measures along the exterior edges of ramps and turns within the structure to alleviate noise impacts associated with running automobiles and squeaking tires.

Light Pollution
Residents may also want to limit the hours of operation of the garage to decrease early morning and late night activity on their streets. This would be a concern at night with automobile headlights periodically flashing across abutting residents’ windows and the lights needed for the garage’s operation. It is possible to reduce this concern by having walls enclosed to a height above standard headlight level and strategically directed interior building lights.

However, local businesses would want the garage to operate long enough to cover the full spectrum of the uses and activity in the square. Creative design solutions, such as thoughtfully angled lighting and fenestration, may be used to mitigate any harmful visual impacts. Further analysis of this would be needed in order to fully understand the appropriate hours of operation for a garage in Davis Square.

4.5 Conclusion and Recommendations
Building off previous studies commissioned by the city of Somerville, our design analysis has demonstrated the physical opportunities and limitations of building a hotel and parking
garage in Davis Square. Our conclusions would, however, need to be modified if providing on-site underground parking for a hotel and/or a smaller scale hotel were deemed feasible. The following points highlight our recommendations for building a 100-120-room hotel and subsequent parking garage in Davis Square:

- Buena Vista Site Recommended Use: The Buena Vista site is well suited for the development of a 100-120-room limited-service hotel given its location in the square along an existing retail corridor, its capability to accommodate sufficient on-site guest parking and its ability to offer service access.

- Day Street Site Recommended Use: The Day Street site is well suited for a small parking garage of approximately 170 spaces due to its location directly behind a main retail corridor and the challenges associated with a hotel incorporating both on-site guest parking and service access.

- On-site Retail and Community Space: Given the existing CBD zoning envelope, and both the garage and hotel’s need to maximize their respective footprints, it would be difficult to accommodate ground floor retail or large community space at either site.

- Entrances and Exits: Particular attention should be paid to the placement of exits and entrances of both buildings in order to mitigate traffic concerns while promoting an active and pedestrian-friendly environment.

- Zoning for the Day Street Site: As designed, it would be difficult to fit a parking garage on the Day Street site within the CBD zoning envelope. The garage would be in direct violation of allowable FAR and may exceed the allowable ground coverage depending on the results of a future survey of the property. Because the garage would need to maximize its footprint in order to remain physically feasible, this may become a major source of concern among those who oppose a garage.

- Community Impacts: A hotel on the Buena Vista site would likely cast shadows on abutting residences along Buena Vista Road. Further shadow studies would be needed to fully understand the extent of this impact. A garage on the Day Street site would have a smaller shadow impact on abutting residences than the hotel on the Buena Vista site.

- New Public Space: There is an opportunity to create a small public space along Holland Street between the existing office building and the Buena Vista site. Further studies and negotiations with the current landowner would be needed for this to be realized.

2 Somerville Massachusetts Zoning Ordinances. Municode, “Article 7.11 Permitted Uses”


This chapter provides public engagement strategies that would enhance the feasibility of completing this project with support from the community.

5.1 Analysis of Public Participation Process

Public approval is an important part of any development process and often the reason many projects are able to move forward. Gaining public support early in the development process provides certainty to developers, thereby increasing the level of interest from the development community. A successful public process also fosters a sense of community ownership in the project, providing a level of assurance to the local residents that they will be happy with the final development project.

Although public organizations such as the Davis Square Task Force and the Davis Area Resident/Business Initiative (DARBI) were aware of the possibility of a hotel development in Davis Square, they were not engaged in a comprehensive public process before the first RFP was released in 2009. Prior to issuing a new RFP for development in Davis Square, the city of Somerville should develop a public engagement strategy to enhance the likelihood of securing community support for the project. A lengthy public process is expensive, time-consuming and undesirable for all parties. Securing community support early on could reduce risks and increase the attractiveness of this project to developers.

The city has two options for including the public in this project. The first option is that the city can rewrite the RFP to include public input that has the capacity to shape this project. By allowing residents to convey fears or concerns upfront, the developers would have an opportunity to respond to those concerns and incorporate this community input into the design process. This option would be the least expensive and time consuming for the city, however, the opportunity for public input would be limited since the city has already determined a proposed use for the two municipal sites.

The second option would be to restart the public process from the beginning. This option is the most time consuming, however it has the potential to more significantly decrease developer risk than the previous option. The city would need to hold public meetings to
gather public input and to convey their reasoning for building a hotel in Davis Square. Depending on public sentiment there is a chance that the community may not support a hotel as the only best use of these lots. The city must be prepared for this possibility, and would have to decide ahead of time how they would proceed if this is this situation would arise.

The Headquarters Hotel Project in Portland, OR provides an example of a city and a local advisory committee working together to create a successful project. In this example, proactive public outreach created a strong relationship between the city and the

Profile: Headquarters Hotel Project Portland, Oregon

In 2004, The Portland Development Commission (PDC) created a Selection Advisory Committee of city staff and private citizens to review proposals and select a developer for a hotel development project next to the Oregon Convention Center. The committee worked to identify regional stakeholders and to create opportunities for partnerships with the developer that would foster open and efficient communication. When conflicts arose between stakeholders, the PDC worked to resolve issues prior to signing a Memorandum of Understanding (MOU) with the development team.

After working with the city and the regional stakeholders, the developer agreed to follow a comprehensive public participation plan in developing the project. Five specific goals were included in the plan:

- Keep the Portland community informed about all aspects of the project;
- Provide a variety of opportunities for public comment on key issues;
- Listen to and address concerns;
- Collaborate with regional partners on media outreach and planning activities; and
- Involve the public in financing decisions.

Ultimately, each stakeholder in the committee was responsible for working with the developer to execute a portion of the public engagement strategy, and provide updates of progress on the project website. Gaining the written consent from the development team to follow the public participation plan was an important strategy to engage and empower community members, and to facilitate an effective and successful community process.

Lessons learned demonstrate that when developers are proactive and encourage participation more efficient, universally supported results can be obtained.
community, and assured developers they would have the support of the community as they moved forward.

5.2 Public Input Opportunities

If the city engages citizens concerns early and adequately, then it would be able to foster a sense of community ownership in the project. Our team has identified three opportunities where the city of Somerville can actively solicit public input for the hotel development project:

Profile: Fisher Hill Reservoir Redevelopment, Brookline, Massachusetts

Prior to 2003, the town of Brookline conducted a master planning process to determine if the town should purchase a 10-acre state-owned lot from the State of Massachusetts. Before Brookline made a decision about purchasing the property, it hired a planning firm to assist with research and identify land use opportunities for a 4.8-acre town-owned site across the street from the 10-acre state-owned site. Following multiple public hearings, the Brookline Master Planning Committee recommended that the town purchase the 10-acre lot to create a park and athletic fields and then utilize the 4.8-acre lot for mixed-income residential development consistent with the existing Fisher Hill neighborhood.

