

Is MIT a Good Place to Live?
The University Campus as a Residential
Environment

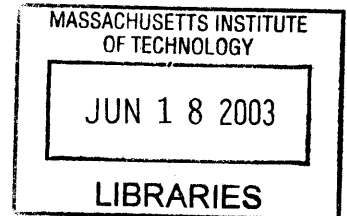
by
Jeffrey C. Roberts

S.B. in Planning
Massachusetts Institute of Technology, 2002
Submitted to the Department of Urban Studies and Planning
in partial fulfillment of the requirements for the degree of
Master in City Planning

at the
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Abstract

In this study, I approach the campus of the Massachusetts Institute of Technology from the perspective of campus residents. Considering the campus as a neighborhood, I analyze and evaluate the effects of the physical campus on its residents' quality of life. After presenting a historical overview of the MIT residential campus and the ideas that have influenced it, as well as a synopsis of background information on the MIT residential experience, I present the results of a series of discussions held at residences around the MIT campus on the topic of how the campus performs as a residential environment. To conclude, I first define a set of criteria, based on the results of the discussions, by which the MIT campus might be analyzed and evaluated from a residential point of view. I then find that the MIT campus has many features that are not supportive of its residential function, and suggest some strategies for the future development that might improve the campus as a residential environment.

Thesis Supervisor: John P. de Monchaux
Title: Professor of Architecture and Planning

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First and foremost, I must acknowledge the MIT campus residents who participated in this study, and the MIT residential community at large, for producing the material for me to shape into a thesis. I would particularly like to thank those individuals who allowed me to attend their study breaks, social hours, and house dinners, who went out of their way to advertise my sessions to residents, and who provided food and a setting in which I could comfortably discuss with residents their thoughts on the campus.

I would also like to acknowledge the faculty, students, and administrators in the Department of Urban Studies and Planning for providing me with a rich educational experience over the past five years. There are some particular individuals from the faculty whom I believe have had a great impact on the shaping of this thesis: Professor Larry Vale, who has guided my academic program over the past five years and who first gave me the idea to write my thesis on the MIT campus; Professor Robert Fogelson, who introduced me to urban studies and helped me to develop my skills as a history writer; Professor Anne Spirn, whose own work encouraged me to write based on my personal experiences; and Professor John de Monchaux, my thesis advisor and the faculty member who has shown the most interest in my extracurricular work as well as my academic work. I am proud to have finally found a way to combine the two.

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Preface

I started the process of writing this thesis on August 26, 1998. I had just arrived as a freshman at MIT a few days before, and, while I had come to MIT expecting to take my place among all the other engineers-to-be, I had just been introduced to a discipline little-pursued among MIT undergraduates called Urban Studies and Planning.

On that particular day I picked up a copy of the MIT *Tech* whose headline read: “All Freshmen to Live in Dormitories Starting in 2001”. This was an important announcement that carried with it some major political baggage, but at the time I didn’t really know enough to understand all the issues pertaining to this decision. However, I had focused in on a particular part of the article, a short sentence or two indicating that a new dormitory would be constructed by 2001 in order to accommodate the expanded housing need. This new dorm was intended to be finished at the beginning of my senior year. My immediate thought was, “As soon as this building opens, I want to be living there.”

During my first few days at MIT, prior to seeing this announcement, I had been getting a feel for what residential life at MIT was like since I knew I would soon have to select where I wanted to live for the next four years. I was particularly interested in learning about MIT’s dormitory system, and was fascinated by the way in which each house had established its own student-directed community, its own character, its own culture, built upon its own history and traditions. When I heard that a

new residential community was going to be established during my time at MIT, I was excited about the possibility of seeing this culture and tradition begin to develop from nothing. Indeed, I was excited to think that I might play a major role in shaping the traditions that would be carried on over time.

So for about four months, I kept my ears open for any information related to this new dorm and bothered just about everyone I could find who might have something to do with it, looking for an opportunity to become a part of the project. Finally, in January of 1999, I was asked to serve as a member of the Founders Group, a committee of students, faculty, and staff charged with developing and overseeing the social mission of the new residence. We would be the surrogate “community” for the dorm as it progressed through design and construction and into its eventual occupation. By that point, however, the space program for the building had already been written, and the architect had already been selected.

Over the next three years of my life, my involvement in this project, later known as Simmons Hall, was an extraordinary learning experience. The project itself was a pressure-cooker, into which were thrown a university with an ambitious new social and educational agenda, some political pressure from outside to ensure that the freshmen-on-campus policy change was implemented, a university leadership that wanted to use this opportunity to procure a symbolic, “signature” architectural piece for its campus, and an architect with a bold, strong, and very uncompromising artistic vision. My involvement in these issues was peripheral, but that was fine because they were not my central concern. To me, the success of the project was measured by how the students living there would start to form a sense of camaraderie and develop a unique culture, both among themselves, and as an integral unit in the social fabric of the MIT residential community. MIT ended up spending quite a large amount of money to create a building with powerful artistic elements. But the building’s residents did not need a work of art— they needed a structure that they could shape into their

home. Why couldn't we focus on giving them a good place to live?

While participating in the Simmons Hall project, I was also becoming increasingly involved with the politics of MIT residential life at the upper levels. During my sophomore year, I became part of a group of students (known officially as the Strategic Advisory Committee to the Chancellor, but referred to by many simply as “the conspiracy”) who were working to draft new housing policy to be put in place when the freshmen-on-campus decision was implemented. This group represented the “elite” of the MIT student leadership, and they knew how to get things done on the higher levels of the Institute. I helped them write the new policy, most of which was adopted by the upper MIT administration, and then continued to oversee its development and implementation through my various student government roles, most importantly President of the Dormitory Council for one year and Rush Chairman of the Dormitory Council for the next.

The catchphrase that guided most of this policy making, from the student and the administrative side, was “campus-wide community”. It had just been recognized in the report of the Presidential Task Force on Student Life and Learning that MIT lacked an overall sense of community and “school spirit” among its students, faculty, staff, and alumni, though individual living groups, including dormitories as well as fraternities and other independent houses, have developed very strong internal communities. Students, faculty, and administrators alike seemed to agree on this point. As a result, policy decisions coming from the administration, including the freshmen-on-campus decision, tended to be justified by the assertion that they would create a stronger sense of campus-wide community. However, these policies often led to a perceived weakening of the sense of community within individual living groups. The students who truly wanted to develop a stronger campus-wide community at MIT understood that weakening the living group communities would not strengthen the campus-wide community, but would simply weaken community altogether and remove

an important social support structure that students depended on.

As an urban studies major, my hunch was that the reason why campus-wide community is lacking at MIT has to do with the structure of the campus itself. MIT residences, having a form that allows them to be shaped and “owned” by the students who live there, encourage social interaction, cooperation, and community within them along with lending a sense of common identity to the people who live there. The campus itself, I gathered, has few features that contribute to a “residential experience”, with spaces and uses distributed in such a way that they do not encourage interaction among individuals from different residences.

It was also around this time that I was beginning to develop the Program in Non-Academic Studies. Already known by some around campus as “Professor Roberts” for keeping regular “office hours” on a bench along the Infinite Corridor and discussing student life issues with academic rigor, I decided that student life itself, the part of a student’s education that occurs outside the formal curriculum, is worthy of academic inquiry. In my student leadership roles, I spent quite a bit of time getting to know the active members of the MIT residential community, understanding how they live, what their interests are, and what their vision of student life at MIT is. I wrote a fair bit as well, usually for MIT student publications, and spoke about the Program on at least one occasion. Of course, the Program never really went anywhere— I still comprise its entire faculty, student body, and research staff. But the nice thing about the Program is that it will never die, since collegiate communities will continue to form and shape the education of students, faculty, and other affiliates at MIT. In a sense, everyone majors in Non-Academic Studies.

In the end, I never got the chance to live in Simmons Hall, and I quickly graduated before I could be dragged into dealing with the reality of the 2002 housing policy changes. I also never got the Program in Non-Academic Studies officially recognized, though I can’t say I tried very hard. Instead, I spent my one year as a graduate student

living in the new Sidney-Pacific graduate residence, gaining an understanding of what it is like to live on the “fringe” between the central MIT campus and the neighborhood outside of it. This experience has prompted me to think even more seriously about the problem of investing only in buildings, and ignoring the location of uses, spaces, and connections on the campus as a whole that impact the sense of community across MIT. It has also given me a new understanding of the relationship between “campus” and “neighborhood”, and how the campus might be viewed as a part of one or more neighborhoods, an isolated neighborhood in itself, or some combination of the above.

Also during my one year as a graduate student, I became the research assistant for a project called the Cambridge Urban Design Studio, a design class in which students would present recommendations for the future development of the area around MIT. My task was to provide students in the studio with the information on which they could base their design solutions. As a resident of the campus for four years, I felt that I had a knowledge of the area that could be valuable in making design decisions. This prompted me to think, “Exactly what is it that designers should know, and what important factors should they consider, when they create development recommendations for MIT?”

This thesis represents a marriage of my two fields of study— my “real” academic work in Urban Studies and Planning and my more fanciful inquiry into Non-Academic Studies. It is a project intended to create a strong basis for analyzing and evaluating how the MIT campus performs as a residential environment, that is, how it influences the living and learning experience of those individuals who call it their home. It is driven by my hunch that the MIT campus has not developed in such a way as to accomplish the goals of fostering community-wide interaction, and that through the careful creation of a new development policy and wiser investments into campus design, the campus could be greatly improved for residents. I hope it will be considered, criticized, and perhaps even used by students, faculty, and administrators alike, and

that it will aid in future campus development policy and design.

Finally, while I cannot guarantee that the results of this study will be applicable to other universities, it seems that the approach I have taken might be useful in a larger university planning context. In the course of this study I have looked at about all the material available to me relating to residential planning at universities, and, just like at MIT, the focus has almost always been on the internal design of dormitory facilities, with the only larger planning question being how many “beds” the university can supply on its campus. Other universities in a similar position to MIT might consider studying how their campus performs as a residential environment, and this thesis may help in guiding such a study.

Chapter 1

Introduction

1.1 University as Neighborhood

Within the context of the urban environment, a university campus plays many roles. Primarily it serves as the setting for an educational institution, a place in which faculty and students undertake teaching and research in various academic fields. It also can be a large center of employment for a wide range of personnel, including faculty members, researchers, administrative staff, service staff and others. Furthermore, a university campus can be a catalyst for economic development, by attracting certain types of businesses that draw on a local talent pool or a concentrated customer base. It can also be an attractive and monumental destination due to its landscape and architecture— a work of art.

This study addresses another vital, yet sometimes overlooked, role of the campus— a residential community, usually comprised of students but perhaps containing faculty and staff as well. These individuals share a living environment as well as an educational and work environment. Within the context of the city at large, this community may be viewed as a specialized type of neighborhood.

Universities seem to be continually struggling to determine what role residence

should play in their activities. University housing can be an economic resource, a luxury, a social facilitator, an educational program, a requirement from a government agency, or many variations and combinations of these things. Universities also pay close attention to the quality of housing they provide. The reasons why they may consider residential quality are diverse, and might include attracting top students or achieving educational goals.

Given that the university campus functions as a residential environment, and given that universities are concerned with the quality of the residential experience on campus, it makes sense to ask some questions about the nature of the residential university. Why is it that university campuses have a residential function? How is it that university campuses best carry out their residential function? How does one make an assessment of the level of quality a campus provides in terms of residential life? While these questions have been well studied at the scale of the individual residence or small residential group, this study considers these questions at the scale of the campus at large, to determine how campus development strategies can be focused towards creating a good residential environment overall.

