

The serious shortage of affordable housing in Cambridge is one of the biggest problems facing MIT. Stratospheric housing costs make it increasingly difficult to hire young faculty members, and sky-rocketing rents force graduate students further into debt. But MIT is part of the problem. MIT students are an enormous drain on the rental market in Cambridge and, unlike all other housing developers, when MIT builds dormitories, it is not required to - and consequently does not - provide any affordable housing for the City. The issue has become a major source of antagonism between the two communities. Could affordable cooperative housing, built on MIT land but shared with other Cambridge residents, offer a solution to this dilemma?

MIT casa

The Housing Problem. The City of Cambridge has long experienced more housing demand than its supply can meet. As a result, housing prices in the city are extremely high. The Cambridgeport neighborhood was until recently one of the most affordable areas in Cambridge. However, ongoing MIT expansion, most notably in its graduate school, has increased the demand for housing, and has played a large role in helping to drive a rapid increase in Cambridgeport housing prices. These increased rates have intensified the need for more affordable housing for Cambridgeport residents. Despite recent student housing construction, student pressure on the housing market remains high. Many students prefer living outside of the institutional setting, but more importantly, *Cambridgeport rents are still more affordable than those of recent MIT graduate student dormitory rates.*

The increase in housing prices has had repercussions for MIT as well. MIT needs more non-dormitory housing for new faculty, staff, and students with families. While such groups would often prefer to live near campus, they are typically unable to afford area housing prices. Consequently, many are forced to rent or purchase housing in suburbs far from campus. The resulting commute adversely affects quality of life by further reducing the limited amount of time that they have to share with their families.

In 1996, the median asking price of a single family Cambridge home was \$791,000, nearly five times the amount of the median price statewide. Given this situation, one would expect the median incomes of Cambridge residents to be much higher than the median figure for the state. Shockingly, not only is there little difference between the two values, the median family income for the Commonwealth of Massachusetts (\$61,664) was actually *higher* than that of the City of Cambridge (\$59,523) in the last census.

The starting salaries for MIT faculty are similar to those of the median Cambridge family income. A family of four with one new MIT faculty member parent and a stay-at-home parent would have extreme difficulty finding affordable housing in Cambridge.

Cambridge Inclusionary Zoning Provision. Cambridge zoning requires all developments of ten or more units to set aside 15% of these units for affordable housing filled by the Cambridge Housing Authority (CHA). Developments of less than ten units are not subject to this provision; neither are dormitory structures. This is one reason for tension between MIT and the City of Cambridge - dormitories create no revenue for the City, which must provide infrastructure to support their operations. Were MIT to develop non-dormitory, family-style units, requirements of the Inclusionary Zoning Provision would be enacted.

Cooperative housing. In order to retain affordability on the site, a cooperative structure is proposed. Cooperative housing is based on the idea of group ownership and often, shared duties. Members of a housing coop do not own their particular units, but instead own shares of the cooperative corporation. A member who lives in a four bedroom unit owns a greater share of the corporation than the inhabitant of a two bedroom unit. All members pay monthly fees which cover maintenance, management, insurance, and the housing mortgage. Fees are prorated according to percentage of the corporation owned by different members.

Affordability is guaranteed by limiting or eliminating tenants' ability to profit from the resale of cooperative units. Cost effectiveness is also significantly enhanced in cooperatives versus rental units because members can take advantage of the home-ownership tax break. Cooperatives needn't make it a focus, but their unique, tight political and social structure lends itself well to purchasing and sharing bulk items which can have a noticeable effect on bottom lines.

Housing for all sorts of families. 'Family' housing -- two to five bedroom homes with large living rooms and some form of outdoor space, arranged as rowhouses or apartments -- should become a significant component of MIT's housing construction program. Housing that doesn't look or feel institutional, based on the model of a family unit, could be used over time for families, groups of graduate students, faculty members and community residents. The relatively high density local housing types - row house, triple decker and apartment blocks, have shown lasting popularity for all sorts of residents and would be appropriate forms for new housing.

Proposals on the following pages show the form that a cooperative housing development might take, using the example of the large development site on Henry Street.

Affordability Crisis
 The combined income of **3** families earning the median family income in Cambridge would not cover the cost of **1** single-family home at the median price for the city. Nor would the combined salaries of 3 MIT junior faculty members.

