A MULTI-USE COMPLEX FOR 1000 MASSACHUSETTS AVENUE, CAMBRIDGE

by

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ABSTRACT

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by Kevin A. Benjamin

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This thesis is an organizational exploration of the issues of context, public vs. private space, structural integration, and parking, central to mixed-use developments.

The inevitable commercial expansion of Harvard and Central Squares can be considered the strongest potential influence on the center of Cambridge's future. The site I've chosen lies midway between the two and borders Cambridgeport, a strongly residential neighborhood scaled by its two- and three-story houses. This thesis is also, therefore, an attempt to create a multi-use context that will reconcile the inevitable commercial expansion of Cambridge, with the demonstrable needs of Cambridgeport for housing, another community focus, and a much needed link to the activity spine of the region.

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Associate Professor of Architecture
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Cambridgeport, a primarily working class neighborhood of several age and ethnic groups, has stabilized its decline and is improving itself. Ethnically and socially the most varied part of Cambridge, it also has the greatest measure of self-awareness as a neighborhood. Its inhabitants have an excellent grasp of their needs, and have organized successfully in the past against unreasonable encroachments on the part of M.I.T. and Harvard. They do feel the need for additional rental housing, yet would probably not accept the average low cost/high- or medium-density solution.

Physically, however, the residents of Cambridgeport feel somewhat cut off from the activity spine of Cambridge. I think it's important to provide the neighborhood with some sort of active link to Massachusetts Avenue, ideally in the form of a much-needed neighborhood supermarket.
Central Square serves as a sort of de facto focus for the part of Cambridge not dominated by Harvard or M.I.T., but as a commercial center, it lacks coherence. City Hall is not the focus it should be; it's merely the commencement of a series of very ordinary commercial uses, few of which are anything more than convenience stores. The sidewalks, though wide in sections, offer little inducement to stroll leisurely; rather, the area seems to say, "Get what you need and move on to someplace more interesting." Central Square has become diluted into something much less than a square -- what it resembles most is the sort of suburban shopping strip that has sprung up around Route 1A.
Harvard Square is quite different -- it is a center of regional importance that is growing. It is a place which attracts thousands of people because of the paradoxical juxtaposition of the snobbish eclecticism of its fashionable shops, the equally contrived "hip" ruggedness of the rest, and the quaint scale and detailing of Harvard University's intellectual backdrop. The confusing schizophrenia of a public at once into Design Research slickness, sandal-shop funkiness, and Coop banality, gives the Square a frenzied, vital allure. It's a compulsive, see-and-be-seen ambience that draws wives in their Mercedezes from Lexington, freaks in their old Volvos (and new Porschses) from Vermont, and co-eds from Simmons in their nylon down parkas. Every Saturday. And Harvard Square is responding by growing, both outward and inwardly. The shopping district, while maintaining a relatively high turnover rate, has been lurching into the rest of Cambridge along Massachusets Avenue in both directions and simultaneously densifying itself to the point where its 50's and 60's image -- one of a collection of classy little shops, movie theaters, and
coffee houses for the culturally urbane -- has become, for the most part, obsolete. Yet this increase in intensity yields nothing but more vitality.

Harvard Square is an urban center experiencing the growing pains attendant to a new, larger scale of development. The examples provided by 1105, 1050, and 1033 Massachusetts Avenue are successful despite their clumsiness; they, and the somewhat elegantly executed Brattle complex, demonstrate that the Square is more than ready to embrace a new kind of multi-use development -- especially if handled in a manner consistent with, and sympathetic to, the scale and patterns of its favorite human activities: looking, shopping, and being looked at.
The SITE
The site, 1000 Massachusetts Avenue, is approximately two acres of sloping land located midway between Harvard and Central Squares, forming a part of the northern border of Cambridgeport. This section of Massachusetts Avenue, part of the major activity spine of the region, already contains a mixture of Harvard Square-oriented retail facilities, youth/intelligensia-oriented entertainment establishments, and token neighborhood shopping facilities. The site's opposite side (Green Street) faces a residential neighborhood, and the third (Bay Street), a depressed commercial block. It is interesting how directly these three streets symbolize the regional contextual influences on the site itself. It is now occupied by a convenience supermarket, a famous hardware/plant store, and three very successful parking lots accommodating 175 cars. Owned by M.I.T., it has been studied twice by Imre Halasz for development, yet remains untouched because of the economic exigencies of the past few years, the unconventionality of his proposal, and because it presently harbors the most profitable commodity in Cambridge -- parking.
PROGRAM

My initial program was based on a set of given-generated by a studio which studied this site, my own speculations concerning an ideal mix, and an economically feasible F.A.R. of 3. It included a replacement supermarket and hardware store, a candy store/newstand, several Brattle/Boylson-type stores, both large and small office spaces, a cinema, a couple of bar/restaurants, a theater/performance center, a library, some spaces for indoor-outdoor community gatherings, about 85 units of rental housing and approximately 250 underground parking spaces. Because of the organizational complexity of the project, the design process altered the programmatic proportions somewhat. My design contains only about 65 units of housing, and 190 parking spaces. Though there is more total office space than originally planned, there are fewer small offices. Finally, the library, day-care center and community outdoor space, though zoned, were not designed.