1.2 Is MIT a Good Place to Live?

The subject of this study is the campus of the Massachusetts Institute of Technology in Cambridge, Massachusetts. The study specifically focuses on the quality of the MIT campus environment as it relates to the MIT residential community. There are 5000+ individuals living in MIT residences, mostly students, with a small number of faculty and staff. This study considers whether the campus environment satisfies the needs and wants of these residents, and what particular aspects of the campus environment should be improved to better support the residential community. Simplified, the question that drives this study is, “Is the MIT campus a good place to live?”

What makes this question particularly interesting is the fact that there is no clear, easy way to go about answering it. Therefore, the intention of this study is not to provide a yes-or-no answer to the question, but to gain an understanding of what it means to have a residential university and how such a university's campus should be expected to perform. Exploring this issue within the context of the MIT, I intend to construct a framework for analyzing and evaluating the campus in terms of how its qualities affect the residential experience of those people who live there. This will provide a mechanism for evaluating the residential environment on an ongoing basis and guiding the campus development program to achieve a higher level of residential quality.

As mentioned in the Preface, I am undertaking this study because it is my impression that the MIT campus, while it provides a generally high quality of housing that residents find satisfactory, has many weaknesses as a residential environment overall. Through this study, I intend to demonstrate these weaknesses, along with strengths, from a residential perspective, explain these using the analytical framework described above, and describe the overall "residential experience" that defines the campus. I will also suggest strategies that might help to improve the residential environment during future phases of MIT's campus development.

There are four general parts to this study. The first part (Chapter 2) is a historical overview of the residential function of the university. This overview looks broadly at the important themes guiding residential campus development in America and Europe, and looks specifically at the historical development of the MIT campus. The second part of the study (Chapter 3) is an inventory that describes some key features of the MIT campus area, paying particular attention to the features that relate most directly to residential life. This part may be uninteresting to readers who are already familiar with the MIT campus. However, even longtime campus residents may discover interesting items they did not know of beforehand.

The third part of the study (Chapter 4) is the most critical. This part presents the information gathered from a series of discussion sessions I held at different residences around the MIT campus in February and March of 2003. In these discussions, residents were encouraged to discuss the issues that they thought were most important in considering the campus from a residential point of view. While conversations varied from residence to residence, there were many common themes, which I then compiled to create a representation of a larger, "campus-wide conversation" about these issues.

The final part of the study (Chapter 5) draws conclusions based on the findings presented in prior chapters. In this chapter I present an analytical framework outlining the most important considerations in determining the effects of campus development on quality of life for residents. I then use this framework to describe and evaluate the MIT residential experience and suggest strategies for improving that experience in the future.

Chapter 2

Historical Overview of Residence at MIT and Other Universities

2.1 Pre-American University Residence

The roots of the modern American university, and the university's residential function, are found in the European universities of the middle ages. Historical records show that beginning in the 12th century, universities in western European cities were emerging, growing, and enrolling students from diverse regions of the continent (Adelman p. 15). Young students traveling from afar to study would have to find accommodations in boarding houses or apartments within the city. The first known university-oriented residential groups were called "Nations". These were owned or rented residences that were operated by students, independent from the university. Each Nation was typically intended to house students from a particular regional area (hence the name). Howard Adelman argues that the primary reason for students to establish these residences was that, as aliens, many students did not have legal rights. "Using their commercial value to the city as a weapon, the students banded together in Nations

to create an artificial citizenry and through group action worked for the right of jurisdiction over their own members.” (Adelman p. 15)

Following the development of Nations was the establishment of the residential college model, which became particularly important in the English university system. Residential colleges were administratively owned and operated, though students did play a large role in their operation, and members came from all regional backgrounds. Adelman (p. 20) argues that the primary reason for the creation of residential colleges was to provide housing for poor students, and that later the residential colleges became important as a mechanism for control and discipline of the student body. In addition, the college dining hall could serve as a venue for lectures, thus avoiding the cost of renting space in the city. The Universities at Oxford and Cambridge in England began the tradition of housing faculty in the colleges along with students and holding lectures within college dining halls (Adelman p. 21). This resulted in the college taking on the role of an integrated residential and educational facility. Currently, the Universities at Oxford and Cambridge each contain many residential colleges, which serve as the setting for both residence and education.

2.2 The Early American Colleges

Early American colleges were designed to mimic the colleges at Oxford and Cambridge in England. They were institutions intended to provide a joint living and learning experience for students and faculty. However, because the population of the colonies was so dispersed and the demand was not particularly high, colleges were established individually across the continent instead of being clustered around single large universities (Dober p. 13). In addition, because students tended to be young (in their mid-teens) and colleges tended to be far away from their homes, the American residential colleges took on an “in loco parentis” function in supervising their

students' behavior (Frederiksen p. 168).

Residences were a central element in the development of early American college campuses. However, American colleges had significantly smaller resources than English colleges, which resulted in differences between the design of American and English college campuses. For example, Harvard College, founded in 1638 as the first American college, originally wanted to house its entire faculty and student population within an interconnected campus complex. However, due to insufficient funds, the College ultimately developed its campus over time, building by building, leading to the distinctive form of "Harvard Yard" seen today. (Dober p. 14)

Later American campuses also moved away from the interconnected building scheme of English campuses, but the residential function still played a central role. The 1813 plan for Union College consisted of two buildings for housing students and faculty along either side of a "court of honor" (Dober p. 20). Thomas Jefferson's plan for the University of Virginia campus in 1818, conceived on the model of the "academical village", involved a central court surrounded by a U-shaped series of interconnected classroom buildings, within which were apartments for professors and their families, and directly behind which were dormitories for students. According to a Commissioners' report at the time, the reasons for this arrangement included: "greater security against fire and infection; tranquility and comfort to the professors and their families thus insulated; retirement to the students; and the admission of enlargement to any degree to which the institution may extend in future times." (Dober p. 21) On these campuses, as was the case with Harvard and most other colleges, the basic dormitory unit was a small cluster housing two to four students, intended to allow students to focus on their studies while allowing for close supervision by adults (Dober p. 14, 22). On some campuses, housing and classrooms even shared the same building (Dober p. 121).

The inclusion of housing as a central element to college campuses continued until

the middle of the 19th century. However, with students and faculty living in close proximity and with faculty assuming disciplinary responsibilities over students, conflicts arose which compromised order and even safety within the colleges. As Adelman (p. 31) describes: “At Princeton in 1802, the students burned down Nassau Hall, the only college building, and in 1814 almost wrecked the hall again by exploding two pounds of gun-powder in a corridor. At Yale in 1828, poor food triggered off the ‘Bread and Butter Rebellion’, and in 1830, riots followed what has come to be known as the ‘Conic Section Rebellion’. At Harvard, George Bancroft, who became one of America’s most famous historians, lost an eye while attempting to quell a riot while another tutor bore a lifelong limp as a memento of his encounter.” As an example of an even more serious case, “In one violent scene at the University of Virginia, a professor was killed and armed constables had to be brought in to put down the disorder” (Dober p. 120).

Many college administrators in the middle of the 19th century believed that such problems were occurring because the residential college lifestyle did not encourage responsible behavior among students. President Tappan of Michigan commented, “By withdrawing young men from the influence of domestic circles and forming them into a separate community, they are often prone to fall into disorderly conduct” (Frederiksen p. 169). This sentiment would lead to a new phase in university residential planning in the latter half of the 19th century.

2.3 The University Movement

This new phase in residential planning was based on the model used by German universities at the time. While the two large English universities had been successful in developing a residential college system throughout the middle ages, German universities had failed. Instead, a large number of smaller universities were established

across a large number of cities. Because these universities were smaller and tended to draw students who resided within the region, university housing for students was considered unnecessary and thus was not developed. (Adelman p. 27)

As noted above, many American college administrators were observing problems within college housing and began to feel that the residential college system, as applied in American universities, was not contributing positively to the student or faculty experience. These administrators included President Tappan of Michigan, as well as the presidents of Brown University, Columbia University, and Harvard (Frederiksen p. 169). As a result of this trend, Adelman (p. 31-32) argues that “The German tradition of not providing residences became the new vogue, a vogue reinforced by large numbers of scholars returning from post graduate studies in Germany.”

Starting in around 1860, universities moved away from including housing as a central element of the campus. In the older colleges, as the housing stock deteriorated in quality, “the majority of dormitories were converted into classrooms or demolished if the state of disrepair had gone too far” (Adelman p. 31). Moreover, after the Civil War, the land-grant movement initiated by the Morrill Acts spurred the formation of many new public universities, particularly in the West, and many of these were developed without housing systems altogether (Frederiksen p. 169).

This movement away from residence also paralleled broader changes in university education. Since the founding of Harvard University, which was intended to prepare students to become clergymen, lawyers and other professionals, the nature of universities had been changing to include the teaching of more scientific and practical skills that would be useful in business and industry. The University of Virginia, noted previously for its campus plan, is best known for its innovative non-religion based curriculum, which incorporated elements of science and technology (Dober p. 21). As the industrial revolution grew in America, universities gradually shifted their focus away from the religion or classics-based curriculum to a more liberal arts-based cur-

riculum including science and the humanities. During this time, universities became increasingly widely attended, and enrollments rose from 70,000 in 1870 to 238,000 in 1900. (Dober p. 31)

It was during this period that the Massachusetts Institute of Technology was founded. First chartered in 1861, MIT began enrolling students after the Civil War in 1865. It was founded by William Barton Rogers, who envisioned an educational institution focused primarily on the teaching of science for application to industry, a type of institution that was already becoming popular in Europe. Rogers and other proponents of such an institution felt that "In New England, and especially in our own Commonwealth, the time has arrived when, as we believe, the interests of Commerce and the Arts, as well as of General Education, call for the most earnest co-operation of intelligent culture with industrial pursuits" (Rogers p. 4).

The original MIT "campus" was a single building located within the urban fabric of Boston's recently filled Back Bay, and over the next fifty years the Institute simply expanded into other buildings within the area. Known as "Boston Tech", it mainly drew students from around the Boston region, though the number of out-of-state students increased steadily over its first fifty years. MIT did not own or control any housing until it moved to its present Cambridge campus in 1916.

2.4 Fraternity Housing

While American universities were moving away from providing their own housing, once again students took the initiative to establish housing independently. This time it was the fraternities and sororities, which had up until that point served as intellectual societies, that began to establish themselves as residential groups in order to provide housing to students living away from home. Across the country, fraternities were becoming increasingly popular because they could provide a higher quality of

affordable housing than boarding houses, as well as social connections with other students, and also opportunities for extracurricular activities, such as sports, which were not available before this period (Frederiksen p. 170).

Reflecting this movement, fraternities emerged as the first model of university housing at MIT. The first fraternities began to appear in the 1880s, and these started to provide housing (rented as blocks of apartment units) in 1886. In that year, there were three fraternities with 39 members, while by 1900 they had grown to eight fraternities with 234 members (Knight). In 1913, shortly after MIT decided to move its campus to Cambridge, 25 fraternities and 15 Housing, 1913: p. 341). Unlike at other universities, the fraternity housing system continued to grow even as MIT developed on-campus housing, such that in 2002, about one-third of MIT undergraduates were living within MIT's 35 fraternities, sororities and independent living groups.