Median purchase price asked for Cambridge home: \$791,000
Yearly household income necessary to purchase this home: \$218,184
Median purchase price asked for Massachusetts housing units: \$160,800
Yearly household income necessary to purchase a home of this price: \$44,376
Median yearly family income in Cambridge: \$59,423
Median yearly family income in Massachusetts: \$61,664
Approximate median salary of an MIT junior faculty member: \$60,000
Subsidized housing income limit - Boston Region (80% of Median): \$64,640

SU casa

How does co-operative housing differ from other housing types?

(more answers over the page)

| | Cooperative | Rental | Single Family | Condominium |
|--|--|--|--|---|
| Ownership | The members are shareholders in a corporation that owns the property. Owning a share entitles you to occupy a unit. | Tenants own nothing, and may be forced to vacate when lease expires. | Owners acquire individual title to their dwellings and yard. | Unit "airspace" owned by individual, plus an undivided share of common elements. |
| Monthly Cost | Members pay the Co-op for their share of the actual operating cost, building mortgage, and real estate taxes, based on the non-profit operation of entire community. | Tenants pay rent specified in lease. | Owner must make his or her purchases of whatever is needed, often at higher retail costs. Owner makes mortgage and tax payments to lender. | Same as cooperative, except mortgage payments and taxes are paid directly to the lender. |
| Move-in Cost | New members buy their share in the cooperative and also pay the first monthly charge in advance. | Usually one month's rent is paid as a security deposit, plus the first month's rent. | Purchaser must buy the property, usually with a mortgage with a down payment of at least 5% and closing costs of 3% or more. | Same as single family, plus first month's condo fee and often a "contribution to capital" of 1-2 months' fee. |
| Community Control | Co-op resident members elect their board of directors, which decides all policy matters. The Board usually sets up several committees to help run the community. | Renters usually have no voice in establishing and maintaining community standards. | Individual owners have no jurisdiction over their neighbors. | Condo owners, like cooperatives, elect a board of directors. |
| Community Service | Co-ops provide a natural base for service and activity desired by its members. | Provided at discretion of landlords. | On your own. or Do it yourself. | Condos similar to co-ops, unless limited by state law. |
| Federal Tax Benefits to Individuals | Each member's share of mortgage interest and real estate taxes are deductible on personal income tax return. | No benefit. | Mortgage interest and real estate taxes are deductible on personal income tax return. | Mortgage interest and real estate taxes are deductible on personal income tax return. |