From the outset, the community was involved in the decision of whether to develop the 10-acre state-owned lot and how to develop the lot. The Board of Selectmen created the 15-member Town Reservoir Planning Advisory Committee that consisted of neighbors, affordable housing advocates, and other community members. The committee was responsible for gaining consensus on site plans and designs, and affordable housing guidelines. The committee was also tasked with developing the project description for the RFP that conveyed community strategies for preserving the “character of the neighborhood.” This included details about native plant species, recommended depth of planting beds, and heights of vegetation along different areas of the parcels.

Engaging the public early and often increases trust and fosters open and honest dialogue.

It is human nature to oppose decisions that are made without consultation. By inviting the public to be a part of the process, a city can turn potential opposition into group of engaged supporters. The Fisher Hill profile demonstrates that while public engagement is time-consuming, it can foster support for projects and lead to resourceful solutions to potential conflicts.
• Drafting the RFP language
• Negotiating for community benefit agreements
• Including a community art component

**RFP Language**

The Somerville community was not given the opportunity to comment or contribute to the language included the Community and Public Objectives section of the 2009 Davis Square Hotel RFP. If the city decides to reissue an RFP, they should use the Fisher Hill development profile as an example of a project that incorporated abutters concerns and feedback prior to the release of the RFP. While requesting public input on landscaping choices may seem tedious, it demonstrates a commitment to incorporating public concerns to produce a quality, community-supported development project.

Incorporating residents’ design preferences in the RFP language can decrease unforeseen demands or problems that community members might raise after a development team is selected and design is underway. Asking developer to duplicate efforts to re-design elements of the hotel would add additional costs to the project. It is possible, that unrealistic community demands may discourage developers from pursuing a project. Nevertheless, encouraging the public to voice their design preferences to the city during the time the RFP is drafted, allows the city to reflect these preferences to the developer early on. Including these community expectations in the RFP ensures that the developer is well aware of the community needs and, once selected, would not find severe community resistance. Starting this dialogue between the public and the developer early creates a transparent set of expectations for both parties.

**Community Benefits Agreements**

Over the past 20 years, a new form of public-private partnership known as Community Benefits Agreements (CBA) has become popular. A CBA is a contract between developers and local community groups that ensures a developer would receive support from the community in exchange for certain community benefits. Benefits range from inclusion of affordable housing, increased open space, minority-owned firm selection for construction contracts, or even cash. A CBA typically limits the length of the public input process, which saves developers and the city time and money. CBAs offer a creative vehicle for the city, developers, and the public to achieve their goals.

Local governments often help facilitate CBA transactions. City officials and planners have a lot to gain from successful negotiations, including increased tax revenues from the new developments. It is not uncommon for individuals in the private sector to meet public officials early in the development process to discuss proposed community benefits.
associated with a proposed project. Here, public officials often relay concerns obtained previously from community members to the developer. This feedback can influence developers’ project priorities, and allow developers to understand community interest.8

Opponents of CBAs fear that community groups or individuals will use the CBA for individual profit, instead of assisting the community. Additionally, some groups, including the general public, may feel left out of any CBA decision that does not directly benefit them. For example, the Yankee Stadium redevelopment in New York City has been sharply criticized for only providing select benefits to limited groups that held substantial influence over politicians.9 If the city of Somerville chooses to pursue a CBA it would need to maximize involvement from as many stakeholders as possible while organizing the voices of the residents to represent common strategic and realistic goals. Failure to reach an agreement on a contract could result in the termination of the project.

Community Art
Including a community art component in the project is an exciting way to encourage public interest. The back of the Buena Vista lot runs alongside the Somerville Community Path, a well-traveled bicycle and pedestrian path. The first floor of the proposed hotel would primarily be dedicated to parking, and would likely create a solid wall facing the trail. By working in conjunction with the Somerville Arts Council and other community groups, the developers and/or the city could sponsor a design competition among local residents to populate this space with a public art installation. Artists could be asked to submit designs for a mural that depicts historical scenes, current streetscapes, Somerville residents, or local landscapes.10 The contest could also include Tufts students in an attempt to further strengthen university relations with the community.

A similar opportunity may exist if a parking garage is constructed as a component of this project. Garage designs often include large, barren exterior walls that lend themselves to creative murals. A community art competition has the capacity to spark positive interest in the project. Though this art component would come late in the development phase of construction, the developer could gain more public support for the project by announcing early on that they intend to have a community art component incorporated into the project.

5.3 Restarting The Planning Process
The city of Somerville has the option to re-examine the city-owned lots in Davis Square to find a development solution that provides the “highest public benefit” as viewed by the residents. By actively seeking stakeholder input and educating the public on the city goals for development in Davis Square, the city can identify and incorporate residents’ needs and concerns while working with them to ascertain the best land-use for each site.11 The city and the public should work hand in hand to establish project goals and clearly explain how
the public is going to be involved in the process going forward. The proactive approach we outline below allows the city to determine how residents’ community visions align with the city’s economic goals.

The city of Cambridge is proactive in their planning approach. While the annual expenses of the Community Development Department are high, the city is able to avoid large-scale public outreach processes because they are in-tune with the needs of each neighborhood. The city is always gathering information in order to make direct improvements to areas that are in the best interest of the public. Keeping current information on each neighborhood allows the city to target projects that would be well received by the residents, thereby increasing the interest from developers.

Advances in technology have eliminated many of the problems that have handcuffed development projects in the past. Today, one of the greatest challenges facing development projects is the conflicting visions for the future development within a community. While other factors certainly affect the feasibility of the project, public support is one of the greatest hurdles to breaking ground on this project.

Restarting the public process in Davis Square would be time consuming and expensive. In order to move forward with the hotel project, the city could hold a public meeting to inform the community of their desire to pursue this particular project. It is important that the city explain its thought process and clearly convey the findings of any research conducted over the past decade. Giving the community an opportunity to comprehend why a decision was made would lead to increased support. A community process starts with providing residents with all the data and outlining several potential options moving forward. This takes time, but ultimately yields a stronger project.

5.4 Strategy for Engaging the Public

Public meetings are challenging and time consuming for both the public participants and city officials. In Somerville, the Green Line Extension project has provided fertile ground for implementation of guidelines that ensure an effective public process. Jennifer Lawrence, Executive Director of Groundwork Somerville, has provided a list of engagement strategies to ensure a successful public meeting. In Lawrence’s experience, the most effective means of engaging the public has been door knocking, however additional suggestions include:

- Create a website that has announcements, meeting agendas, and minutes.
- Ensure that high-ranking city officials run meetings and collaborate with the public. This would help show the city’s commitment to working with the private citizens.
- Allow opportunities for people to write out thoughts or draw pictures.
• Provide food, translated materials, and childcare.
• Present new information and explain methods of land-use analyses.
• Offer live chats through the Voices of Somerville website.¹⁴

While the majority of these strategies may seem mundane, it is important to consistently apply these basic principles to encourage successful public engagement. Though engaging the public seems simple on paper, effectively executing the aforementioned strategies can be difficult and tedious. The Headquarter and Fisher Hill profiles offer good examples of local governments proactively engaging all stakeholders. They demonstrate that communicating and defining a clear community engagement strategy remains the most efficient method of pursuing new projects.