The anti-residence movement in American universities was not particularly long-lived. Around the end of the 19th century, universities once again began to construct housing at rapid rates. Such construction seemed necessary because universities were drawing more students from outside their immediate region, and these students were facing problems in the private housing market such as overcrowding, poor quality, and high costs (Frederiksen p. 170).

However, the fraternity housing movement that grew from this anti-residence tradition left an impact on the types of university housing that would follow it. Adelman (p. 32) argues that fraternities “did inculcate in a number of future academic leaders the unique concept and original American contribution to residence planning of using the residence as a method of producing well-rounded adjustable men for the industrial melting pot of the United States.” In addition, the increased popularity of extracurricular activities during this time period affected future campus development by encouraging the development of facilities for athletics and recreation (Frederiksen

p. 170).

2.5 Campus Planning and the Residence Hall Tradition

In the late 19th century, around the time of the landscape designs of the Olmsted and the 1893 Columbian Exposition in Chicago, the foundations of 20th century city planning were being formed. Paralleling this larger movement towards city planning was a movement towards comprehensive university campus planning. This movement emphasized the use of site analyses and long-range development strategies, instead of detailed architectural designs for an entire campus (Dober p. 34). The relationship between the city planning movement and campus planning also manifested itself in the adoption of a land use strategy comparable to “Euclidean zoning”, which involved “placing like functions together, or separating functions with landscape or topography when they were dissonant” (Dober p. 34).

Campuses starting in the late 1800s were being planned to include academic, residential, and recreational facilities that were separated into areas of like function. This is when the residence hall was established as a facility that housed many students but was not as closely integrated with the academic parts of campus as in the early American colleges. Adelman (p. 29) describes the residence hall as “the apparent compromise between full fledged educational residences and the absence of any institutionally backed residences whatsoever.” New colleges across the Midwest, as well as new eastern colleges such as Mount Holyoke, Wellesley, Vassar, and Smith were established with such residential facilities (Adelman p. 32).

In the early 1900s, MIT was becoming increasingly constrained within its land in Boston. In 1912, MIT’s leadership took advantage of an opportunity to purchase a

large tract of newly-filled land along the bank of the Charles River in Cambridge, the site of an ambitious yet unsuccessful residential real estate venture. Construction began on the new campus in 1913, and the “New Technology”, as it was known, opened in 1916.

The “New Technology” marked the beginning of MIT’s transformation into a different type of institution, particularly with regard to its residential function. The alumni who participated in planning the New Technology were faced with a student body only about half of whom hailed from Massachusetts (Mink and Porter, p. III-2). According to data from the alumni committee assigned to study student housing, in the 1912-1913 academic year, only about 43 with their parents and 1542 Boston area. The planners of the New Technology thus decided that it needed to include residential facilities to accommodate those students who did not live at home or in fraternities. (Committee on Student Housing to the Alumni Council, 1913: p. 341)

The alumni committee recommended that the goal of MIT’s new housing should be to “bring moral and physical healthfulness to the student body,” and the considerations guiding its planning should include “Simplicity and economy with attractiveness” and “Uniformity or democracy of service with freedom of choice where possible.” These facilities were not intended to be central to the educational functions of the Institute, as demonstrated in the site planning of the campus. The residential facilities were planned to be built on the eastern side of the campus, along the “side or rear streets,” so that they would not “conflict with the proper planning of other features” such as the academic buildings. (Committee on Student Housing to the Alumni Council, 1913: pp. 342-343)

When the New Technology opened in 1916, the residential part of the campus consisted of the Faculty Houses (now called Senior House), a series of six small dormitories contained within a single building partially encircling the president’s residence. Across Ames Street from the Faculty Houses was Walker Memorial, a building con-

taining a dining hall and some athletic and recreational facilities. Some distance north of Walker Memorial was the track and athletic field. MIT continued its development of residential uses by constructing and opening the Alumni Houses, a row of three dormitories positioned directly to the north of Walker Memorial, from 1924 to 1927. MIT built another set of three Alumni Houses parallel to this set in 1931, with the intention to continue building residential buildings in the form of “quads” with courtyards and to expand the common facilities around Walker Memorial to handle the increasing numbers of students and their evolving dining and recreational needs (Committee on the Dormitory Situation, 1928: p. 415). However, no additional residential facilities were built on that part of campus after 1931. The two Alumni House parallels are now known as the East Campus dormitory.

2.6 The House System

While universities across the country were establishing residential facilities out of apparent necessity, some were rediscovering the value that such facilities could add to the university’s educational value and prestige. In the early 20th century, Harvard was developing an extravagant set of residential buildings that were located along the Charles River and were “convenient to the social clubs along Mt. Auburn Street and the Yard” (Dober p. 122). This set of housing came to be known as the “Gold Coast,” and, by its extravagant displays of wealth, it increased the prestige of the University and prompted some other universities to mimic it (Dober p. 122).

Also in the early half of the 20th century, administrators at Harvard and other elite private universities took an interest in the educational value of their residential systems. President Abbott Lawrence Lowell of Harvard, reacting in some ways against the extravagance of the “Gold Coast”, decided to shape the operations of Harvard’s housing system to promote goals of social equality and scholarly community. The

“Lawrence House System”, established in 1931 and still used today, involves randomly assigning first-year undergraduates to residences around Harvard Yard. After the first year, students take residence in a particular “house” for the following three years. Each house contains facilities for living, dining, study, and recreation, intended to satisfy most of a student’s living and educational needs. Shortly after Harvard implemented the house system, Yale implemented a similar system of “residential colleges”. As with the early American colleges, the ideal of these systems was to integrate the residential and educational experience as at Oxford and Cambridge Universities in England (Dober p. 122). Though Harvard and Yale are proud of their systems, there is debate as to whether they are truly successful in achieving their educational goals. Adelman (p. 32) argues, “though the facilities were splendid—indeed lavish— they never did succeed in integrating the educational and residential functions as had been the case at Oxbridge.”

Both the “Gold Coast” and the “house system” influenced the development of MIT’s housing at the time. By the late 1920s, MIT was still planning to concentrate its undergraduate housing on the eastern side of its campus. However, it was also considering the future housing needs of its growing graduate student and staff populations. An MIT committee identified the MIT-owned land to the west of Massachusetts Avenue as a suitable site for graduate and staff housing (Committee on the Dormitory Situation, 1928: p. 415). In the 1930s, MIT purchased the Rivercourt Hotel and Bexley Hall apartment building, just across Massachusetts Avenue from the main campus, to serve as housing for graduate students and junior staff, respectively. The Rivercourt, known then as the Graduate House and currently called Ashdown House, was developed to include common spaces and study areas as well as a dining service. MIT’s previous dormitories contained only rooms with no common areas, with Walker Memorial intended to serve the students’ dining, recreational, and community needs. Its elegant aesthetics, its location along the river, and its interior

facilities make the Graduate House seem comparable to the “house-style” facilities being developed at Harvard around the same time.

MIT began to undergo major institutional changes during World War II, as its work for the defense department began to shape the foundation of its future research programs. The War also resulted in development that would set a new direction for the development of the MIT housing system. During the War, most student housing was converted into military barracks. After the War, MIT made use of land it had purchased in the 1920s on the west side of Massachusetts Avenue (most of which is now Briggs Field) to construct wooden housing units for veterans returning to MIT and their families. MIT also decided to expand its undergraduate housing system further and, in doing so, to change its policy on the location of undergraduate housing. It began construction on Baker House in 1947 and completed it in 1949, and converted the Riverside apartments to Burton House (which is now called Burton-Conner) in 1950. Both of these residences were located along Memorial Drive overlooking the Charles River, and both were developed on the “house plan” model to include common spaces and facilities such as dining halls, so that educational and living resources would be provided in-house. Figure 2-2 shows the layout of the MIT campus in 1950, highlighting the new research and residential facilities that were added during and just after World War II.

The “house plan” model, while focusing on the internal provision of resources to students, also had impacts on larger-scale campus planning. Richard Dober (p. 123) points out that because the house plan provides educational, dining, and recreational facilities in one place, there is more flexibility in where the houses can be sited. He says (p. 123), “Enlargement of total housing facilities by constructing a new group, and the siting of the groups on a scattered pattern throughout the campus, give maximum opportunity and flexibility for accommodating growth in the total physical plant or reorganization of the campus plan, should new academic alignments be called

for.” On the other hand, scattering residences might have negative impacts on the cohesion of the university residential community at large. Gordon Potter, an MIT undergraduate, notes in his 1951 architecture thesis (p. 6), “Already the Graduate House, Baker House, and Riverside are strung out to an extent that will make their inclusion in any future M.I.T. Community of the West Campus difficult.”

Meanwhile, as MIT was developing its housing according to the house model, the fraternity system continued to thrive. In addition, a new housing model emerged in the 1931 with the establishment of Student House, a non-fraternal independent living group. Several more of these cooperative-style independent residences would be established at MIT in the future, mainly from the 1970s onward.

2.7 MIT Planning 1950-1990

Following World War II, university enrollments surged across the United States. In order to keep up with this increase, most universities began to develop large quantities of new housing for their students (Frederiksen, p. 172). MIT was in a similar position, as it was facing not only an increasing undergraduate and graduate enrollment, but also an increase in the regional diversity of its student body. While in the 1930s, about 50 originally from Massachusetts, by 1940 this figure had dropped to around 30

As so much university housing was being developed across the nation, universities needed to plan for where this housing would be located. The housing elements of campus plans, while different for every university, tended to follow some common patterns. Richard Dober (p. 137) explains some of the trends that appeared in American campus housing development in the middle of the century: “Rather than concentrated housing in a single area, units are being dispersed throughout the campus. ... Single student housing, graduate student housing and married student housing are usually separated from one another, the general opinion being that social

and living patterns of each group might be in conflict. ... Generally housing is being kept out of the central campus areas and placed on the periphery. This segregation of land uses assures long-range land reserves for expansion of academic buildings and core facilities such as libraries, unions, and other central structures.”

As MIT was developing policies to help define its new role as a major center of government-sponsored research as well as education, it was also solidifying its policy on housing. The Committee on Educational Survey (Lewis Committee) in 1949 included as part of MIT’s educational mission the provision of housing on campus for students, faculty and staff. This Committee also suggested a campus development strategy that would locate residential and student life facilities only west of Massachusetts Avenue and concentrate academic and research facilities east side of Massachusetts Avenue. Thus, according to the Lewis Committee, the western part of campus would be designed to create “a warmer atmosphere and more homelike surroundings.” In 1956, the Committee on Student Housing to the President (Ryer Committee) affirmed this policy of developing undergraduate housing on the west side of campus but also suggested adapting the current residential and recreational facilities on the east side of campus to serve as a graduate student center (later, the intended site of the graduate center was moved to directly behind Kresge Auditorium, but this center was never developed). This Committee also helped to establish a policy that all first-year undergraduates be housed in MIT dormitories, fraternities, or at home with their parents; freshmen could not live in off-campus apartments. With these policies in mind, and anticipating major growth in academic, research and housing activities, MIT created a Planning Office in 1957 to devise and implement an ongoing campus development strategy.

Frederiksen (p. 172) comments that during this time period, American college residences tended to be built “to maximize the number of beds constructed for the dollars available, with little or no regard for the quality of students’ educational ex-

periences and personal development.” However, MIT’s planners were deliberate in defining the residential experience they were trying to create for students. The development of new undergraduate men’s housing was preceded by a study of the faculty Committee on Student Environment, which in 1963 concluded that the best model for new dormitories was the house-entry-suite model. This model was an elaboration on the “house-plan” model, in which dining, study, and recreational facilities are included within the building. Each “house” would consist of a number of smaller “entries” (housing about 30-40 students) with their own set of common facilities, and each “entry” would be composed of “suites” of about 4-8 student rooms clustered together. Also in support of the “house-plan” ideal, the “Rule Committee” in 1957 recommended a system of housemasters (faculty-in-residence) and tutors (graduate student advisors) to provide social and educational support within the houses.