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>PROPOSED</th>
<th>DESIGNED</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESIDENTIAL.............</td>
<td>70,000</td>
<td>72,000</td>
</tr>
<tr>
<td>OFFICE...................</td>
<td>50,000</td>
<td>50,000</td>
</tr>
<tr>
<td>small private</td>
<td>18,000</td>
<td>6,000</td>
</tr>
<tr>
<td>large</td>
<td>32,000</td>
<td>72,000</td>
</tr>
<tr>
<td>ENTERTAINMENT...........</td>
<td>14,650</td>
<td>18,600</td>
</tr>
<tr>
<td>cinema</td>
<td>4,050</td>
<td>6,048</td>
</tr>
<tr>
<td>restaurants</td>
<td>4,000</td>
<td>8,000</td>
</tr>
<tr>
<td>theater</td>
<td>6,600</td>
<td>6,600</td>
</tr>
<tr>
<td>RETAIL..................</td>
<td>30,000</td>
<td>26,000</td>
</tr>
<tr>
<td>supermarket</td>
<td>6,200</td>
<td>6,200</td>
</tr>
<tr>
<td>hardware</td>
<td>1,400</td>
<td>1,400</td>
</tr>
<tr>
<td>news/candy</td>
<td>1,400</td>
<td>1,400</td>
</tr>
<tr>
<td>stereo, books, clothing,</td>
<td>21,000</td>
<td>17,000</td>
</tr>
<tr>
<td>furniture, etc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COMMUNITY FACILITIES....</td>
<td>11,000</td>
<td>9,000</td>
</tr>
<tr>
<td>child care</td>
<td>3,000</td>
<td></td>
</tr>
<tr>
<td>library</td>
<td>5,000</td>
<td></td>
</tr>
<tr>
<td>misc. mixed use</td>
<td>2,000</td>
<td></td>
</tr>
<tr>
<td>SUB</td>
<td></td>
<td></td>
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<tr>
<td>TOTAL</td>
<td>175,000</td>
<td>205,600</td>
</tr>
<tr>
<td>PARKING</td>
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</tr>
<tr>
<td>250 spaces</td>
<td>50,000</td>
<td>190 sps. 40,000</td>
</tr>
<tr>
<td>TOTAL</td>
<td>225,650</td>
<td>245,600</td>
</tr>
</tbody>
</table>
The following are the major design issues I explored.

**Use Continuity.** All sides of the site have very distinct characters, and it was important to relate to them appropriately. Because Massachusetts Avenue is the central commercial axis between Harvard Square and Central Square, I decided to concentrate my commercial activity there, both to reflect and reinforce that pattern. Conversely, because the Green Street edge confronts the strongly residential character of Cambridgeport, I decided to use that edge entirely for housing, locating the library and community facilities on the corner. The easternmost edge faces the Cantabrigia, a rather monumental apartment building of exceptional charm. I chose again to reflect what was existing by placing housing along that edge and making it the access path for all the project's residences. The supermarket and receiving/service area were located on Bay Street.

**Public vs. Private.** The construction of many uses within a single locality always involves a conflict between public and private use zones. The site in question is characterized by excessive depth, and I chose to employ this feature in the resolution of the conflict. The residential and commercial zones have been placed in a back-to-back relationship in plan. The commercial uses are concentrated on the Massachusetts Avenue edge, broken only by a partial penetration in the form of a court surrounded on three sides by shopping, dining, entertainment, and office activity on five levels. The gallery which bridges the entrance creates an illusion of enclosure, but the court remains strictly an extension of the edge, and its users remain in the public zone. The site's residents, however, being permitted to circulate throughout the depth of the site, are virtually given their own enclosed "street." In this way, the spatial experience and territorial focus of the residents are kept quite distant from those of the passerby.