5.5 Conclusions and Recommendations
Community support for a project is an integral step in a successful development project. Developers must have confidence that the city and the public support a project in order to invest; otherwise the risk and uncertainties may be too great. The following recommendations outline how city of Somerville can gain community support for this project:

• Create a long-term plan for public engagement in this development project.
• Educate the public on the city goals for development of these parcels in Davis Square. Provide the public with details on the feasibility research that has been completed to-date for a hotel in this location. Outline the citywide benefits associated with the hotel project. Then provide the public with a forum to raise concerns and provide input on design preferences that would alleviate these concerns.
• Incorporate language in the next RFP that reflects the design concerns of the public.
• Based on public input, acknowledge the issues this project may pose to residents and conceptualize strategies like a CBA agreement that could alleviate these issues.

¹ Portland Development Community "Headquarters Hotel Project Public Participation and Communication Plan. February 1, 2006 Pg 1-11
² Portland Development Community "Headquarters Hotel Project Public Participation and Communication Plan. February 1, 2006 Pg 1-11

4 Ibid.


8 Ibid.


10 Somerville Art Council http://www.somervilleartscouncil.org/

11 Portland Development Community “Headquarters Hotel Project Public Participation and Communication Plan. February 1, 2006 Pg 1-11


13 Jennifer Lawrence (Executive Director of Groundwork Somerville) March 8, 2011

14 Somerville Voices (http://www.somervillevoices.org/)
Chapter 6
Financial Analysis

The following chapter provides a financial assessment for constructing a hotel on the Buena Vista site and a parking garage on Day Street site.

6.1: Overview

The city did not receive a response from either of the two firms who received the exclusive 2009 Request For Proposals for hotel development in 2009. There are many factors that may have influenced developer interest, including the start of the economic recession that temporarily put a halt to the development industry.

In the spring of 2009, the city of Somerville commissioned a report by Hunneman Appraisal and Consulting Company, which reported that the hospitality industry appeared to be on the rebound. If the economy maintains its current trajectory, Hunneman predicted that the market for hotel development in Davis Square would return by 2014.

Building on past reports commissioned by the city, our team has consulted with local design and development professionals and has researched leading industry resources to analyze the financial feasibility of constructing a hotel and parking garage in the Davis Square CBD. This chapter details our analysis and offers strategic recommendations for the city of Somerville to consider.

There are a myriad of variables to consider when conducting a financial feasibility analysis. Each of these variables has a direct impact on the outcome of the financial analysis and subsequent perceived feasibility of a project. Recommendations in this section therefore only reflect projected values and are intended to identify potential opportunities and constraints that have been discussed in previous chapters. Any future development would have unique designs that would alter the analysis provided here. Additionally, all construction, lending, and operational numbers in this analysis are subject to change over time.
6.2 State Rules Governing the Sale of Public Land

Both the Buena Vista and the Day Street lot assume the sale of public land for development and are therefore subject to the following state laws.

Massachusetts General Laws (MGL) regulate the sale of publicly-owned property to private entities as well as other government bodies. The laws ensure that all individuals have equal opportunity to respond to the sale of public land. MGL 30 Section 16 requires the government body selling the land to:

- Specify the restrictions that would be placed on the use.
- Determine the value of the land by methods customarily accepted by the appraisal profession.
- Solicit proposals before they agree to terms with any individual on property transactions with values exceeding $25,000.
- Advertise at least once a week for two consecutive weeks in a local paper. For projects exceeding 2,500 square feet in size, the final advertisement must be 30 days before the opening proposals are received.
  - Advertisements must include geographic location, terms and requirements of proposed transaction, time and place to submit the offer.
- Open all proposals publicly at an advertised time and location. The government body must submit the name and the proposed amount to be published with the central registry. MGL Chapter 9 Section 20 A requires each municipality to publish all public contracts.
- If a government body wishes to sell public land for less than the appraised value, a notice must be published explaining the reasons and monetary difference.

The city should be mindful of these rules when determining how to best proceed with any future hotel RFP process and if deemed desirable, how to provide incentives for development through the sale of public land at a reduced price.

6.3 Financial Analysis of Developing a Hotel on the Buena Vista Site

The following section examines total development costs, financial lending assumptions, operational costs and the net operating income associated with the development of a limited-service 120-room hotel at the Buena Vista site.
Hotel Development Costs

Our analysis of total development costs relies upon research gathered through interviews and studies conducted by industry professionals. All of the numbers used in this section should be viewed in total as an approximation. The financial analysis reflects costs of a limited-service hotel. As the name suggests, a limited-service hotel usually lacks some of the amenities common to a larger hotel such as a restaurant or swimming pool. Building a limited-service hotel would be optimal for this site given its proximity to a major retail area as well as the site’s finite build-out potential.

After interviewing a local developer and studying available hotel prototypes we have determined it would cost between $80-90,000 per room to develop a limited-service hotel. We therefore used the averaged rate of $85,000 per room when calculating our construction costs. Given these assumptions, we were able to predict a construction cost of $10.2 million for a 120-room limited-service hotel. The Pinnacle Advisory Group report, commissioned by the city in 2006, showed similar findings. This study concluded that the total cost of developing a 112-room hotel in Davis Square would be approximately $10.1 million.

Expected acquisition price of the property is another component included in our total development cost analysis. Our analysis reflects the assessment performed by Hunneman Appraisal and Consulting Company in 2009. Hunneman valued the Buena Vista site at $1.89 million based on the potential for developing the site into a hotel.