For the location of new undergraduate men’s housing, the MIT Planning Office (1965) designated the strip of land along Memorial Drive between Burton House and Westgate. This reflected MIT’s desire to provide aesthetically pleasing accommodation for its students and also to protect the playing fields as an important open space resource. A housing site between the Charles River bank and the athletics fields would “represent the Institute’s commitment to residential amenity for its students.” This plan guided the development of MacGregor House, the New West Campus Houses (New House), and 500 Memorial Drive (Next House) between 1968 and 1981.

For some time, the strategy of consolidating undergraduate men’s housing on the west side of campus included demolishing or adapting MIT’s original undergraduate residences on the east side of campus. An MIT Planning Office report from 1968 indicates that East Campus and Senior House should be closed as soon as more housing is available on the west side of campus, making the sites available for “alternate uses”. This general theme has pervaded MIT’s planning strategies up until the 1990s, and has included proposals to change the buildings into academic offices, graduate

student housing, or faculty housing. In all of these cases, the proposal has lapsed due to the infeasibility of dislocating undergraduates at the time, student resistance to the proposal, or a combination of the two. Instead, East Campus and Senior House have each been renovated over time in an attempt to match the characteristics of newly constructed undergraduate housing. Most importantly, in the 1960s, both facilities were reconfigured to include lounges and common spaces and thus better fit the “house-entry-suite” model. (MIT Planning Office, 1968)

In fact, the difficulties in creating and maintaining an undergraduate housing supply to meet demand significantly shaped the housing system MIT has today. Because of housing shortages prior to the construction of MacGregor House, New House, and Next House, MIT had to convert Bexley Hall to undergraduate housing in 1963. Then, to accommodate students during the 1968 renovation of Burton House, MIT acquired an apartment building north of campus on Massachusetts Avenue which later became Random Hall. Housing plans indicated that Bexley and Random should be removed from undergraduate housing along with Senior House and East Campus, as soon as enough new housing was developed on the west side of campus to compensate (MIT Planning Office, 1968). This objective was never achieved, and all four buildings exist as undergraduate residences today.

MIT expanded its housing in other ways as well. While most undergraduate housing built before the 1970s was directed towards undergraduate men, an increasing number of non-local women students were enrolling at MIT and were in need of housing facilities (Simha p. 32). After maintaining, for several years, a small women’s dormitory in a house on Bay State Road in Boston, MIT constructed McCormick Hall between 1963 to 1968 (in two parts) to house women students, eventually only women undergraduates. As still more women enrolled during the 1970s, and as attitudes changed with regards to coeducational housing, the men’s undergraduate dormitories gradually began to house both men and women. McCormick has remained an all-

women's residence.

Since World War II, MIT has also acknowledged a need to provide housing for students with families. At the end of World War II, MIT had built "Westgate" and "Westgate West" on the west end of the present athletic fields, largely comprised of wooden housing units, to accommodate students returning from the war to study and live with their families. By 1959, MIT had demolished those temporary units and by 1963 had reconstructed Westgate, with a tower and a series of low-rise buildings, as a residence for students with families. A second Westgate tower was intended to be built, but when it was finally constructed in 1973, it was as Tang Hall, a dormitory for single graduate students (Simha p. 35). In the mid-1960s, MIT planned the Eastgate project as part of its Sloan School of Management development to house both graduate students and faculty. While originally planned to comprise two high-rise towers, only one tower of Eastgate was constructed in 1967, and its use has mainly been the housing of students with families, not faculty (Simha p. 61-62).

MIT used a special mechanism to provide housing for faculty and staff as well. In 1946, MIT leased a parcel of land at 100 Memorial Drive to be privately developed with 270 rental apartment units. It was then the policy, as it is now, that when a vacancy arises, MIT faculty and staff members have first priority in renting the unit (Simha p. 10).

While the primary focus in MIT's development plan has been Institute-owned dormitory housing, independent housing has always been a large component of MIT's housing system. The 1965 Program for Men's Undergraduate Housing states that "The balance among fraternity, independent and Institute-owned housing facilities is encouraged and is consistent with our educational objectives." A 1957 "Report on Fraternity Housing" indicates that land on the western part of campus, near Westgate, should be dedicated to the relocation of fraternity houses to Cambridge. The strategy would be to lease to fraternities land on which they could develop new,

privately-owned houses.

In the 1970s, there was a broad movement away from large-scale institutional housing and towards more independent, student-controlled housing. This trend is reflected in Howard Adelman's book *The Beds of Academe*, in which he argues that institutionally-controlled residence halls have become settings for destructive behavior, while student-organized residences are in comparison "models of responsibility and concern" (pp. 9-11). At this time, MIT implemented its land-lease plan by leasing a parcel of west of Burton-Conner to be developed as the Alpha Tau Omega and Kappa Sigma fraternity houses. In addition, several new fraternities and cooperative living groups established themselves along the fringes of campus during the 1970s. The movement towards smaller, independent residences also manifested itself in the development of New House in 1974. New House did not follow the house-entry-suite model but was rather comprised of several independent houses, to provide a range of "themed" living options. This led to a new housing model, the "cultural house", of which five currently exist at MIT, all within New House.

One of the more ambitious development projects undertaken by MIT during this time period was the acquisition in 1970 of a large site to the northwest of the campus occupied by the factories of the Simplex Wire and Cable Company, which had decided to move its plant to the suburbs. MIT's initial plan for this site involved developing a large residential center for students, faculty and staff (Northwest Area Development Plan). However, the MIT administration determined in the mid-1970s that such a program would be too difficult to implement financially, and so the plan was changed to develop the land as commercial property with only a small amount of private housing (MIT Office of the Executive Vice President, 1974). Political complications delayed the development of this area until the 1990s, when it was developed as University Park. Presently, the area is mostly developed, though MIT still owns and controls some land in the area that has been reserved for graduate student, faculty,

and staff housing.

MIT's West Campus was meant to be a site not just for housing, but for athletics and recreational facilities as well. MIT's original athletics facilities were located near the East Campus residences, but the new campus development strategy of concentrating academics and research activities on the eastern half of campus necessitated the movement of athletics facilities to the west side of campus. The Briggs Field House was built in 1939, indicating that much of the land MIT had purchased west of Massachusetts Avenue in 1924 would be used as athletics fields. The leaders of the MIT athletics program have been fiercely protective of this space ever since (Simha p. 91). In 1949, MIT converted an existing armory west of Massachusetts Avenue, along with some built additions, into the Rockwell Cage gymnasium and DuPont Athletics Center (Simha p. 90). The Johnson Athletics Center was located adjacent to these facilities in 1981, containing a new skating rink and indoor track (Simha p. 110). This complex is now complemented by the Zesiger Sports and Fitness Center, completed in 2002. The only remaining athletics facilities on the main campus are the Alumni Pool, built in 1939, and the MIT Sailing Pavilion.

MIT also built the Stratton Student Center in 1965 to replace Walker Memorial as the center of student recreation. It was built to complete the plaza ("Kresge Oval") between Kresge Auditorium and the MIT Chapel, completed in the early 1950s. The intent of the Student Center was to provide space for student activities and businesses, which at the time included the Technology Store (MIT Bookstore, now the Harvard/MIT Cooperative Society), the Hobby Shop, and an undergraduate library (Simha p. 26). However, the function of the Student Center evolved over time to include more campus dining facilities and private retail establishments, particularly as in-residence dining became unpopular in the 1980s and 1990s (Simha p. 29).

2.8 MIT Planning 1990-Present

Though the development of housing slowed after the conversion of Green Hall to single women's graduate student housing in 1983, MIT continued to develop its policies and campus plans in the late 1980s and 1990s to accommodate future housing expansion. In 1991, MIT solidified a policy that it should provide housing for all undergraduate students who desire it and up to 50 with rental housing near the campus for faculty and staff. The goal would be to "create a sizeable MIT residential presence within a specified radius of the campus ... in order to enhance the total educational environment" (MIT Planning Office, 1991). In addition to this housing strategy, MIT continued to consider expanding its recreational facilities, leading to the construction of the Zesiger Sports and Fitness Center in 2002.

Undergraduate housing underwent some significant planning and policy changes in the 1990s. Since the Memorial Drive housing sites had all been filled, MIT's planners indicated that the location of new undergraduate housing would be along the north side of Vassar Street. This site was chosen because "Increasing the concentration of residences around the playing fields and other community facilities will serve to strengthen the focus on undergraduate life on the West Campus" (MIT Planning Office, 1993).

The most significant housing policy change during this time period was first proposed by the Freshman Housing Committee of the faculty (Potter Committee) in 1989. This committee proposed requiring all freshmen to live in MIT dormitories, no longer allowing them to live in fraternities or independent living groups, as a large proportion of undergraduates chose to do at the time. Students objected to this policy, asserting that it would conflict with MIT's policy of allowing students to exercise choice among a wide diversity of residential options, would threaten the viability of MIT's independent living groups, and would compromise MIT's ability to guarantee

on-campus housing for upperclass students given its present amount of housing.

In 1997, the death of a freshman at an MIT fraternity due to alcohol poisoning triggered a wave of outside scrutiny directed at MIT's housing system, which by then was one of few universities in America that continued to support fraternities as a four-year housing option. This event prompted MIT to re-think its policy of allowing freshmen to live in fraternities and other independent living groups. In 1998, the president of MIT announced a new policy that all first-year students be required to live in dormitories. In order to accommodate this, the first undergraduate dormitory on Vassar Street, Simmons Hall, was constructed and opened in 2002. Due to a combination of legal difficulties in beginning construction, a complicated building design, and the pressure to house all freshmen by a specific deadline, the Simmons Hall project ended up being financially costly for MIT. Additionally, in order to ensure that the new policy would not interfere with MIT's commitment to offer four years of on-campus housing to all undergraduates who request it, MIT adopted a policy in 2002 of allowing some undergraduates, mainly seniors, to live in single graduate student housing.

MIT's graduate student housing development program progressed throughout the 1990s as well. While it had maintained a goal of providing housing for 50the enormous increase in graduate student enrollment had made achieving this goal difficult. While in the late 1950s MIT was enrolling only around 2,000 graduate students, by 2000 this number was near 6,000.

New graduate student housing has been located primarily on MIT-owned land in Cambridgeport near University Park. Thus far, the development that has taken place includes the conversion of a former industrial property on Albany Street to Edgerton House in 1990, the conversion of building NW30, formerly an MIT warehouse, to a graduate dormitory (now called "The Warehouse") in 2001, and the completion of a new 700-bed graduate dormitory at the corner of Sidney and Pacific Streets in

2002. Additionally, in the mid-1990s, due to the fact that Ashdown House, Senior House, and East Campus were all in need of renovation, an administrative committee (Strategic Housing Planning Committee) proposed that Ashdown be converted into undergraduate housing, to be closer to other undergraduate residences, and that Senior House and East Campus be converted to graduate student housing, in order to establish the long-sought “graduate student center” around the Walker Memorial area. This plan met with resistance from both graduate and undergraduate students, and ultimately was not implemented. While Senior House was renovated in 1997 and remained undergraduate housing, Ashdown and East Campus still await renovations.