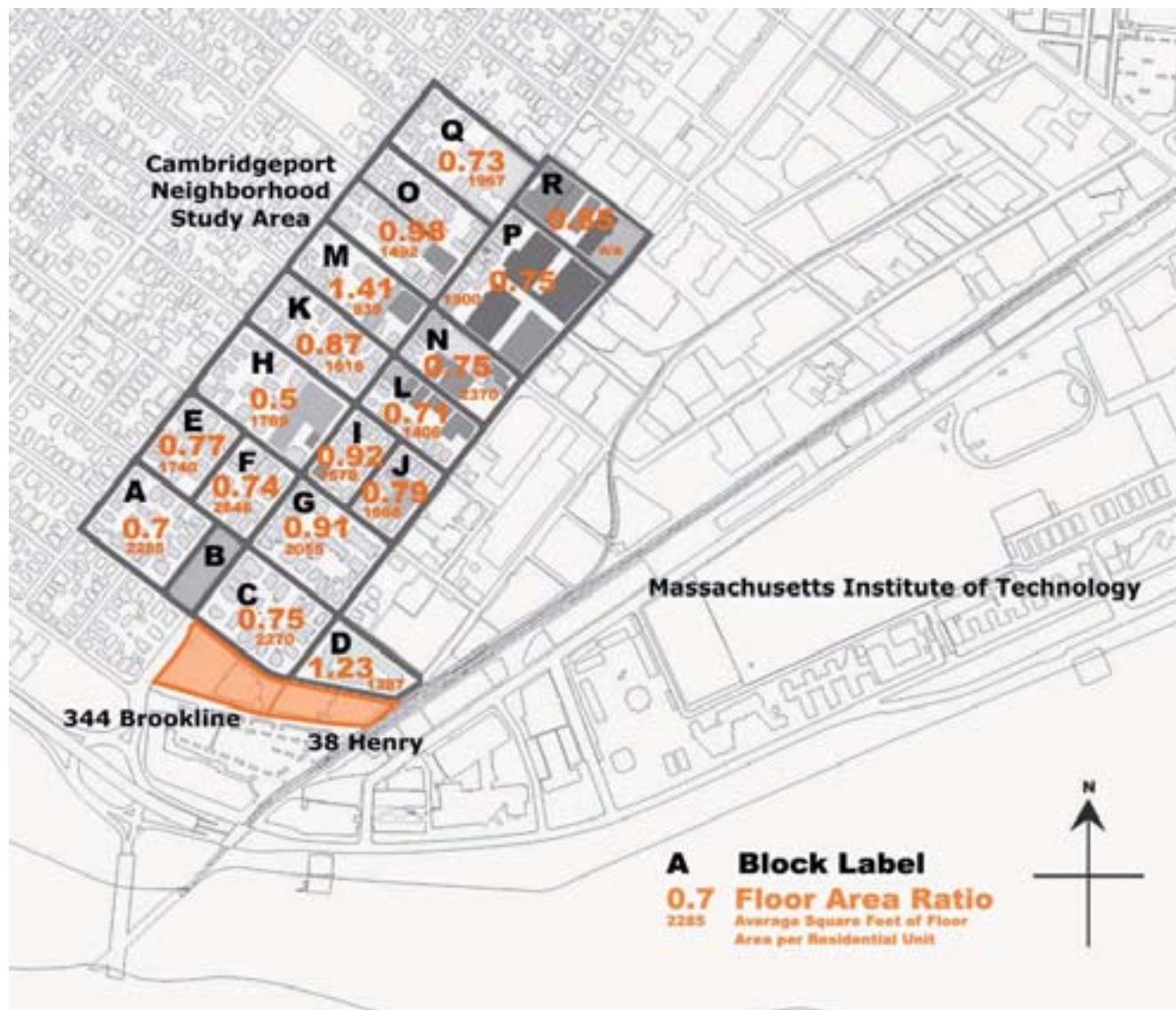
The neighborhood context

Criteria for choosing housing sites The map to the right shows the sites in the Cambridgeport neighborhood that are suitable for residential development.

Protect biotech and other existing uses. In Cambridgeport, it is easy and tempting to assume new housing needs could be filled by building upon sites currently occupied by older warehouse buildings. However, the value of these buildings in providing both neighborhood diversity and relatively cheap biotech/lab/research space is tough to quantify. The Boston area holds the country's largest cluster of biotech companies, an industry segment that provides a great deal of good jobs in the region. The reason behind a strong cluster in Boston is the area's plethora of schools that excel in biotech research. MIT is a leader in this area; one reason for this is the relatively cheap research space it can offer faculty recruits in Cambridgeport who wish to run private spin-off labs while working at the Institute. This and other uses give the neighborhood a unique character.

Consider the Urban Ring. Because the Urban Ring will drive real estate prices to astronomical levels around stops proposed for Fort Washington and the Mass. Ave. - Albany Street intersection, blocks immediately adjacent to these locations should not be devoted to housing. Because of the specificity of design required in housing structures, housing is difficult to convert to other uses once constructed. It does not make financial sense to lock uses into areas where values will change so rapidly. That said, most land within the study area is within a ten minute walk of an existing subway stop or proposed Urban Ring stop, so the area will be well-served by transit.

Promote a fine grain. In sticking to the idea of supporting and promoting a fine grain of uses and structures in Cambridgeport, a number of smaller sites suitable for nimble infill developments have been identified. The two-block area along Henry Street highlighted for development in this report has the potential to comfortably hold nearly 200 units. The large site at Albany and Pacific Streets has similar capacity, though a site of this magnitude should include a mix of uses to match the existing neighborhood character. The additional seven sites identified could provide roughly another 100 units.



Existing conditions survey

The residents of Cambridgeport recently voted to downzone their neighborhood. Some see this as an exclusionary attack on housing. However, there is another possible reason for the zoning change, a viewpoint upon which this report confidently stands. Repeated throughout this document is the idea that Cambridgeport is a unique neighborhood -- one that many people would like to inhabit. It is the character of a place that makes it special to those who use it. If development is poorly done in inappropriate scales, with poor designs, or ignoring the existing fabric of a special place, then the uniqueness of such a place can be undermined.

For this reason, before proposing any type of design, it is important to understand the existing form. An analysis was carried out of 18 blocks near the proposed family housing site. The charge for a housing proposal in Cambridgeport was to come up with a program that was affordable, made sense for the developer (MIT in this case), and felt like the existing neighborhood in order to preserve and enhance the unique character of Cambridgeport.