Our analysis of total development costs also takes into consideration linkage payments associated with new development. A linkage payment is a fee covered by the developer and paid to the city to increase the supply of affordable housing available to low and moderate-income people in order to mitigate the impact of large scale development on the supply and cost of housing in the city. The current linkage payment rate in the city of Somerville is $3.91 per square foot over 30,000 square feet. Our design shows a 56,275 square foot hotel, 26,275 square feet of which would be subject to linkage payments. At this rate the hotel development would yield a one-time fee of $102,731 payable to the city of Somerville. Based on the factors listed here, we estimate that a hotel developed on the current Buena Vista lot would have a total development cost of $12.2 million.
Table 6: Total Hotel Development Costs

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<thead>
<tr>
<th>Total Hotel Development Costs</th>
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<tbody>
<tr>
<td>Total Rooms</td>
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<tr>
<td>Acquisition Price</td>
</tr>
<tr>
<td>Costs per Room</td>
</tr>
<tr>
<td>Hotel Development Costs</td>
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<tr>
<td>Linkage Payments</td>
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<tr>
<td>Total Development Costs</td>
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</table>

Hotel Operational Cost

In 2009, STR Analytics, a professional hotel market and consulting firm, released a report titled Hotel Operating Statistics (HOST). This study provides approximate operational costs for a 118-room limited-service hotel operating at a 67% occupancy rate. These figures are very similar to the size of the hotel outlined in our report, which calls for the development of a 120-room limited-service hotel expecting an occupancy rate of 65-70%. The HOST report estimated annual operating expenses of $11,580 per room. This figure includes payroll, utilities, marketing, and maintenance costs. At this projected cost per room the total operating expenses for a limited-service hotel of 120-rooms would be $1,389,600.

In addition to the day-to-day costs associated with hotel operation, there would be real estate taxes that contribute to the net operational costs of the hotel. The city of Somerville’s annual commercial tax rate of $21.21 per $1,000 of appraised value would be applied to the hotel. Our analysis assumes a hotel value of $12,192,731, as this would be equivalent to the cost of acquiring and developing the land. At this rate we would expect annual real estate taxes to be $258,608. In addition to real estate taxes, the hotel would also be subject to a hotel room tax, which would be passed on to the guests. This is not applicable to the operational costs of the hotel, but we will cover the impact of this tax later in the section discussing potential revenue for the city.

Table 7: Annual Hotel Operational Costs

<table>
<thead>
<tr>
<th>Annual Hotel Operational Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Rooms</td>
</tr>
<tr>
<td>Annual Operational Costs per Room</td>
</tr>
<tr>
<td>Annual Gross Operational Costs</td>
</tr>
<tr>
<td>Expected Minimum Appraised Value</td>
</tr>
<tr>
<td>Commercial Tax Rate</td>
</tr>
<tr>
<td>Annual Real Estate Taxes</td>
</tr>
<tr>
<td>Net Total Annual Operational Costs</td>
</tr>
</tbody>
</table>
**Hotel Financing**

Another important component for determining project financial feasibility is the cost associated with repaying loan obligations accrued to develop the hotel. After speaking with a local developer we were able to determine reasonable terms for financing this project.\textsuperscript{11} These numbers are approximations and will likely vary depending on the future market factors, design specifications, and goals of the developer. We have concluded that it is realistic in the current market to obtain an amortizing 25-year permanent loan with an interest rate of 5.5\% and a loan to value ratio of 70\%. At this rate we expect a monthly loan payment of $52,412 and an annual payment of $628,942.\textsuperscript{12}

<table>
<thead>
<tr>
<th>Hotel Loan Obligation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest Rate</td>
</tr>
<tr>
<td>Amortization Period</td>
</tr>
<tr>
<td>Equity</td>
</tr>
<tr>
<td>Loan</td>
</tr>
<tr>
<td>Annual Principal and Interest</td>
</tr>
</tbody>
</table>

**Hotel Revenue**

We derived projected hotel revenue from the 2006 Pinnacle Advisory Group study.\textsuperscript{13} This study determined that a limited-service hotel in Davis Square could charge a rate of $138 per night with an occupancy rate of 70\%. At this rate the annual expected revenue of a 120-room hotel would be $4,231,080.

<table>
<thead>
<tr>
<th>Hotel Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Rooms</td>
</tr>
<tr>
<td>Occupancy Rate</td>
</tr>
<tr>
<td>Price per Room</td>
</tr>
<tr>
<td>Total Annual Revenue</td>
</tr>
</tbody>
</table>

**Hotel Net Operating Income**

As described above, our analysis predicts an annual operational cost of $1,648,207.82, annual principle and interest payments of $628,942 and annual revenue of $4,231,080. These figures show a net operating income (NOI) of $1,953,930.
Hotel Net Operating Income

<table>
<thead>
<tr>
<th>Hotel Net Operating Income</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Operation Costs</td>
<td>-$1,648,208</td>
</tr>
<tr>
<td>Annual Principle &amp; Interest Payments</td>
<td>-$628,942</td>
</tr>
<tr>
<td>Annual Revenue</td>
<td>$4,231,080</td>
</tr>
<tr>
<td>Annual Net Operating Income</td>
<td>$1,953,930</td>
</tr>
</tbody>
</table>

**Hotel Cap Rate**

The capitalization rate (Cap Rate) is an indirect measurement of how an investment pays for itself. For our purposes the cap rate is the ratio of the NOI divided by the cost of the development. Average national cap rates for limited-service hotels over the past decade ranged between 9-13%. As designed, our analysis predicts a cap rate of 16% for the hotel development on the Buena Vista site. At this cap rate a hotel would be financially feasible for development.

<table>
<thead>
<tr>
<th>Hotel Cap Rate</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Operating Income</td>
<td>$1,953,930</td>
</tr>
<tr>
<td>Total Development Cost</td>
<td>$12,192,731</td>
</tr>
<tr>
<td>Cap Rate</td>
<td>16%</td>
</tr>
</tbody>
</table>

### 6.4 Financial Analysis of Developing a Parking Garage on the Day Street

The following section examines total development costs, financial lending assumptions, operational costs and the net operating income of developing a 170-space parking garage at the Day Street site.

**Garage Development Costs**

The figures used to analyze a 170-space garage are based on industry resources. They are estimates based on aggregated data used to identify an approximate cost of building a garage on the Day Street site.

After reviewing Hunneman’s appraisal from 2009, we began our analysis with an acquisition price of $920,000 for the Day Street site. By referring to a 2009 study compiled by a national parking garage consulting firm, we were able to establish hard development costs per space at $17,947. Next, we determined a basis for estimating development soft costs through a study published by the Victoria Transport Policy Institute (VTPI), which lists soft costs at between 30-40% of hard development costs. Our cost analysis for
development uses a rate of 35% to determine the soft costs associated with building a garage in Davis Square.

Similar to the hotel development, our garage analysis accounts for expected linkage payments of $3.91 for every square foot over 30,000 square feet of development. As designed, our garage contains roughly 72,000 square feet of space, 42,000 of which would be subject to linkage payments yielding a one-time cash payment of $164,220 to the city.

**Table 12: Garage Development Costs**

<table>
<thead>
<tr>
<th>Garage Development Costs</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Spaces</td>
<td>170</td>
</tr>
<tr>
<td>Acquisition Cost</td>
<td>$920,000</td>
</tr>
<tr>
<td>Construction Costs/Space</td>
<td>$17,947</td>
</tr>
<tr>
<td>Soft Costs/Space</td>
<td>$6,281</td>
</tr>
<tr>
<td>Total Garage Construction Cost</td>
<td>$5,038,760</td>
</tr>
<tr>
<td>Linkage Payments</td>
<td>$164,220</td>
</tr>
<tr>
<td>Total Development Costs</td>
<td>$5,202,980</td>
</tr>
</tbody>
</table>

Our analysis demonstrates that the development of a garage on the Day Street site would cost approximately $5.2 million dollars. In order to determine the feasibility of building and operating a garage, we consider our projected cash flow against expected debt obligations related to total development costs.