While MIT was planning for its new graduate student housing in the 1990s, it took the rare occasion to study the effects of the location of graduate student housing by conducting some focus group sessions with students living on and off campus. These indicated that the students who preferred to live on campus did so largely to avoid the inconvenience of finding private housing and of having to travel far to get to campus. Secondly, students viewed on-campus housing as a setting for community interaction. Students living on-campus indicated that they experienced a sense of isolation and insufficient dining choices, and would like a residential environment with better access to public transportation and a better perception of safety. Overall, students indicated a desire to feel part of a “real neighborhood”, which the analyzers of the focus groups considered “paradoxical” since they also indicated that they wanted to live close to campus (MIT Planning Office, 1997).

MIT’s future policy on housing and education was defined in a 1998 report by the Presidential Task Force on Student Life and Learning. This faculty committee was the first group since the Lewis Committee in 1949 to redefine MIT’s educational mission. This group described the MIT education as comprised of three major elements— academics, which includes classroom instruction; research, the hands-on scientific work undertaken by students and faculty; and community, which includes residential and

recreational activities along with all other kinds of informal social interaction among students, faculty, staff, and alumni. In assessing MIT's strengths and weaknesses with regards to the community element of its education, the Task Force reported that MIT fared positively in offering a diverse collection of strong, independent residential and social groups and giving students ample choice in their living environment. However, it identified a weakness in overall "campus-wide community" that does not allow for easy interaction outside of defined residential groups, and indicated that MIT fares particularly poorly in providing opportunities for informal interaction among undergraduates, graduate students, faculty, and staff. The Task Force recommended that MIT's future development in general, and particularly in its residential, dining and recreational facilities, promote informal interaction among all members of the MIT community. (Presidential Task Force on Student Life and Learning, Chapter 4)

Currently, MIT has no planning strategy to respond to the educational strategy set forth by the Task Force. The administration decided to discontinue its Planning Office in 1999, and since the completion of Simmons Hall and Sidney-Pacific in 2002, there is no plan for further residential expansion.

2.9 Continuing Themes and Current Implications

There are some continuing themes worth noting in the history of the university's residential function and the ideas that have shaped it. Some of these themes are particularly relevant when considering the past, present, and potential future development of the MIT campus.

One theme, relating to the historic purposes and goals of collegiate housing, is the tendency for housing development to be driven by necessity, despite the continual insistence that collegiate housing serves a function that is primarily educational. While universities like MIT have always affirmed that the primary reason for colle-

giate housing is to provide an integrated educational experience for students, and in some cases faculty, the actual trends in housing development indicate that more practical, usually economic, motives play a stronger role in guiding housing development decisions.

For MIT, housing development seems to have been driven primarily by increases in enrollment and steady decreases in the percentage of commuter students. Because necessity seems to drive development, there has been a continuing theme of short-term measures having long-term impacts on the overall housing program. One example of this trend is MIT's use of land west of Massachusetts Avenue as the location of several scattered residential facilities developed before 1950, leading to the subsequent policy of developing housing on west campus and particularly along Memorial Drive. Another example of this trend is the use of Bexley Hall and Random Hall as "temporary housing" structures that have since established themselves as long-term residential communities. A more recent example has been the freshmen-on-campus policy, leading to the rapid construction of Simmons Hall, a decision that will impact the future development possibilities along Vassar Street.

Another continuing theme is the shifting change in attitudes on the question of what residential model best achieves the social goals of university housing. Throughout history, there seem to have been two competing schools of thought. On one side there is the idea that universities should provide a structured and administered educational program in residence, in order to ensure that all students can equally participate in an integrated academic and residential experience. This idea is exemplified by the English residential college system and the American systems that have emulated it. On the other side is the idea that universities should allow students manage their own residences and residential programs, thus allowing them to learn responsibility and life skills. This system was exemplified by the Nations and later by the American system of residential fraternities and sororities. The prevailing trend

seems to swing like a pendulum from one of these ideas to the other.

MIT is unique in having continued to support its independent residences, while most other American universities have eliminated or significantly reduced their fraternity and independent house systems. Perhaps this policy was maintained because MIT has always needed the complementary housing capacity of its fraternity system to accommodate its students, and thus, as noted in the point above, policy was driven by necessity. However, MIT has also openly recognized the social and educational benefits of providing a diverse selection of independent residential options to its students. Under MIT's new policy of housing all freshmen on campus, it is uncertain whether the Institute will continue to support the same balance of university-owned and independent residential options.

Finally, there is the theme that residential planning over at least the past fifty years has been guided by a strategy of separating residences and recreational facilities from the core academic uses of the campus. While MIT and other universities have worked to establish a student living environment that contributes positively to education and personal development, this idea has primarily been applied to the interior residential experience, not to the experience of living on the campus at large. The design of MIT's campus does not seem to have considered the relationship between academic, residential, and recreational uses and how this relationship affects the lives of students for whom the campus is their home.

Adelman (p. 63) reflects on this notion by suggesting that separating academic and residential functions is comparable to the American suburban ideal of separating workplace and homeplace. Therefore, living and learning remain separate, and "We do not have a planning expression of the life of learning which was the university but an expression of learning in order to live." Perhaps this partially explains why MIT was beginning to separate its residential and academic uses at the same time as it was beginning to develop as a research institution. As MIT's activities began to

include more sponsored research, the MIT experience may have begun to feel more like a “work” experience than an integrated learning experience, and thus there was a perceived incompatibility between living facilities and academic or research facilities.

However, the trends that have developed in city planning over at least the past twenty years seem to reject the idea that cities should be designed with all work uses in the center and all residential uses in the suburban periphery. Contemporary planning in urban areas recognizes the benefits of having a mixture of uses within a particular area, to create a more lively environment at all times of day and night and to support walking and public transit as transportation alternatives to the automobile. Moreover, city centers are becoming increasingly desirable for individuals who want to live close to their workplace as well as retail, entertainment, and cultural attractions. While some of these issues are not particularly relevant to the university experience, perhaps MIT could learn from these trends in city planning and consider the benefits mixed-use development might provide to campus residents as well as the educational mission of the university at large.

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Chapter 3

Background Information on the MIT Residential Experience

This chapter is intended to provide background information to help in understanding the features that shape the MIT residential experience. With some noted exceptions, the information in this chapter is based on my experience as a resident of the MIT campus for the past five years and an active participant in the planning and governance of the residential system. Individuals who live on the MIT campus or have extensive experience with it may not find a wealth of new information in this chapter. However, even people who are very familiar with the campus may learn a few new pieces of information or gain some new insights from viewing this information presented in a different way.

The topics covered in this chapter include the MIT academic and research experience, the MIT housing system, the characteristics of the neighborhood surrounding the MIT campus, the provision of food and retail amenities in the area, and the transportation system that serves the area. While there are many more features that might impact the residential experience, I have chosen these because I believe that understanding the residential experience is nearly impossible without some knowledge

of these topics.

3.1 The MIT Academic and Research Experience

The Massachusetts Institute of Technology is an institution of higher learning that focuses on academics and research primarily in technological and scientific fields. According to “MIT Facts” for the 2002-2003 academic year, MIT has a faculty with 956 members, working in 5 academic schools (Architecture and Planning; Engineering; Humanities, Arts and Social Sciences; Management; Science) containing 21 academic departments and various other special academic programs. The undergraduate enrollment is 4,178, with 1,813 studying in the School of Engineering, 894 studying in the School of Science, and the rest distributed among the other schools. There are 6,139 graduate students enrolled in masters (2,694 students) and doctoral (3,265 students) degree programs as well as some other special programs. 2,763 graduate students work in the School of Engineering, 1,064 in the School of Science, 964 in the School of Management, and the rest distributed among other schools, including the Whitaker College of Health Sciences and Technology. (<http://web.mit.edu/facts>)

The undergraduate academic experience at MIT is a challenging one. It involves the completion of a core requirement of mathematical and scientific subjects, a required distribution of subjects in the humanities, arts, and social sciences, and a series of subjects specific to a major or “course” of studies. All freshmen typically take a similar program of core science subjects, from which a significant (though widely varying) percentage of students fail. MIT has a system of first-year grading in which a failing grade is counted as a “no record”, that is to say, if a student fails, there is no record of the student having taken the course. Students may take required subjects multiple times before passing. Because freshmen are not awarded grades for their first-semester classes (only a “pass” or “no record”), thus supporting

a non-competitive atmosphere, and due to the difficulty of the subjects, students tend to work and study for core classes in groups. This group study supports students' academic work, but also has a social function. It is a way in which freshmen get to know each other, and provides opportunities for freshmen to interact with and learn from upperclass students.

At the end of the first year, undergraduates declare their "course" and fulfill a program of study in that course. All undergraduate Bachelor's degree programs are intended to last four years, though some students may take more or less time to complete their degrees. Most science and engineering subjects are taught within a format involving lectures, recitations, weekly or bi-weekly homework assignments known as "problem sets", and exams, while some subjects are more hands-on and focus on projects or laboratory work.

Research is also a part of the undergraduate experience. Most undergraduates participate in the Undergraduate Research Opportunities Program (UROP), in which part of their time (usually equivalent to the time dedicated to one academic subject) is spent working with a laboratory or research group for credit or for pay. Many undergraduates also do UROP work over the summer. As a result of this, along with the fact that many undergraduates find other types of summer work in the Boston area, a large percentage of undergraduates (the exact figure is probably between one-quarter and one-half) stay at MIT year-round.

Research constitutes a much larger part of the graduate student experience, particularly for doctoral students, as well as for postdoctoral fellows and most junior tenure-track faculty. The typical doctoral student at MIT has a research assistantship within one of a large number of laboratories and research groups on MIT's main campus as well as some satellite research facilities outside of Cambridge. These students spend large amounts of time on their research work, often working at odd hours such as late at night or on weekends, which is reflected in the colloquialism that MIT grad

students “live in lab”. Masters level students may have an experience somewhere between that of an undergraduate and that of a doctoral student, taking a few classes as well as pursuing some kind of research program. However, masters programs last only one or two years, much shorter than undergraduate or doctoral programs. As with undergraduates, many graduate students spend their summers at MIT continuing work on their research.

It is very difficult to characterize the MIT student “lifestyle” because it varies widely from person to person. However, general impressions seem to indicate that the typical MIT student, along with many faculty, lives a very busy lifestyle. Most of a student’s time is dedicated to academic or research work. Students tend to make time for athletics and other extracurricular activities, but this leaves very little unstructured “free time”. Finding time for eating and sleeping can sometimes be a challenge. Altogether, the weekday schedule of a typical student tends to be fully occupied by classes, lab work, extracurricular activities, group study sessions, and perhaps some brief social activities, while weekends may involve some social outings or parties mixed with study and lab work.

3.2 The MIT Housing System

The MIT campus provides a range of housing options to its undergraduate and graduate students. Figure 3-1 in Appendix A supplements the information in this section by showing the geographic locations of different MIT residential facilities around its Cambridge campus.

The MIT undergraduate housing system consists of eleven separate dormitories with a combined occupancy of 2,929 (according to the MIT Housing Office Website, <http://web.mit.edu/housing>). The dormitories range in occupancy from 93 students to 362. Most dormitories house men and women, the exception being McCormick Hall

which is all female. All dormitories house students from all four class years in roughly equal proportions. Before their freshman year, students enter a lottery indicating what dormitory they would like to live in, and typically stay in that dormitory for all four years. Housing policy guarantees that undergraduates may receive four years of housing in dormitories.