**Open/Shared Space.** The elements most central
to the experience of a design such as this are its open spaces. In the ideal situation they lend focus and orientation to the built stuff in exchange for life and activity. In my commercial court I tried to combine stacked spaces with a circulation pattern essentially linear in nature (though radial in parts) into a spiral sequence that continually loops in on itself. A person can always see where he's going, where he's been, and can observe almost all others near him. Similarly, the semi-public shared spaces associated with the housing are at once part of the circulation and an organizing focus for the structure.
SECTION A-A

SCALE: 1/32"=1'-0"
SECTION C-C

Scale: 1/32"=1'0"

Gallery
Bar/
Restaurant

Theater lobby Cafe/Deli
MECHANICAL
MECHANICAL

Theater Storage
PARKING

+16
+6
0
-15
-25
-34
MASSACHUSETTS AVENUE
The project's Massachusetts Avenue facade is its most public and is intended to feature the most attractive shops. To maximize the amount of display space there is a split-level arrangement. These shops are intended to use behind-the-glass signage -- neon would be ideal. This split section yields a maximum of 4 stories above and 4 below @ 1536 sq. ft. each.

The entrance to the interior court is flanked on the right by a single on-grade store. It contains a loft and has 3 exposed sides. To the left there is another split-level pair of these establishments. The bottom one is intended to be a candy store/spa/newsstand modeled after "Nini's Corner," which is so pivotal to Harvard Square. There is a narrow pit to the left of the entrance for a small outdoor newsstand.
The raised pavilion on the corner of the project provides access to the supermarket, the upper of the two stores, and a hardware store. There is a lower section on the extreme left that is intended to have plants, shrubs, and benches, and to be a place to sit and wait for someone to finish shopping, to enjoy an ice cream, or simply to hang-out and watch the passers-by.

Entering the courtyard, one finds a stairway on the left. It leads to the upper promenade level which will be discussed later. The set of doors ahead is the entrance to the office lobby and the ground-level bar/restaurant. To the extreme right is the entrance to the cinema, and a small outdoor eating pavilion connected to the upper level bar/restaurant.
To the immediate right of the court is another set of stacked retail spaces. The upper one is reached via a stairway (which lands first at the small eating pavilion) culminating in a small platform. From that point, although it is not indicated on the model, it is possible to reach the "promenade" level, obtain access to the small office complex as well as the art gallery, and enjoy an interesting vantage point to observe the activity below.

The intent behind this multitude of levels and paths is to provide a variety of movement and views.
Tucked behind the shops, with its entrance toward the back of the court, is the cinema. It is entered at the court level, Massachusetts Avenue -2', and stairs from its lobby bring the entrance to the viewing space to +4', making it possible to slope the auditorium sufficiently. There are aisles on either side, and a fire exit at the front. It should seat 320 people.
On the left, both the stairs and elevators of the office lobby, and the outside stairs from the court, lead from the court level to the gallery/promenade level.

To the right of the gallery itself is the one entrance to the row of small professional offices, which proceeds to the extreme right of the project, and terminates in a small reception/waiting area and a set of stairs down to Massachusetts Avenue (not shown). This collection of offices is modeled on the increasingly popular arrangement where several different kinds of professionals -- lawyers, doctors, insurance salesmen, etc. -- share one floor of an office building and a receptionist.
The steps on the right of the courtyard lead past a retail space to the upper basement level. This area is intended to provide, along with access to the parking, a lobby area for the theater/performance center. Modeled after the community theaters that have sprung up throughout the city, this theater is intended for small productions by its host company and the various sorts of mini-concerts and recitals local musicians are crying out for a place to hold. The theater seats 200.

To the rear of this level (accessible by elevator) is a space intended to be a delicatessen/luncheonette for the office workers. Modeled after Fromaggio in the Garage at Harvard Square, it has a skylight table court and a window/skylight on the Green Street side.
The project's only loading dock is on Bay Street. Primarily this dock serves the supermarket, which it is directly below, by a connecting elevator, and all of the restaurants by way of the office tower elevators and passages. Accessible to the mechanical core for the office as well as the service level of the housing, it can be used for maintenance vehicles as well as refuse collection for the entire project.
The office tower layout is basically straightforward and rectangular with an access tower attached. This triangular projection in the courtyard side is intended to be part of a lounge/lobby space within each office, sometimes providing a balconied two-story space as a dramatically different possibility within the standard offices layout. The lack of a fire stair is not an oversight, but merely something I didn't get to; there would probably be an enclosed escape tower on the Bay Street side. The floor areas are typically 7200 sq. ft.
ELEVATED HOUSING
The housing on the upper part of the structure is reached either by the elevator tower accessible from Massachusetts Avenue or a stairway behind it. The long block is organized into parallel apartments, accessible from a single-loaded open gallery/corridor.
This upper courtyard, reached by stairs or elevator, provides access to a pair of flat apartments and a set of double-aspect townhouses with a southern exposure.
The roof of a retail shop and the office provides an access platform for the Massachusetts Avenue-oriented townhouses. This platform is intended to have planters, benches, and sizable shrubbery.