**Garage Operational Costs**

In order to obtain a better understanding of the operational costs of a parking garage within the local market, we interviewed a parking management company in the Boston metropolitan area. After analyzing the company’s operational costs for a comparable garage we have determined that we can apply a rate of $65.15 a month per space for our garage. This does not take into account real estate taxes, which we expect to be approximately $110,355. The tax amount is based on city’s commercial tax rate of $21.21 per $1,000 of the appraised value, which we conservatively assumed to be $5,202,980, as this would cover the cost of acquiring and developing the land.

With our design scenario of 170-spaces a developer could expect an approximate annual operational cost of $132,906 plus annual taxes of $110,355 for an annual net total operational cost of $243,261.
### Annual Garage Operational Costs

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Spaces</td>
<td>170</td>
</tr>
<tr>
<td>Monthly Operational Costs per Space</td>
<td>$65.15</td>
</tr>
<tr>
<td>Annual Gross Operational Costs</td>
<td>$132,906</td>
</tr>
<tr>
<td>Expected Minimum Appraised Value</td>
<td>$5,202,980</td>
</tr>
<tr>
<td>Commercial Tax Rate</td>
<td>$21.21</td>
</tr>
<tr>
<td>Annual Real Estate Taxes</td>
<td>$110,355</td>
</tr>
<tr>
<td>Net Total Annual Operational Costs</td>
<td>$243,261</td>
</tr>
</tbody>
</table>

### Garage Financing

After interviewing a local developer we were able to determine reasonable terms for financing a garage in Davis Square\(^1\). These numbers are approximate and will likely vary depending on future market factors, design specifications and developer. Our research has lead us to believe that it would be realistic to obtain a permanent 30-year loan with an interest rate of 6.5% and a loan to value ratio of 60%.

Working with these assumptions along with our projected total development costs of $5,202,980, loan payments would cost approximately $19,732 monthly, or $236,782 annually, to fully amortize the loan within the given 30-year timeframe\(^2\).

### Garage Loan Obligation

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest Rate</td>
<td>6.50%</td>
</tr>
<tr>
<td>Amortization Period</td>
<td>30 years</td>
</tr>
<tr>
<td>Equity</td>
<td>$2,081,192</td>
</tr>
<tr>
<td>Loan</td>
<td>$3,121,788</td>
</tr>
<tr>
<td>Annual Principle and Interest</td>
<td>$236,782</td>
</tr>
</tbody>
</table>

### Garage Revenue

In determining the potential revenue associated with building a 170-space parking garage in Davis Square, we analyzed revenue figures assembled by Somerville’s Office of Strategic Planning and Community Development (OSPCD). OSPCD is currently working on a document that is yet to be published which projects the potential occupancy and revenue generated by utilizing all 184 parking spaces under the existing Buena Vista site, after business hours. This includes only the spaces that are currently used by the neighboring office building. These are all located one level below grade. The city’s projections demonstrate annual revenue of $360,213. This revenue is attributed to a rate of $1 per
hour and takes into consideration vacancy rates specific to demands related to time of day and day of week.

The purpose of analyzing the potential revenue associated with the nighttime use of these private parking spaces is to have a basis for the amount of revenue that can be expected for a 170-space garage on the Day Street site, available to the public 24-hours a day. In order to determine total revenue for a 170-space garage, we needed to account for daytime use of the garage, which was not accounted for in the city's projections. In order to account for this daytime revenue, we applied the rate of $1.00 per hour to the 60% occupancy rate of the Day Street surface lot during nine hours (8am-5pm) of weekday daytime operation and then added this to the nighttime and weekend revenue associated with the 184 spaces below the Buena Vista site.\textsuperscript{23} At this rate the new Day Street public parking lot would generate an estimated $524 per day, which over the course of the 260 weekdays a year would yield additional annual revenue of $136,188. The total revenue generated by the increased public use of the Day Street garage would be approximately $496,401.

**Garage Net Operating Income**

As demonstrated above, our analysis estimates the garage to have annual operational costs of approximately $243,262 and annual loan obligations of approximately $236,782. Therefore, total annual net costs are expected to be approximately $480,043. At the assumed rate of $1 per hour, garage revenue is expected to be $496,401. After accounting for all operational costs our analysis demonstrates an annual net operating income of only $16,358.

<table>
<thead>
<tr>
<th>Garage Net Operating Income at $1/hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Operational Costs including Taxes</td>
</tr>
<tr>
<td>Annual Loan Obligations</td>
</tr>
<tr>
<td>Annual Parking Revenue</td>
</tr>
<tr>
<td>Annual Net Operating Income</td>
</tr>
</tbody>
</table>

If the originally proposed rate of $1 were to be doubled to $2 an hour, we would clearly expect an increase in revenue. However, any increase in parking costs for the public would likely have an impact on demand. Based on previous work performed for the city by Hunneman in 2009, we assume that by doubling the cost of parking, demand would decline resulting in a 50% increase in total revenues.\textsuperscript{24} Under this scenario the total annual revenue for the garage would be $744,602 yielding an annual net operation income of $264,558.
**Garage Cap Rate**

The 2009 report by Hunneman determined a 7% projected cap rate for the Buena Vista garage. We use this cap rate as its basis for predicting the financial feasibility of developing a garage. As mentioned during the financial analysis of the hotel in section 6.3, the cap rate is the ratio of the NOI divided by the cost of the development. As designed, the cost of developing a 170-space garage on Day Street would be $5,202,980. As shown above, the garage’s NOI at a rate of $1 per hour would be $16,358. This yields a cap rate of 0.3% for a garage charging $1 per hour and therefore would not be financially feasibly to be privately developed.

In the scenario where the garage’s revenue is derived from a rate of $2 per hour for parking, the net operating income is $264,558. At this rate the cap rate yielded would be 5.1%. Based on the projections by Hunneman, a cap rate of 5.1% may be too low to be considered financially feasible by potential developers.²⁵

If the city were able to increase the price of parking beyond $2 per hour, they would eventually reach a breaking point where the cap rate would signify a financially feasible project. However, any increase in price would likely have a direct effect on the garage’s occupancy rates. An in depth market study would be needed to accurately assess the limits of raising hourly prices for a public parking garage in Davis Square.