There is one special residential model at MIT known as the “cultural house”. Cultural houses are living groups in which residents share a common theme relating to a national or ethnic culture. There are currently five cultural houses at MIT, all housed within a section of the New House dormitory. The cultural houses vary in size, with somewhere around twenty members being typical.

In addition to its undergraduate residents, undergraduate dormitories house Graduate Resident Tutors (GRTs), graduate students who serve as a support resource for undergraduates. There is one GRT for about every 30-60 undergraduates in the system, so about 60-70 GRTs altogether.

Complementing the MIT-operated housing system is a system of MIT-recognized but independently-operated fraternities, sororities, and independent living groups (FSILGs) that offer housing to MIT students. FSILGs mainly house undergraduate students, though some graduate students may live there as well (typically former undergraduates). The system includes twenty-five residential all-male fraternities, four residential sororities, one all-female cooperative independent living group, and six residences that are considered either co-ed residential fraternities or co-ed independent living groups. FSILGs range in size, each housing roughly 20 to 50 students. Ten of these are located in Cambridge, two are located in Brookline, and the majority are located in the Back Bay area of Boston directly across the Charles River from MIT. Before 2002, MIT students at the beginning of their freshman year engaged in a “rush”, a four-day period in which they explored residences and decided whether to pursue joining an FSILG or to enter preferences in the MIT dormitory housing

lottery. As with dormitories, students joining an FSILG would typically stay there for four years. Before MIT recently enacted its policy of housing all freshmen in dormitories, almost one-third of all undergraduates and one-half of undergraduate men lived in the FSILG system. However, this number has fallen due to the new policy, and in the future there will surely be changes in the size and character of the FSILG system.

The single graduate housing system consists of six residences. Green Hall is designated only for women graduate students, Tang Hall and the Warehouse are designated only for first-year graduate students, and the rest house men and women of all years. While Green Hall and Ashdown House are dormitory-style residences, the other residences are arranged as apartments or suites. For students with families, there are about 200 apartment units available at Eastgate and Westgate.

The housing policy for graduate students is designed to allow all first-year students who desire on-campus housing to receive it, but also to accommodate as many continuing graduate students as possible. The demand for graduate housing typically far outpaces the supply. The single graduate housing system has a capacity to house only about 1,820 single students and 400 students with families (which may contain more than 400 students, since there could be more than one student in a family). Further complicating the undersupply of graduate student housing is MIT's new policy of allowing about 150 undergraduates, mostly seniors but also some undergraduate sorority members, to live in graduate housing. This is to ensure that MIT can uphold its policy of providing four years of housing to all undergraduates who request it.

Residences at MIT play a primary role as social groups on campus, as reflected in Chapter 2 by the description of the social role of the fraternity system and the dormitory "house system" that evolved from it. Undergraduate residences in particular serve as centers for group study and social activity, and students tend to identify strongly with their residential group. Figure 3-2 in Appendix A charts some results

of a survey of seniors conducted by the MIT Office of Institutional Research. These charts show that MIT undergraduates, particularly in the FSILG system but in the dormitory system as well, identify a strong sense of community existing within their living group. However, they indicate a much weaker sense of community across the campus at large.

The program of social activities in residences is largely student-run. In the FSILGs, students manage all aspects of operation including the social program. In MIT dormitories, elected student governments raise a “house tax” from residents to fund social activities and common resources for students. This has been true of undergraduate residences for decades, and has been developing more recently within the graduate residential system. As of the 2002-2003 academic year, every graduate dormitory (including Eastgate and Westgate) has a student government that runs its own social program.

MIT does not own or operate residences specifically for faculty and staff. However, each student residence, with the exception of Edgerton, Eastgate and Westgate, contains one or two apartments for housemasters and their families. Housemasters are faculty or senior staff who have broad responsibilities for overseeing the social and educational well-being of the individual students and the student communities within residences. Altogether, there are about 20 housemasters and their families living within the MIT housing system. In addition, Eastgate accommodates a small number of faculty and their families.

Also within the area of the MIT campus, on MIT-owned land, is a 270-unit private apartment building at 100 Memorial Drive. While this facility is neither owned nor operated by MIT, the owners maintain an agreement that MIT affiliates receive first priority in leasing vacant apartments. Therefore 100 Memorial Drive houses a large concentration of MIT faculty, staff and students.

3.3 The MIT Campus Neighborhood

The present MIT campus was built on land that was claimed from the Charles River Basin in the late 19th century. This land lay directly to the south of a rail line that was established in the 1860s. During the age of industrial expansion between the late 19th century and early 20th century, this rail line fueled the development of a high concentration of factories in this part of Cambridge and the development of multi-family housing units nearby. Thus the area had been established as an “industrial neighborhood” as the MIT campus was beginning its development in Cambridge.

In the latter half of the 20th century, older factories began to close or move into suburban areas where larger land parcels were available. While much of the land around MIT lay vacant from about the 1960s to the 1980s, in the past twenty to thirty years this land has been redeveloped for private or government office and laboratory uses, typically for companies in high-technology fields. Currently, the area around MIT is beginning to establish itself as a center for life sciences research and biotechnology, and land in the area has become very valuable to developers who can build the specialized laboratory facilities to accommodate these companies’ needs. However, some new development in the area has been for other uses as well, including housing, hotels, retail, and entertainment uses. Figure 3-3 provides a rough picture of the distribution of different land uses around the area of the MIT campus.

Residential neighborhoods begin to re-emerge outside the “belt” of industrial and research uses north of the MIT campus. The neighborhoods surrounding MIT include Cambridgeport to the northwest, Area 4 and Wellington-Harrington to the north, and East Cambridge to the northeast. These neighborhoods are historically mixed-income and contain a large number of multi-family housing units. In addition, south of the MIT campus, across the Charles River via the Harvard Bridge, is the Back Bay neighborhood of Boston, an upscale residential area with many restaurant, retail,

entertainment, and civic amenities.

Many students who do not live within the immediate MIT campus area find housing in these residential neighborhoods to the north and south. Figure 3-4 in Appendix A displays some information about the residential nature of the area as it relates to students. The “core area” of the MIT campus, three US Census Tract areas in Cambridge containing MIT campus buildings, private industrial, office, and laboratory buildings, and the southern “fringes” of the Cambridge residential neighborhoods, is not a very dense residential area though it contains a very large proportion of the MIT student body. Due to its relative affordability and proximity to campus, the residential “belt” surrounding the campus “core”, including the Central Square area, East Cambridge, and Cambridgeport, is home to a significant proportion of MIT graduate students (and, presumably, some number of Harvard University graduate students as well). The section of Boston’s Back Bay within about a mile walking distance of the center of the MIT campus contains a large number of undergraduate students, mostly members of FSILGs, along with some graduate students.

3.4 Food, Entertainment, and Retail Service

The MIT campus area provides food to campus residents in a number of different ways. Figure 3-5 in Appendix A shows the locations of different types of food providers in the area.

The MIT-operated campus dining system consists of a few different elements. There are several dining halls, cafes, and food courts distributed around the main campus that provide daytime food options (breakfast and lunch) to students, faculty, and staff working on campus. During evening hours, the client base for campus dining consists primarily of students. There are two evening-hour restaurants located in the Student Center and one in Walker Memorial, as well as commons dining halls in three

undergraduate residences that provide dinner as well as some late-night food service. There is also a restaurant located within the Sidney-Pacific graduate residence that is open every day in the morning, afternoon and evening.

The major provider of groceries in the area is Star Market, a supermarket, located in University Park. There are other specialty supermarkets within nearby parts of Cambridge, but most require a car for convenient access. A smaller, independently-run market is located within the Student Center, and even smaller convenience stores operated by MIT dining services are located in Walker Memorial and MacGregor House. There are also some smaller private markets in the area that provide convenience goods or specialty (primarily ethnic) foods.

There are some private restaurants in the area, mainly concentrated around activity centers such as Kendall Square, Lafayette Square, and Central Square. Restaurants around Kendall Square, along with some restaurants located closer to MIT, tend to be oriented towards providing breakfast and lunch to area workers, and therefore many tend not to be open in the evenings or on weekends. Restaurants in Lafayette Square and Central Square, which are closer to residential neighborhoods, tend to be open in the afternoons and evenings, and many of these restaurants provide a delivery service as well. For entertainment, the area has several bars as well as some nightclubs and music venues that are mainly located along Massachusetts Avenue between Lafayette Square and Central Square. There is also a unique center of restaurant and entertainment activity in the area known as “One Kendall Square”, an office and laboratory complex to the northeast of campus which contains a small cluster of restaurants and bars as well as a multiplex movie theater that shows independent and foreign films.

The nearest true shopping center to the MIT campus is the Cambridgeside Galleria, a shopping mall, which is located about a ten-minute walk away from Kendall Square in East Cambridge. This mall contains a diverse selection of small retail

stores and department stores. There are also some retail stores in the area along Massachusetts Avenue north of Lafayette Square, particularly around Central Square. These include drug stores, hardware stores, video rental stores, bookstores, and some clothing stores. There are also some retail stores in Kendall Square, including a drugstore, a florist, and a few others. Kendall Square also contains bookstores, specifically the Harvard/MIT Cooperative Society (the official MIT bookstore) and Quantum Books, which provide textbooks for MIT classes.

3.5 Transportation Service

Walking routes are the most commonly-used mode of transportation to and from destinations within the campus environment. Figure 3-6 in Appendix A indicates what buildings are within particular walking radii of the “center” of the MIT campus using official sidewalks and walkways. I am defining the “center” to be the main entrance at 77 Massachusetts Avenue, the point between the eastern and western halves of campus, not the center of MIT’s main academic facility which would lie further to the east. While most campus uses are located within a ten-minute walking radius from the campus center, this implies a walking time of twenty minutes or more to travel from one end of campus to the other (for instance, from the Tang residence hall on west campus to the Tang Center for Management Education on the Sloan School area of campus). So while walking is the most popular means of transportation, one finds that many students living outside the five-minute radius from the center prefer to use bicycles to commute to and from the academic side of campus. An additional factor complicating pedestrian transportation is the CSX railroad line, an at-grade rail which can only be crossed at certain designated points.

MIT also offers two free shuttle services to help move individuals across the campus. The Tech Shuttle runs during work hours on weekdays, and its purpose is to

provide a faster means of traveling from Kendall Square to the extreme western end of the campus while also stopping at 77 Massachusetts Avenue. The SafeRide shuttle runs every day during nighttime hours, from 5PM to 3AM or 4AM, and its purpose is to move individuals safely from 77 Massachusetts Avenue to their homes at night. The SafeRide system serves parts of Cambridge as well as Boston. In addition to the MIT-operated shuttles, MIT students living in Cambridgeport can take the EZRide shuttle, a private shuttle service that connects the University Park area to North Station in Boston via Kendall Square. This shuttle operates on weekdays during rush hours, and students living in Cambridgeport may use it to travel to the eastern side of campus on weekday mornings.

Since most residents of the campus walk to everyday destinations, they tend to use public transportation to travel around the region at large. Rapid transit service to and from the campus is provided by the MBTA Red Line subway, which has stations at Kendall Square and Central Square and connects the campus directly to Harvard Square to the north and downtown Boston to the south (and thence to the larger regional MBTA system). Figure 3-7 in Appendix A shows what buildings are located within particular catchment radii of Red Line stations, and indicates that many MIT residences are located outside the ten-minute catchment area of either station.