To meet each of these goals, a program is needed which increases density above the current FAR of 0.6, coupled with a design that feels like the rest of the neighborhood. Increasing the density closer to that of the surrounding blocks makes the project worthwhile for MIT, while instituting a number of characteristic neighborhood features into the design retains the feel of the adjacent residential neighborhood. Design decisions aimed at meeting this challenge are discussed on the next page.

Proposed housing developments

| | Blocks C/D 155 units | Blocks A to J 493 units | All blocks A to R 1064 | Rowhouses 344 Brookline 105 units | Apartments 38 Henry 66 units | Both blocks 171 units |
|---|-------------------------|----------------------------|---------------------------|--------------------------------------|---------------------------------|--------------------------|
| Floor Area Ratio (FAR) | 0.97 | 0.75 | 0.82 | 1.18 | 1.28 | 1.22 |
| Ground coverage (%) | 31% | 27% | 33% | 25% | 25% | 25% |
| Average area per unit (sf) | 1636 | 1646 | 1594 | 1505 | 1538 | 1518 |
| Units per acre | 25.7 | 17.4 | 19.2 | 34.4 | 36.2 | 8.0 |
| No. of doors fronting street per 100 ft | 1.2 | 1.5 | 1.7 | 2.1 | 1.1 | 1.7 |
| Average distance between building thresholds | 89 | 92 | 85 | 57 | 156 | 79 |

Neighborhood design considerations

In order to create desirable and supportive family housing, the design stresses characteristics of the adjacent Cambridgeport neighborhood, an area which houses a large number of families. Drawing the adjacent Cambridgeport residential area's character onto this site required a number of specific design interventions:

> **Match lot coverage percentages to that of the adjacent Cambridgeport neighborhood blocks.**

The amount of open space present is an important characteristic for defining a neighborhood's sense of place. Both the public and private realms can include interesting open spaces.

> **Create a large public park on site.** Of all open space, public space (usually park space) is most important to neighborhood identity since anyone can use it - not the case with a private backyard.

> **Match building heights to those of the adjacent neighborhood.** Where this is impossible, mask additional heights. Since density is to be increased with constant lot coverage percentages, building heights must differ from the adjacent housing lots. That said, most of the proposal district is built to only 3.5 story, 35 foot heights. Those that are built to greater than four stories are stepped away from the neighborhood, on the edge of the site that slopes down toward the water. The Waverly Street extension sits about eight feet below the Henry Street side of the property.

> **Attract families with many large units with three or more bedrooms.** Size units similar to existing housing units in the neighborhood. The units provided in the proposal are quite generously proportioned, and nearly equivalent in size to those of the existing homes (1500-1600 sf).

> **Provide a significant amount of underground parking in concert with on-street spaces.** Parking is already difficult in Cambridgeport. This recommendation aims at preventing expansion of the parking shortage.

> **Make the number of doors per 100 feet at the proposal site equivalent to that of the study area.** This is an important characteristic because it is a surrogate for the amount of units, and thus people living in an area. People also strongly prefer private entrances to shared doors.

> **Hold the average distance between thresholds (doors or groups of doors) relatively constant.** At 79 ft.(proposed), versus 85 ft(existing) the difference is small. This feature describes the "permeability" of the block, or conversely, how insular it feels.

It is important to note that the Cambridgeport features above which are replicated in the design proposal are tangible variables. Intangible figures such as FAR and units per acre, though often important to designers and planners, are less important to people who use the product. The issues that received focus are those which people experience and to which they can readily react.



> A privately-managed garden activates this open space and allows residents to take control and ownership over the land.



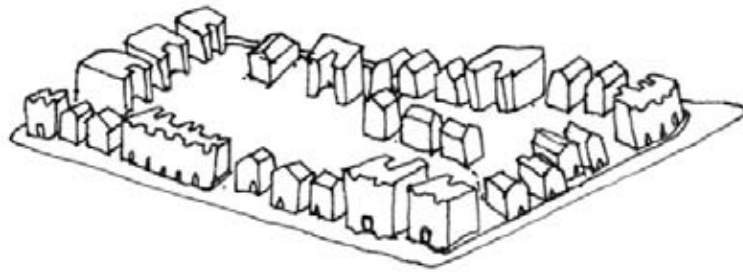
> Tight spaces can be used efficiently through nimble development atop other structures and uses, building to lot lines and sidewalks, etc. However, that does not mean that the physical character of the neighborhood must be indemnified in the process. In fact, development can improve a neighborhood's character as this addition atop a gas station did.