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**Table 16: Garage Net Operating Income at $2/hour**

| Annual Operational Costs including Taxes | $(243,261) |
| Annual Loan Repayments                   | $(236,782) |
| Annual Parking Revenue                   | $744,602   |
| Annual Net Operating Income              | $264,558   |

**Table 17: Garage Cap Rate for $1/hour**

| Net Operating Income | $16,358 |
| Total Development Cost | $5,202,980 |
| Cap Rate             | 0.3%   |

**Table 18: Garage Cap Rate for $2/hour**

| Net Operating Income | $264,558 |
| Total Development Cost | $5,202,980 |
| Cap Rate             | 5.1%    |
6.5 Expected Tax and Sale Revenue

Buena Vista Hotel Development
In addition to the $1,890,000 projected for the sale of the Buena Vista site, the city would collect a commercial real estate tax on the hotel as well as a tax on occupied rooms paid by hotel guests. Table 19 demonstrates the total taxes generated from the development and operation of a hotel in Davis Square. The city could expect to generate approximately $669,000 each year from a hotel in Davis Square with the tax revenue likely to increase relative to future room prices and assessor valuations.

<table>
<thead>
<tr>
<th>Hotel Tax Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price per Room</td>
</tr>
<tr>
<td>Number of Rooms</td>
</tr>
<tr>
<td>Occupancy Rate</td>
</tr>
<tr>
<td>Room Tax Rate</td>
</tr>
<tr>
<td>Annual Hotel Room Tax</td>
</tr>
<tr>
<td>Commercial Property Tax Rate</td>
</tr>
<tr>
<td>Projected Hotel Value</td>
</tr>
<tr>
<td>Annual Commercial Tax</td>
</tr>
<tr>
<td>Total Annual Tax Revenue</td>
</tr>
</tbody>
</table>

The Day Street Garage
In addition to the $920,000 projected from the sale of the Day Street site, the city can expect to generate annual commercial real estate taxes of $110,355 from the development and operation of a 170-space parking garage. Like the hotel, this revenue would be expected to change relative to the valuation of future property assessments.

<table>
<thead>
<tr>
<th>Garage Tax Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Property Tax</td>
</tr>
<tr>
<td>Projected Garage Value</td>
</tr>
<tr>
<td>Total Annual Tax Revenue</td>
</tr>
</tbody>
</table>

Total Potential City Revenue
There are numerous variables that contribute to the projections associated with future tax revenue for the city. If both development projects were to be completed as designed and
our preceding assertions remain accurate, then the city could expect a total potential annual tax revenue of $779,378 as well as a one-time payment of $2,810,000 from the sale of public lands.

6.6 Perceived Challenges for Development
After conducting a series of interviews with local real estate industry professionals, we have identified two additional challenges to building a hotel and associated parking garage in Davis Square: public support and RFP registration costs. Given the precarious nature of hotel development, some interviewees indicated that the city would need to minimize developer risk in order to attract interest in this project.

Public Support
Several interviewees mentioned that they were concerned about a lengthy public process that could potentially jeopardize the feasibility of any project. If the city were able to establish community support for the proposed uses prior to the RFP process, developers would view the projects as less risky and more feasible. Securing public support for this project prior to issuing an RFP would be a time-consuming, but cost-effective solution to this concern.

RFP Deposit
The original RFP required that a $50,000 “good faith” deposit be submitted with the bid. If the development team was selected, the deposit would be held in escrow towards the purchase offer. If the team failed to negotiate a Land Disposition Agreement (LDA) in good faith, the deposit would be forfeited.

Several professionals we interviewed expressed concern about this large upfront cost. Projects can take years to complete and developers do not make money until the project reaches completion. Therefore, the chance of losing this good faith purchase decreases the feasibility of this project in the eyes of developers. We believe the city is aware that this purchase offer was a barrier in the original RFP, as the re-released 2010 RFP did not include language indicating the $50,000 purchase offer requirement.

We acknowledge the importance of finding a developer that is willing to place a financial stake in building a hotel in Davis Square. However, we recommend that the city revisit this requirement and its unintended effects on this project. Ultimately, the developer would likely have additional upfront costs that would keep them invested in this project from start to finish. These costs include, but are not limited to, environmental tests, market studies and design costs.
6.8 Tools For Increasing Financial Feasibility

Our analysis shows that as designed, a 170-space public parking garage on the Day Street site may not be financially feasible for developers. Municipal parking garages are often not financially feasible for private development unless the garage coincides with an auxiliary use, such as a large office building or convention center. If future market studies indicate that parking prices higher than $2 per hour would have a negative impact on occupancy rates, the city may have to consider creative ways it can increase the financial feasibility of this project for developers. The following suggestions may be used individually or in combination to increase the financial feasibility of developing a parking garage in Davis Square.

**Tax Incentive Financing (TIF)**

A Tax Increment Financing (TIF) district could be created within Davis Square. A TIF would allow the city to offer garage developers incremental tax breaks to help reduce the operating costs associated with the initial years following construction. A TIF would therefore increase NOI and allow for a more significant cap rate. Depending on the exact tax rate and re-payment schedule specified in the TIF, this might make the garage financially feasible for development.

It is important to note that TIF plans are often controversial tools for governments to employ for economic development. In many cases, the public has strong feelings about the government providing tax breaks to private entities. However, TIF programs are often exempt from municipal debt limits and can serve as an excellent financial tool if the city does not want to take on greater financial burden from bonds.

**Bond Financing**

The city of Somerville may be able to offer partial bond financing options to any developer who wins garage development rights from the RFP process. Municipal bond financing would likely offer the developer better interest rates on loans than a private lender, and therefore increase the financial feasibility of developing a hotel in Davis Square. This option would be subject to the interest and capability of the city in offering this type of support, and would only account for a portion of the total debt incurred by the development team.

Unfortunately, current market conditions and political barriers are likely to continue to make it difficult to use bond proceeds to cover the capital costs of the project. That being said, a creative contract negotiation regarding the revenue from the parking garage may make this project more feasible. At this time the city is near its cap for the amount that can be bonded on an annual basis. If this project is delayed, bonding options could be reconsidered.
**Reduced Acquisition Price for Public Land**

Another option for increasing the feasibility of development in Davis Square would be for the city to accept a reduced payment for the sale of public land on the Day Street site. A reduced payment would help alleviate some of the upfront costs associated with development. Specific terms of any agreement would need to be negotiated at a later date between the city and the developer. In order to gain approval for sale at a reduced rate, the Board of Alderman would need to support the sale. Unfortunately, this option exposes the city to risk if the developer defaults on loans or fails to complete the project. If this were to happen the land could become the property of the developers creditors.

A reduced acquisition price may not be a publicly popular method for the city to use to pursue this project, as some people may not approve of the city selling land below value to a private entity. However, if the city believes that economic development at these sites is beneficial to the future of Davis Square, then they may want to consider this option in order to attract developers.