Some other regional public transportation options are available besides the Red Line. The “Number 1” bus line, which travels along Massachusetts Avenue between Harvard Square in Cambridge and Dudley Square in Roxbury, has a stop at 77 Massachusetts Avenue. Many residents living on the west side of campus use this bus to travel to Harvard Square or to cross the Harvard Bridge into Boston. After crossing the bridge by walking or using the Number 1 bus, residents can use the Green Line to travel to western parts of Boston or into downtown. Additionally, two limited-stop “crosstown” bus lines, the CT1 and CT2, serve the MIT area. The CT1 follows Massachusetts Avenue into Boston, and the CT2 runs along Vassar Street, connecting

MIT to the Fenway area to the west and to Somerville and Charlestown to the east. However, these lines are intended primarily for commuters, and so they only operate in the daytime on weekdays.

Chapter 4

Discussions with Residents on the MIT Campus Environment

4.1 Overview of Methodology

I believe that the most critical step in assessing the strengths and weaknesses of a particular urban environment is to discuss that environment with the people who live there. Therefore, I chose to base my assessment of the MIT campus mainly on discussions with campus residents.

The method through which I engaged campus residents was a series of discussion sessions held at thirteen different residences on the MIT campus. These thirteen residences included undergraduate dormitories, graduate dormitories, and independent living groups of varying sizes and locations, but all located so as to be considered on or near the MIT campus. Altogether, over 100 people participated in these sessions, with participation per session ranging from as few as three to as many as fifteen. Participants included normal residents, house officers, graduate student staff, and even some faculty housemasters and their families. Most of these sessions were held simul-

taneously with social hours, study breaks, house dinners, or other community-based events, while a couple sessions were held independently from other social events. Each session was open to anyone who wanted to participate, and was advertised through the leadership of the house.

The discussions were held in six undergraduate dormitories (Random Hall, Next House, Simmons Hall, East Campus, McCormick Hall, and MacGregor House), one undergraduate cultural house (French House), one undergraduate fraternity (Phi Beta Epsilon or “PBE”), one undergraduate independent living group (the Women’s Independent Living Group or “WILG”), three single graduate student dormitories (NW30 or “the Warehouse”, Edgerton House, and Tang Hall), and one married student dormitory (Eastgate). The main factors in selecting these locations included the desire to obtain a broad geographic cross-section as well as to include all types of residence and all types of resident, although simple scheduling complications also played a role in selecting the discussions.

Appendix B shows a table of specific information regarding each session as well as a map showing the locations where the sessions took place. It may be helpful to refer to this map while reading about the results of the discussions.

At each of the sessions, I asked for comments regarding the quality of the MIT campus as viewed from a residential perspective. The goal was to have participants engage with one another in a dialogue on the issues in campus development that they felt were important to their quality of life. I intentionally asked open-ended questions in order to allow the participants themselves to choose what topics were of most interest to them and to allow conversation to flow naturally.

I structured each discussion around three broad questions. These questions, and some variations in the way they were asked, are presented below:

- Why should a university have a residential campus to begin with? Why should

a university campus include residential uses? What are some reasons why a university would want to have people living on its campus?

- What elements should a campus have in order to support its residential function? How should the campus best be shaped in order to support its residential function? What should a university's campus be like if it is going to house people on it?
- How does MIT's campus perform in terms of having these elements? What works about the MIT campus and what doesn't, from a resident's perspective?

In the earlier sessions, I typically did not introduce the third question because discussion around the second question naturally and often quickly flowed into discussion related to MIT. In later sessions, I simply posed the second and third questions at the same time, to allow participants to discuss both the campus in general and the specifics of MIT interchangeably.

I sometimes asked additional questions when there were pauses in the conversation. Most often I would simply ask "What else?" or paraphrase the last major question that had been asked. However, I would sometimes prompt participants on a general topic that had not been discussed yet. For example, when conversation stalled I might ask "How do you feel about safety?" or "How do you feel about transportation?" I posed the questions in as neutral a way possible, and I noted in my discussion notes that it was I and not a participant who actually raised the subject. Another circumstance in which I would involve myself in discussion was when one participant raised a point to which the other participants did not have an immediate reaction. When that happened, I would ask the other participants "Do you agree?" or "What do the rest of you think about that?" in order to get an impression of how all the participants felt.

There are a few reasons why I chose this method of gathering information, as opposed to a more quantitatively-oriented method such as surveys, randomly selected interviews, or controlled focus groups. One reason was that I wanted to explore the issues from the perspective of the residential community or communities, not from the perspective of individual residents. I wanted to listen to and understand the conversation that occurs naturally around this subject within the living groups, not to gather data from a quantifiable but artificial sample of individuals. I also thought it was beneficial to allow the community to lead the discussion in order to make people feel more willing to say what they really think. This is why I consider the members of the discussion groups to be “participants” instead of “subjects”.

Another reason for not undertaking a more specific, quantitative investigation is that I simply would not have known what specific questions to ask. As mentioned, my goal was to explore the topics that are of most concern to people within the residential community. Therefore, constructing a questionnaire that asked participants to, for example, rate how they feel about the physical layout of the campus, would neither tell me why participants feel the physical layout is important to their quality of life nor allow me to interpret what aspects of the physical layout of the campus the respondent was referring to. Any questionnaire that could possibly be thorough enough would have been too long and difficult to process.

This method has some drawbacks, however, which should be noted. One drawback is the phenomenon that the participants in an open discussion will tend to be those individuals with a predetermined interest in the subject, possibly because they have a negative opinion about something related to the subject and might want to use the discussion as a platform to air a grievance. Altogether, this did not concern me greatly, because I was prepared to acknowledge that there might be a bias towards negative opinions, and I was interested in hearing the opinions of people who have thought about and discussed the topic before. In addition, I found that holding the

discussions with group social events tended to draw a good mix of people with varying levels of prior knowledge of the topic. However, I cannot demonstrate scientifically that the participants in the sessions were representative of the residential community at large.

Another potential problem occurs when more vocal participants tend to dominate discussions, while others refuse to comment. This is characteristic of all types of discussion, and I inherited this problem when I chose to use discussions as my method of gathering information. In order to compensate, I made sure to continually encourage all participants to comment. But I also found that even though some participants were more vocal than others, participants were typically not shy about speaking up if they wanted to qualify or argue against a point made by another participant. This might have resulted from the fact that participants within the discussions tended to know each other and were thus already comfortable talking and arguing with one another.

Finally, I need to note that since I only involved MIT students, and the discussion was focused only on MIT, the results would not have a basis for comparison with respect to other university campuses. This is true, and it would be interesting to compare the results of this study with the results of a comparable study at another university. However, this study was not intended to rank the quality of the MIT campus, but rather to determine what effect different features of the campus have on residents' quality of life. It is also true that participants in the discussions brought with them a wide range of experiences from other places, and so as they discussed the features of the MIT campus, participants often used other campuses they have seen as points of reference.

4.2 Conversation on Reasons for Having a Residential Campus

The following is an analysis of the discussions surrounding the question, “Why should a university have a residential campus?” This question was largely intended to serve as a “warm-up” to the subsequent discussion about the MIT campus in particular by getting participants thinking and talking about what university residence really means. Participants approached the question by brainstorming as many reasons as they could think of, with little discussion on each point (though there was some debate over certain points). The list of reasons suggested by participants often served as a basis for the subsequent discussion on the features of the campus environment.

Similarly, I shall use a compilation of answers to this question as an introduction to the analysis of information from discussions on the other questions. Over the course of the 13 sessions, participants made 84 suggestions for why a university should have a residential campus. Many of these suggestions are similar enough to one another that they may be considered different expressions of the same reason. By consolidating identical or similar suggestions, I have determined that 35 unique reasons were given to explain why a university should include housing as part of its campus.

I have defined eight different categories into which these reasons may be grouped. Each category is based on a different perspective from which the question can be viewed. I have used a “c-word” to describe each of these categories: **convenience**, **community**, **collegiality**, **cost**, **control**, **comfort**, **coherence**, and **competition**.

The following is an overview of the suggested reasons, grouped by category. For each reason described, a number in parentheses describes the number of times that reason was suggested over the course of the 13 sessions. The categories are listed by the number of times that reasons within each category were suggested, beginning with the most commonly mentioned category and ending with the least.

Convenience

Most of the suggestions fell into the general category of convenience. While specific types of convenience were recognized as being important, some participants simply suggested “convenience” in general is a reason for having a residential campus (4).

Many participants suggested that university housing allows students to avoid the inconvenience of finding private housing in an urban area (8). For many individuals, particularly people coming to a university from outside the area or country, finding a place to live can be very difficult and time-consuming. Interestingly, this reason does not directly address the question of why a university should have housing on its campus. A university could own, lease, or manage housing that is nowhere near the campus. It could also manage a professional service that would find housing in the private market for anyone who wants it.

Another suggested type of convenience relates to the time constraints and hassles associated with having to commute long distances to campus (6). Living on campus allows for easier commuting, avoids reliance on driving or public transportation, and allows for a more flexible work schedule. Additionally, some participants commented that living on campus makes it easier to participate in on-campus activities (2), and some commented that living on campus makes social interaction more convenient (2). A participant also suggested that on-campus housing can offer amenities, such as high-speed internet connections and laundry facilities, that make everyday life more convenient for residents (1). As before, this reason is not directly related to the issue of living on campus, for such facilities could be provided in properties away from campus as well.

Community

The next most common category contains responses dealing with the issue of

community. As before, while several specific reasons were mentioned relating to this category, many participants suggested “community” in general as a reason (5). Participants also suggested that it is important to be able to interact and socialize with others within the university (5), that living with other students provides internal social support networks (4), and that individuals should have the opportunity to interact with a diverse range of people during their time at a university (2).

Collegiality

Collegiality is the term I have used to describe a group of suggested reasons related to the notion that living on campus contributes to an educational experience. Some participants suggested that living on campus is part of an overall “academic experience” (1) or, more generally, a “college experience” (1).

It was suggested, primarily within undergraduate residences, that the university residential function is important in allowing students to work in groups (5). It was also suggested that living on campus removes the physical and the psychological distance between work and home (1), and that living on campus makes the college experience more “immersive” (1) or “encompassing” (1). Viewing the issue from some slightly different perspectives, participants suggested that students learn from each other through sharing a common residential experience (1), and that the experience of living with others itself changes how people think (1).

Cost

The most common uniquely suggested reason for having housing on a university campus was that the costs of market housing are too high for students (9). Here, again, the reason does not directly address the question of why housing should be on campus. A university, or even a private developer, could offer below-market-rate units exclusively to students that are nowhere near the campus. Conversely, a university

or developer, depending on who owns the land and what is allowed under the zoning, could develop market-priced units that are directly on the campus.

Control

A frequently mentioned category of reasons, which also tended to raise some discussion and debate among participants in the discussions, dealt with the idea of university housing as a means of having some control over the student body. It was suggested that a university has the responsibility to oversee the well-being of its students, particularly undergraduates, and so it needs to house them nearby (4). More specifically, it was suggested that housing on campus allows the university to provide a structured support system for students (2), and it was also suggested that the university feels it must maintain some control over student behavior (1). It was also mentioned that the university needs to assume this sort of control because students' parents expect them to do so (1). On some of these points, debate was raised within discussions over whether this is actually a good reason for a university to want to have housing on campus, or if it is a responsibility imposed from the outside that a university would rather not assume. Additionally, when this point was raised in sessions at graduate residents, participants tended to indicate that this is only a consideration for undergraduate students.