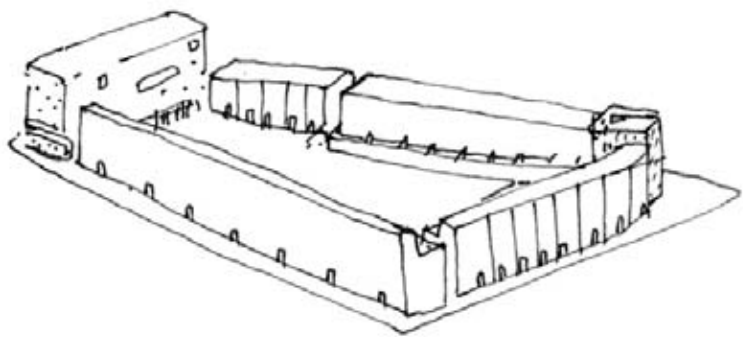
> Parking can be dealt with in a number of innovative manners from underground structures, space atop units, cleverly disguised structures, and so forth.

Available housing typologies

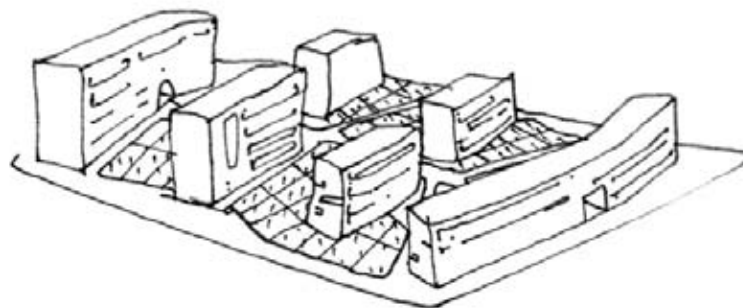
A number of typologies that meet the guidelines listed above can be evaluated to decide which most effectively meets the needs of MIT and Cambridge families.



> The existing **triple decker apartment** or **condominium style housing** dominates much of Cambridgeport. It provides the neighborhood with a special character, but the lack of organization leads to less efficient use of space than might otherwise be achieved at a similar buildout using a different design strategy.



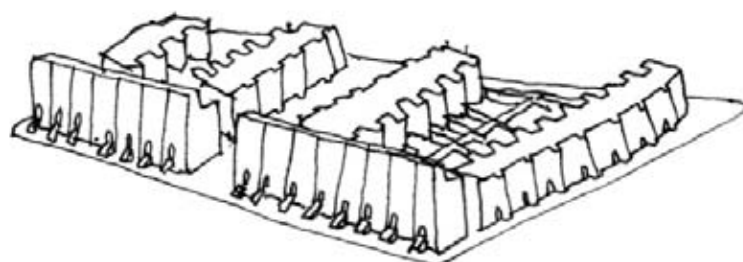
> Units can be laid out in **terrace** or **garden style** arrangements that maximize opportunities for large open spaces which could easily be shared in a cooperative system.



> **Duplex** and **apartment style units** are common designs for multifamily housing. This sketch illustrates how garden allotments can be used in concert with this typical design strategy.

Proposed typology

The Henry Street proposal combines a rowhouse typology holding large three and four bedroom units with more dense two-bedroom apartment units. Rowhouses ring the majority of the site offering many points of access to the units within. The east-most and west-most corners of the site hold the portions of highest density. These structures step away from the nearby neighborhood residential blocks growing in height toward the Charles River.



A **rowhouse design** provides each unit or building division with its own separate entrance. Rowhouses provide an efficient strategy for designing structures that look and feel more like a set of houses rather than a block-long apartment building.



38 Henry Street

a proposal for co-op shared housing

Context

Henry Street in context. The site shown in orange on the map to the left includes two adjacent MIT-owned parcels (344 Brookline Avenue and 38 Henry Street). The western third of this property is currently taken up by the MIT Furniture Exchange, and the remainder of both parcels is used for parking. Under its existing use restrictions and low permitted density, the site holds little redevelopment value for MIT and is likely to remain underutilized.