**Publicly Developed Garage**

If the measures above prove to be insufficient or too difficult to implement, the city may want to consider developing the garage themselves by hiring a private development consulting firm to oversee the project. The city has expressed its desire to not to be involved in the operation of the garage. Therefore the city should consider hiring a private parking management firm to operate the garage. According to the 2009 report from Hunneman, the city could expect the management firm to require approximately 6% of the garage’s effective gross income.

**6.9 Conclusion and Recommendations**

Our analysis shows that, as designed, a 120-room hotel on the Buena Vista site is financially feasible once the market can support a hotel occupancy rate near 70%. However, a 170-space garage on the Day Street site does not appear to be financially feasible.

- Reexamine Alternative Parking Solutions: Since the garage may not be viable to develop, the city should reexamine alternative parking solutions that do not involve the development of a public parking garage on the Day Street site. Revisiting some of the recommendations addressed in the parking management chapter of this report may offer insight into possible alternative solutions such as initiating a comprehensive citywide parking management strategy.
- Increase Financial Feasibility: If the city determines that a parking garage would be in the city’s best long-term interest than they should consider implementing one or more of the financial options listed above such as a TIF.

- Capturing the Market Cycles: Our analysis has demonstrated the financial feasibility of a limited-service 120-room hotel development on the Buena Vista site. We recommend that the city revisit the RFP process with the goal of being ready to take advantage of the return of the hotel market predicted for 2014.

2 Massachusetts General Law Chapter 30 Section 16
3 Local Boston Developer. Interviewee wished to remain anonymous. Interviewed April 21, 2011
5 Hunneman Appraisal Consulting Co. p. C. 2009
6 City of Somerville Zoning Code. Article 15. Section 15.1 Purpose.
7 City of Somerville Zoning Code. Article 15. Section 15.3 Project Mitigation Contribution.
11 Local Boston Developer. Interviewee wished to remain anonymous. Interviewed April 21, 2011
14 HVS Global Valuation Services. “Hotel Capitalization Rates on the Rise”. January, 2009. https://docs.google.com/viewer?a=v&pid=portfolio&attid=0.1&thid=12F7fc8a61b9e57&mt=application/pdf&url=https://mail.google.com/mail/?ui=0%26r%3D2%26ik%3D572377cedb%26view%3Datt%26th%3D12F7fc8a61b9e57%26attid%3D0.1%26disp%3Dattid%26zw&sig=AHIEtbTD_15ni6heU0fRk9iQN8iT2w. Accessed April 20, 2011.
Chapter 7

Conclusion & Recommendations

After a thorough analysis of previously commissioned reports and studies, academic and professional literature, and interviews with key stakeholders, our team has concluded that under the right conditions development of a hotel in Davis Square is in fact viable. Our team has outlined recommendations the city can take to enhance the feasibility of this project, lower barriers to entry for qualified developers, and increase the likelihood that the final project would support Somerville’s long-term economic development goals.

The economic climate has changed significantly since 2006, and consequently our team feels that the original market study conducted by Pinnacle no longer accurately reflects current market conditions or demand. Financing for projects is more difficult to come by, and increased flexibility and creativity from the city is required to reduce risk and attract qualified development teams. While there appears to be support from the development community in revisiting this project, the impending boutique hotel in Porter Square may compel development of a smaller scale hotel in Davis Square than previously anticipated. The success of this Porter Square project also has the capacity to establish underground parking as a potential parking management solution for these two sites, if the developer is willing to pay the extra cost.

Our analysis concludes that constructing a garage is not financially feasible at this time without an increase in hourly parking rates required to cover upfront and operational costs. Further studies must be undertaken to assess how this change will impact garage demand and profitability. While hotel development should generate interest from private developers, we believe that the city will have to be more involved and more financially flexible to make this garage a reality.

Before the city can re-issue an RFP, there are numerous questions that need to be addressed. The city must determine their overall goals for the project and specify their priority
elements such as first floor retail and/or other public amenities. These priority features will significantly shape the final project concept. The city must also tackle and resolve any inconsistencies in current zoning that have the potential to limit development on these two sites. Before a new parking garage is developed and new pricing levels are determined, the city must consider alternative parking management strategies, parking management reduction incentives, and agree upon a comprehensive citywide parking management plan that complements long-term development in Davis Square. Finally, the city must agree upon a plan to incorporate public input to ensure this project would be supported by the local community. Despite these challenges a hotel in Davis Square is possible, and a few of the potential benefits; could include job creation; increased foot traffic and added tax dollars to the city of Somerville.
Interviewee List

City Staff
1) Somerville Economic Development Planner, Brad Rawson, 12/15/11, 2/14/11, 2/25/11, client meetings
2) Somerville Director of Economic Development, Rob May, 12/15/11, client meeting.
3) Somerville Director of Planning, George Proakis 3/1/11
4) Somerville Director of Traffic and Parking, Matt Dias, and Somerville Traffic Engineer, Terence Smith, 2/24/11
5) Cambridge Traffic and Parking, 2/28/11, Stephanie Anderberg

Developers/Architects
7) Arrowstreet, Scott Pollack and John Cole, 3/1/11, Architects,
8) Winchester Advisory Group, David Proch-Wilson, 3/1/11, Hotel Developer
9) Urban Equity, Rocco Antonelli, 2/22/11, Hotel Developer (CVS lot owner)

Hotel Management
11) Hotel Marlowe, Joe Capalvo, 3/7/11, Hotel Management
12) Inn at Harvard, Richard Carbone, 2/21/11 and 3/2/11, Hotel Management
13) Harvard Square Hotel, Richard Carbone, 2/21/11, Hotel Management
14) Sheraton Commander, Selso Regalis, 2/22/11, Parking Management

Others
15) Mark Chase and Jason Schrieber, Transportation Consultants, 2/11/11 and email communication thereafter
17) Barbara Rubel, Tufts Director of Community Relations, 3/3/11,
18) Groundworks Somerville, 3/14/11, Jen Lawrence,
19) Pinnacle, Inc., Matt Arrants, 3/1/11
20) Zipcar Management, left message 2/28/11
MEMORANDUM OF UNDERSTANDING
BETWEEN
TUFTS UNIVERSITY FIELD PROJECTS TEAM NO. 9
AND
CITY OF SOMERVILLE MAYOR’S OFFICE OF STRATEGIC PLANNING & COMMUNITY DEVELOPMENT

I. Introduction

Project (i.e., team) number: 9
Project title: Buena Vista Garage: A Feasibility Study of Air Rights Development in Davis Square’s Central Business District
Client: City of Somerville Mayor’s Office of Strategic Planning & Community Development

This Memorandum of Understanding (the “MOU”) summarizes the scope of work, work product(s) and deliverables, timeline, work processes and methods, and lines of authority, supervision and communication relating to the Field Project identified above (the “Project”), as agreed to between (i) the UEP graduate students enrolled in the Field Projects and Planning course (UEP-255) (the “Course”) offered by the Tufts University Department of Urban and Environmental Policy and Planning (“UEP”) who are identified in Paragraph II(1) below (the “Field Projects Team”); (ii) The City of Somerville Mayor’s Office of Strategic Planning & Community Development, further identified in Paragraph II(2) below (the “Client”); and (iii) UEP, as represented by a Tufts faculty member directly involved in teaching the Course during the spring 2011 semester.