The two first-level apartments are flat, occupying two bays, and have front yards. The four upper apartments are entered by way of two staircases. The center pair are intended as loft apartments (hence the large windows).
The lower section of housing on Green Street can be entered directly from the street. The doors for the setback units are in front and, unlike what is shown on the model, the entrances on the projectory units are on their sides. Both units are ostensibly duplex, but don't have to be. The structural system shown here is a bearing wall system, but that is not necessarily the final decision. If close study of the units make it evident that 24' units were not desirable, it would be possible to switch to a column and slab system and to divide the units more freely. All the lower units have direct access to the first two upper levels of parking, and via the stairs behind the projecting (non-courtyard) units, are connected to the interior street and the upper units. (See drawing page 37.)
The upper housing units on the Green Street side are accessible by way of a double-loaded interior "street" running the length of the project. It is bisected by the passage connecting Massachusetts Avenue with Green Street.

The eastern end of this "street" is depressed to one level above Green Street and has a wide area suggesting use as private yards or some sort of semi-private supervised play area. These units can be subdivided differently from the others, yielding two bay flats or larger duplexes. Their entrances are intended to be on either side of both stairways (which connect them to the garage level).
The western end of the interior "street" is the double-loaded section. The units on the right have entrances organized around the stairways which lead to the garage levels and the street. These are all duplex units, occupying one bay each.

The units on the left are intended as duplex units with individual stairway entrances. The spaces below them, entered directly from the "street" are intended to be laundry, storage, and maintenance/utility areas.
The Green Street apartments culminate in a small block of units organized along a single-loaded corridor on the interior "street" side. (See page 36.) It may be entered on either side at the rear and has an internal stair connecting it with the garage below and the pavilion above. The ground level can serve as an entrance lobby and/or a security office for the manager and/or parking attendents.

The windows to the right are the rear exposure given to the restaurant and underground delicatessen.

As I mentioned earlier, I didn't allow myself the time to design the library and the community space, or the daycare center. I did come to the conclusion, however, that these uses should be combined into a mini-complex located at the Bay Street/Green Street corner, the one shared with the rest of Cambridgeport.
The parking garage is comprised of three levels and is the foundation for the entire structure. (See section, page 18.) Its vehicular entrance and exit are on the Green Street side of its middle level, and it is accessible to the pedestrian above-ground in many places. All of the project's elevators penetrate it, there are stairs to the shopping/business court, and stairs to the housing units. Furthermore, it is possible to enter directly from Green Street, at the point where the passage to Massachusetts Avenue begins, or via the ramp from Bay Street.
CONCLUDING REMARKS

Although the design presented here deals, I think, quite adequately with the design issues discussed earlier, and satisfies the program, it is by no means a complete development proposal. There are several issues that, for reasons of time constraint and complexity of task, are either treated superficially or ignored. But for all the difficulties I encountered, nothing emerged to convince me that multi-use is not the best solution. Although the only true test would be to actually build the project, the appearance of certain congruencies and natural trade-offs between problems suggested that I was working with a viable combination of program and site.

The design process made me aware of considerations crucial to the success of this sort of development. One is scale. It is absolutely necessary that both the size and number of commercial uses, the office spaces, and the entertainment places be carefully balanced in relation to the open space available to serve them. The designer has to be sure that the appropriate amount of activity will be generated at all times of the day.

The second consideration is circulation. I think that despite the many uses it has to serve, the circulation pattern should be as direct and readable as sible. It needs to be treated as a feature and given early attention, rather than being a left-over result.

Thirdly, the formal aspect of a project like this is always an area of great difficulty -- so much so that it's one of the issues that I largely ignored. The problem lies in the reconciliation of several different uses that need to look different with a structural system shaped by the requirements of parking. The solution requires i) a careful study of structural alternatives which can be superimposed, leading to the selection of a system that has the right kind of flexibility, and ii) an equally careful selection of finish systems and materials, each one needing the ability to complement three or four others.

Ultimately, however, the success of a multi-use project such as this is dependent upon more than de-
sign. The character of this type of development is also determined by the commercial tenants it houses. The Galleria in Harvard Square is a perfect example of a complex which enjoys success in spite of its simplistic unadventurous design and embarrassing aesthetic.

A three-story complex organized around a double-loaded spine, it has stores on the upper two levels and a restaurant and cinema located in the basement. It simply has nothing that creates a sense of place. It is merely an enclosed stacked strip of street, "featuring" a central skylight with lots of plants. But because the stores themselves were selected for visual and environmental appeal, it does quite well.

Those who measure success in commercial terms only would conclude from this example that the project's design is irrelevant. Yet there are other values. The creation of a lively, exciting, special place adds more to a community than the addition of mere retail space. The interplay of activity generated by mixed-use yields more of this potential than anything else.