That said, with less stringent zoning restrictions, the site has the potential to accommodate high density family oriented residential development. The area is well served by MBTA buses and is three quarters of a mile from the Central Square stop on the MBTA red line subway. Significantly, it also holds the prospect of even greater future transit access with the coming of the Urban Ring, which is planned to have a stop at Fort Washington Park. The Henry Street site is also only 200 yards from Fort Washington Park and a playground on Sidney street.

Zoning. Cambridgeport residents recently voted to downzone, or lower the permitted density levels, of much of their neighborhood. A low maximum floor area ratio (FAR) of 0.6 and a maximum height limit of 35 feet constrain the build-out potential of the site to 78 units (assuming 1000 sf per unit). However, given the proximity of the future urban ring stop, higher densities are desirable. As the chart on the left shows, such higher densities are not uncommon in Cambridge, and can be achieved with local housing types. Two thirds of the site also abuts land that is zoned for much higher densities, with allowable FARs of 2.0-2.5 and height limits of 60' or higher.

The site is currently zoned for residential use with the stipulation that existing uses be permitted to remain. The MIT Furniture Exchange could be relocated in order to use the whole of the site for housing. MIT currently has available warehouse space that could be suitable for this purpose.

Street realignments. Under the Cambridgeport Roadways project, Sidney Street will be extended, dividing the site along the existing lot line that separates 38 Henry from 344 Brookline. Waverly Street will also be extended through an existing parking lot along the south and west edges of the site. This extension will connect Waverly to Brookline Street at the southwestern corner of the site.

Affordable housing. The Cambridge Inclusionary Zoning provision requires MIT (or any other developer of Cambridge property) to set aside 15 % of new non-dormitory housing as affordable housing managed by the Cambridge Housing Authority (CHA). Under maximum build-out, 13 of the site's 78 units would consequently be used for affordable housing.

Program

Number and distribution of units. Our proposed cooperative housing development will include 171 units of family housing. 70% of the cooperative shares (120 units) will be held by MIT-affiliated families (faculty, staff, and students). The remaining 30% (51 units) will be held by families with a range of incomes at or below 80% area median income (AMI). These shares will be distributed by the Cambridge Housing Authority (CHA) to families on its waiting list for affordable housing. The CHA will subsidize the monthly co-op payments of these families as necessary. In this way, the proposal is not one that simply adds affordable units to a more dense MIT development. Instead, MIT only begins with the allowance to fill 70% of the units. For every ten units built, 3 will be donated as affordable units to the CHA. In this way, the City benefits from increasing allowed density on the site, as does MIT. This also illustrates the transferability of this density exchange program - any MIT residential housing site could be developed so as to allow MIT a density increase in return for doubling the affordable unit requirement. This would be a very cost-effective method for the city to use in constructing affordable housing.

Unit size and features. The typical unit in our model is a three-bedroom, two-level apartment, with a total of around 1500 square feet. Top and middle units have access to a private roof terrace and balconies. Lower units have adjacent private garden areas on both the street side and in the interior of the block.

Open space amenities. The middle of the interior court will function as shared open space with a day-care facility and playground. We propose that additionally, a 30,000-square foot public park - an off-shoot from the Rail Trail route - should be constructed adjacent to the housing development. This park will be located along the southeast side of the Sidney Street extension, providing a visual connection from Cambridgeport to Memorial Drive and the Charles River beyond.

Parking. The development will include a total of 140 underground parking spaces, with different allocations for MIT affiliates and non-MIT affiliates. As the development is close to MIT, it will provide a lower than average parking ratio of 0.7 spaces per MIT unit. MIT affiliates will not be required to pay for a parking space through monthly fees, but will have the option to purchase a parking pass entitling them to park a single vehicle within the development parking garage. Non-MIT affiliated units will each be allotted one parking pass, with the opportunity to purchase a second pass through a lottery if MIT affiliates do not claim all of the available parking designated for their use. Individual parking spaces will not be dedicated to specific residential units.

Policy and finance

Cooperative finance. Given appropriate zoning density changes, developing this project makes financial sense for MIT, the CHA, and the tenants that they nominate. However, any number of subsidies could be explored to reduce costs even further, such as tax credits, tax increment financing, or low interest bonds through the Massachusetts Housing Finance Agency.