II. Specific Provisions

(1) The Field Projects Team working on the Project consists of the following individuals:

1. Adam Frank  email address: 
2. [Redacted]  email address: 
4. Kyle Greaves  email address: 
5. Tyler Norod  email address: 

(2) The Client’s contact information is as follows:

Client name: The City of Somerville Mayor’s Office of Strategic Planning & Community Development
Key contact/supervisor: Brad Rawson
Email address: [redacted]
FAX number: [redacted]
Address: 93 Highland Ave. Somerville, MA 02143
Web site: http://www.somervillema.gov/Department.cfm?dept=OSPCD

(3) The goal/goals of the Project is/are:
- Prepare feasibility analyses, sketch plans and designs, and policy recommendations for redevelopment of the Buena Vista Garage air rights for a hotel. The lot at Day St. in Davis Square will be analyzed to assess the feasibility of compensating for lost parking on the Buena Vista lot. The Day St. lot will also be considered as a potential host site for hotel development.

(4) The methods and processes through which the Field Projects Team intends to achieve this goal/these goals is/are:
- Research developments in other urban areas focusing on zoning, air rights, financials, design principles, traffic management, and public participation in projects
- Identify obstacles to hotel development at the Buena Vista Site and Day St. lots
- Complete possible site model scenarios and parking management recommendations based on square footage and zoning restrictions for Buena Vista and Day St. locations
- Using GIS to map the two locations and provide visual context
- Interview key experts regarding hotel development in urban areas, parking management strategies, public feedback solicitation methods, and construction mitigation strategies*

(5) The work products and deliverables of the Project are (this includes any additional presentations for the client):

Final report including:
A) Parking management plan including possible strategies to prevent public parking loss
B) Zoning analysis and recommendations
C) Updated financial projections based on the GLC pro forma
D) Traffic management strategies to accommodate a new parking garage at the recommended site
E) Updated or alternative site models based on previous hotel layouts from the GLC study (using SketchUp) along with physical planning recommendations and design priorities

F) Recommendations for engaging the public in the process along with an associated timeline for public engagement

G) Suggested language to be included in the Request for Proposals to incorporate meaningful public input into the planning and design process

H) Evaluate construction mitigation that can be used at the site*

*If deemed necessary by group and if time permits

(6) The anticipated Project timeline (with dates anticipated for key deliverables) is:

**March 16th:** Submit a brief presentation electronically on preliminary findings

**April 20, 27 or May 3rd:** Team Presentation at Tufts (team will convey assigned presentation date to client in advance)

**May 6th:** Final report including all deliverables

(7) The lines of authority, supervision and communication between the Client and the Field Projects Team are (or will be determined as follows):

Field Projects team liaison to client: Alyssa Rosen

Primary client contact: Brad Rawson

(8) The understanding with regard to payment/reimbursement by the client to the Field Projects Team of any Project-related expenses is:

The Field Project course requests a $100 payment from the City of Somerville to Tufts for the purposes of reimbursing students for printing, presentation materials, etc. Field Project students will submit reimbursement requests to Tufts as needed to utilize those funds appropriately.

III. Additional Representations and Understandings

A. The Field Projects Team is undertaking the Course and the Project for academic credit and therefore compensation (other than reimbursement of Project-related expenses) may not be provided to team members.
B. Because the Course and the Project itself are part of an academic program, it is understood that the final work product and deliverables of the Project (the “Work Product”) – either in whole or in part – may and most likely will be shared with others inside and beyond the Tufts community. This may include, without limitation, the distribution of the Work Product to other students, faculty and staff, release to community groups or public agencies, general publication, and posting on the Web. Tufts University and the Field Projects Team may seek and secure grant funds or similar payment to defray the cost of any such distribution or publication. It is expected that any issues involving Client confidentiality or proprietary information that may arise in connection with a Project will be narrow ones that can be resolved as early in the semester as possible by discussion among the Client, the Field Projects Team and a Tufts instructor directly responsible for the Course.

C. The work products of the field projects team cannot be altered without prior approval of the team. Any presentation or copies of the field projects team’s work must include reference to Tufts University’s Urban and Environmental Policy and Planning Program. The clients will not have access to any raw data or notes collected by the field projects team.

D. It is understood that this Project may require the approval (either through full review or by exemption) of the Tufts University Institutional Review Board (IRB). This process is not expected to interfere with timely completion of the project.
IV. Signatures

For The City of Somerville
By: [Signature]
(Printed name of Client contact)
Date: 2/15/2011

Representative of the Field Projects Team
By: [Signature]
(printed name of one team member)
Date: [Signature]
2011

Tufts UEP Faculty Representative
By: [Signature]
Date: [Signature]
2011
ADDENDUM: Memorandum of Understanding
between
Tufts University Field Projects Team No. 9
and
City of Somerville Mayor’s Office of Strategic Planning & Community Development

I. In order for our field project team to provide a final report and all deliverable to the City by May 6th, 2011 our team will electronically submit a draft of the report text to the City of Somerville for review no later than April 8th, 2011. This draft will also be submitted to the field project professor and TA for review.

II. Comments on the draft text from the City will be sent electronically to the field project team within 1 week of the time the draft is submitted to the City. Comments on the draft text from Tufts field project staff will also be sent electronically to the team within 1 week of the time the draft is submitted.

III. Signatures

For The City of Somerville
By: [Printed name of Client contact]
Date: 3/2, 2011

Representative of the Field Projects Team
By: [Printed name of 1 team member]
Date: [Date], 2011

Tufts UEP Faculty Representative
By: [Printed name]
Date: [Date], 2011
Re: IRB Study # 1102031
Title: Buena Vista Garage: A Feasibility Study of Air Rights Development in Davis Square's Central Business District
PI: Kyle Greaves
Department: Urban and Environmental Policy and Planning
Co-Investigator(s): Alyssa Rosen, Adam Frank, Brett (William) Holm, Tyler Norod
IRB Review Date: 2/22/2011

February 23, 2011

Dear Kyle,

This is the official notification that your project, Buena Vista Garage: A Feasibility Study of Air Rights Development in Davis Square’s Central Business District, protocol # 1102031 does not meet the definition of human subject research under the Code of Federal Regulations Title 45 Part 46.102(f); therefore is not subject to review by the Institutional Review Board.

Please be sure to file this notification.

Sincerely,

Yvonne Wakeford, Ph.D.
IRB Administrator