MIT will construct the housing and sell it to a cooperative housing corporation made up of new MIT faculty, staff, and student families as well as non-MIT Cambridge residents chosen by the CHA who need affordable housing. Should the co-op ever choose to sell the property, it must be sold back to MIT at a fixed, predetermined price. The co-op will manage all units.

The co-op will make payments on a low-interest mortgage, the terms of which will be agreed upon by MIT, the cooperative, and the bank of choice. Many lenders (for example, National Cooperative Bank) make low interest loans to cooperatives. The MIT Federal Credit Union might offer a particularly favorable credit rate to the proposed cooperative, given its link to MIT.

The organization will exist as a zero equity cooperative corporation. Members' monthly payments to the cooperative corporation will cover insurance, management, and upkeep costs, with the remainder going toward mortgage payments. Upon leaving the cooperative, outgoing families will receive payment in the amount of the equity they were asked to contribute upon arrival. Adjustments will be made for inflation and improvements made to units, though adjustments for improvements will be small.

Cooperative membership. MIT and the CHA will nominate families to join the cooperative initially and as turnover occurs. The cooperative will have power of refusal for extreme mismatches, as well as the ability to evict members who do not comply with co-op policies. Membership will be capped at five years for MIT faculty and students. As long as they meet affordable housing guidelines, the residency periods of MIT staff and tenants unaffiliated with MIT will not be limited.

While the exact form of corporation governance will be decided upon by members, due to the cooperative's size, the system will most likely bear a representative structure.



The potential benefits...

to Co-op members

> **Affordability.** Within the proposed financing structure, monthly fees to the cooperative corporation are made affordable through cooperative maintenance and low-cost lease payments to MIT. Housing at the cooperative is also made affordable through economies of scale (for example, shared laundry facilities) and tax deductions for real estate taxes and mortgage interest payments.

> **A sense of community.** Cooperative member will govern their own living environment, creating bonds and a sense of community between residents.

to Cambridge Housing Authority

> **Affordable housing without the costs.** The greatest challenge for the CHA in developing affordable Cambridge housing is finding land that it can afford to purchase. Under this proposal, the CHA will receive 51 units that it does not have to construct on land it does not have to buy.

> **A diverse residential community.** The proposed development will intermingle MIT families and non-MIT families, creating a community made up of a diverse range of incomes and backgrounds.

> **Freedom from management responsibilities.** Management of the entire property will be turned over to the cooperative corporation relieving CHA of the need to manage any units. This will free CHA to focus on developing more affordable housing in other locations.

to Cambridge

> **More affordable housing.** If MIT were to construct family housing on the site under current zoning, the school would be forced to donate approximately 13 of a total 78 buildable units (15%) to the CHA as affordable housing. Under the proposed plan, MIT will construct and donate 51 of 171 units (30%), twice the required percentage and almost a 300% increase over the as-of-right potential. Additionally, by providing 120 units of MIT family housing, the proposed development will help to ease the housing crunch in Cambridgeport and the Cambridge area.

> **Increased public amenity.** The proposed development will replace the existing dilapidated lots, surface parking, and old, inefficient warehouse building with attractive townhouses, improving the look and feel of the neighborhood. The 30,000 square foot public park at the heart of the development will both serve as a valuable piece of neighborhood open space and establish a link between Cambridgeport and the Charles River.

> **More density and transit orientation.** With relatively dense housing located near both a major center of employment (MIT) and a site of future prime transit accessibility (the planned Urban Ring stop at Ft. Washington Park), residents will be less dependent upon personal automobiles for transportation.

to MIT

> **More housing for MIT families.** The proposed development will provide MIT with 45% more units (120 rather than 65) than it could build under the existing as-of-right zoning.

> **Diverse, convenient housing for families.** By providing housing near campus, MIT will extend its emphasis on life, learning, and community to MIT families. Within the proposed development, MIT families will be part of a diverse community, incorporating families representing a wide array of incomes and backgrounds.

> **Preservation of higher value land for future institutional purposes.** The proposed development would allow MIT to meet some of its pressing housing needs by swapping incentives and bonuses, rather than committing land that would otherwise be available for more profitable biotech and research uses. It would also preserve land that is already zoned for high density residential development, leaving MIT a great deal of flexibility for future capital improvement projects.

> **Freedom from management responsibilities.** Management of the entire property will be turned over to the cooperative corporation relieving MIT of the need to manage any units. This will eliminate any complications that might result from MIT trying to co-manage a shared housing development with another entity, and will free MIT to focus on its core academic mission.