Comfort

Another group of reasons raise a general claim that individuals feel some level of comfort living on campus that they would not get while living off campus. There were many specific reasons for this. One suggestion was that students, particularly undergraduates, may need a comfortable transition from living at home to living on their own (2), and similarly, international students may need a supportive environment in which to adjust to life in the US (1). Another suggestion was that people

in general, and particularly people in academia, are more comfortable living among similar-minded people (2). Some other reasons included the idea that living in residences spread out across a city might make students feel isolated (1), and that an on-campus residential environment provides a sense of personal safety and security that might not be guaranteed in other parts of the city (1).

Coherence

It was suggested that having people living on campus provides a sense of “coherence” to the university (1), and that it is generally unfavorable from the university’s point of view to “disperse” the student population (1). Several other suggestions seem to fall into this category, including the idea that a “critical mass” of on-campus residents is needed to fuel after-hours research and academic activities (1), to create a sense of nightlife on campus (1), to foster the creation of community-wide gathering places (1), and to contribute to a sense of “school spirit” (1).

Competition

A final category consists of a unique reason. This is the simple notion that a university needs to have housing on campus because every other major university has it as well (3). The implication of this is that for a university to compete with other universities, and draw from a cross-national or even international pool of students, it must provide housing on its campus. Some participants qualified this by explaining that in many other countries, universities typically do not provide housing and have a more regional focus. But it was generally understood that on-campus housing is an expectation of competitive American universities.

4.3 Conversation on the MIT Campus

In this section I analyze the discussion surrounding the questions, “What elements should a university campus have in order to support its residential function?” and “How does the MIT campus perform with regards to these elements?” As previously mentioned, the responses to these two questions were not easily separable into two discussions. This is because whenever participants began to discuss a particular campus feature, it was natural for them to discuss that feature within the context of the MIT campus, or to explain a point by comparing the MIT campus to other university campuses. Sometimes, conversely, participants would begin a topic of discussion by making a comment about the MIT campus, and the discussion would then lead to a broader issues about residential campuses in general. In order to reflect the nature of the discussions, this section analyzes the discussions surrounding both questions simultaneously.

The structure of this section is meant to reflect a “campus-wide conversation” on the topic of how campus development affects quality of life for MIT residents. To accomplish this, I have first identified major discussion topics that arose in multiple conversations. The topics are presented in a series, broken into the three major theme categories of **resource provision**, **campus layout**, and **campus feel**. The topics have not been ordered by any specific method, but the order is intended partly to reflect the order in which the topics typically arose in conversation, partly to reflect the frequency with which topics arose, and partly to maintain a natural, conversational flow from one topic to another.

Within each topic, I have presented the comments, discussions, and debates relating to that topic as if they were part of a single conversation, with participants from different sessions agreeing with, disagreeing with, or extrapolating upon each others’ ideas. It is worth noting that not all comments and discussions fit easily under one

topic, and it is my hope that the reader will recognize where discussions presented within one topic have relevance to other topics as well.

4.3.1 Resource Provision

One of the most common topics of discussion across campus was the provision of resources such as food, shopping and entertainment to campus residents. Discussions at the Warehouse, PBE, and East Campus involved a general discussion of the MIT as being “self-sufficient,” as having the resources of a “small city,” and providing resources that are “at one’s fingertips.” Some suggested that having necessities provided conveniently on campus allows students to focus more time and energy on their work.

As a complement to this discussion, participants at Tang suggested that a university may either provide resources internally or provide convenient transportation in order to access them within the city. Participants at WILG suggested that parts of the city neighboring the campus also play a role in supplementing the resources available on campus.

Food

Food was by far the most prominent topic of conversation. In nine out of the thirteen sessions, the ability to provide food conveniently and at low cost was either the first or second feature identified as a necessary element of a residential campus.

On the more general side of the food discussion, there was a common sentiment that choice is an important quality. Participants at WILG agreed that the campus must provide a wide variety of options so that residents can choose themselves how to eat. Participants at MacGregor agreed that they favor the current “non-mandatory” dining system at MIT because it allows people greater choice. Participants in many residences including Random and East Campus indicated that they

appreciate the freedom allowed by having kitchens in residence, while participants at PBE and French House expressed satisfaction in being able to share meals at home as a community. The importance of variety and choice is a pervasive theme throughout the discussion of food in the MIT context, as many of the comments reflect there being “too few options” for food on campus.

Grocery stores were commonly mentioned as a primary necessity in providing residents with a variety of food options. Participants at Warehouse, Edgerton, Random and WILG agreed that access to a supermarket is important, and that having Star Market nearby positively supports their quality of life. At East Campus, McCormick, French House, and Next House, participants emphasized the importance of being able to buy groceries, but agreed that Star Market is very inconvenient to access without a car. For some, this trip involves both a long walk to Massachusetts Avenue and then another long walk up Massachusetts Avenue to Star Market. The other grocery option for these residents is LaVerde’s Market, which has a smaller selection and higher overall prices. But residents of French House and Next House indicated that even LaVerde’s can be inconvenient, and some grocery shopping is done at the MacGregor convenience store, which has even less selection and higher costs than LaVerde’s. East Campus residents expressed similar frustrations with Pritchett convenience store in Walker Memorial. For French House, in which residents cook common meals and thus must buy large quantities of groceries for the house, residents have groceries delivered, which they say can be very expensive.

On-campus dining services were discussed as well. At Next House, which contains an in-house dining hall, participants agreed that the quality of the food prepared is not worth the price charged for it. At Simmons Hall, participants did not express dissatisfaction with the food but mentioned that they must participate in a dining plan that discourages them from eating at other places. At McCormick Hall, which contains an in-house dining hall that is not functional, residents expressed displeasure

that they do not have a commons dining experience that might enhance community interaction within the residence. At East Campus, which is not near any active dining halls (dinner is not served at Walker Memorial), participants acknowledged that the area is underserved by campus dining but said that they would prefer not to have dining services provided by MIT, and would rather see more private food providers established in the area. One rare positive reaction to on-campus dining services was that participants at Eastgate said they liked the new restaurants in the Student Center, the Alpine Bagel Cafe and Arrow Street Crepes.

Participants in other sessions also commented about off-campus restaurants. In the session at Edgerton House, participants commented that there are not many “cheap, convenient” restaurants in the area. However, in the session at Random Hall, participants expressed satisfaction in having a variety of restaurants nearby, and that those restaurants are “integral” to life at Random.

Some participants commented specifically about the provision of food late at night. Participants at the Warehouse, Random, and Simmons mentioned that late-night dining is something that is needed but largely lacking around MIT. One important exception that was mentioned by participants at Random is Munchies, an all-night convenience store located within the gas station next door to them. Also, while participants at Edgerton expressed appreciation in having Star Market nearby, they also expressed frustration that it is no longer open all night.

Finally, some of the discussion on the importance of food provision emphasized the function of food as a supporter of community interaction. In many of the sessions, the importance of food in supporting community was implicit—most sessions took place during a common dinner or social event with snacks and refreshments. At McCormick, participants indicated that the lack of a fully-functioning dining hall has led many residents to cook and eat dinners alone. At Random, participants pointed out that the phenomenon of seeing MIT community members at area restaurants or

Star Market provides a “neighborhood” feel for people living there.

Retail

Most of the comments regarding shopping for day-to-day necessities were similar to the comments regarding food. In discussions at PBE and WILG, participants mentioned that the campus itself is “self-sustaining” in terms of providing many retail necessities in the student center, though most of them are overpriced. In discussions at East Campus and Eastgate, participants pointed out that there were few places to do shopping in the area, or that the campus seemed to be isolated from many retail amenities.

It appears from the discussions at the Warehouse, Random, and McCormick that the Cambridgeside Galleria is a popular shopping destination for MIT residents. However, participants in these sessions shared the opinion that it requires a long walk to get there, and there is no convenient transit route to it. While some commented that on a nice day they appreciate taking the walk, others mentioned that it is a difficult trip when one has to carry large purchases.

Getting into “the city”

A common topic of conversation was access to “the city” in order to access resources and amenities, including food, retail, and entertainment as well. While “the city” was typically discussed in vague terms, it tended to refer to areas such as downtown Boston and the Back Bay, as well as Harvard Square and Davis Square in Cambridge. Getting into the city was mentioned as being particularly important for entertainment and recreational opportunities.

At sessions in six undergraduate residences, participants commented that while the campus provides some recreational opportunities, students also often like to get into the city, or even outside the city, on weekends. In a couple of these discussions

people commented that they appreciated the choice of having things to do on campus or off campus. In three graduate residences, participants said that recreational opportunities were largely lacking around the campus, and that the ability to travel into Boston, Harvard Square, or Davis Square is a necessity.

While reactions to the location of the MIT campus proximate to “the city” were uniformly positive, the discussion around transportation into the city was more varied. Most of the discussion of transportation to and from the campus area centered around transit service, although participants at Edgerton noted that the lack of parking around campus is an issue, and participants at Random commented that a rental car service available to students might provide needed opportunities to escape the city and go to places not served by transit.

On the subject of transit access, participants at Eastgate and East Campus agreed that they are well served, and that having the Kendall Square T station nearby is a major convenience. Participants at Random expressed similar thoughts about the Central Square station. They even expressed a special sense of pride that their closest T station is not the official MIT station, noting that the Kendall Square station is not really on the MIT campus, anyway.

Participants at most other residences, including Edgerton, French House, Next House, Simmons, PBE, Tang, McCormick and MacGregor, commented that the Kendall Square station is too far away, in some cases prohibitively far. Participants at Tang suggested that MIT needs to provide more frequent and reliable transportation to travel between the transit stations and their home.

Walking into the city also seemed frustrating for residents of most west campus residences. Participants at PBE, MacGregor, French House, Next House and Tang expressed frustration at being located right across the river from Boston with no means to get there, except by a walk to Massachusetts Avenue and then a long walk across the Harvard Bridge. At two of these sessions, participants made the comment

(somewhat facetiously) that they would like to have a bridge connecting the front of their residence directly to Boston.

Participants also commented that the campus requires better east-west transportation. This relates to the aforementioned issue of getting to the Galleria, which is in an area not well connected to the MIT campus via public transportation (though it does have service), as well as the issue of getting to the Kendall Square station from west campus and even more generally getting from one side of campus to the other. Participants at three sessions commented that the CT2 bus would be a great benefit to residents if it ran on a more convenient schedule.

4.3.2 Campus Layout

In many sessions, the overall shape and layout of the campus featured as a prominent topic of discussion. As part of these discussions, I often posed the question, “Do you consider your residence to be on or off campus?” The answers led to interesting discussions about the shape and character of the campus.

The residences that considered themselves “off campus” or outside of the campus area were Random, WILG, and the Warehouse, although there was some debate among participants as to whether their residence could actually be defined as a piece of the campus that was separated from the rest, like an island. In each of these discussions I asked participants to define where the campus boundary actually was. In all cases participants agreed that the northern boundary of campus was along Massachusetts Avenue somewhere between Vassar Street and Albany Street. In fact, most participants agreed that the landmark designating the northern edge of the campus is the nuclear reactor.

Participants’ comments about the shape of the campus were largely negative. In discussions at the Warehouse, WILG, Next, Simmons, PBE, Tang, Eastgate, and

East Campus, participants commented that the campus was either “too long,” “too linear,” “too rectangular,” “too extended,” or “fragmented.” In almost all of these discussions, participants agreed that the campus lacks necessary central elements for providing a campus feel, as the Harvard Yard/Harvard Square area does for Harvard University.

Residence location

Participants had largely negative things to say about the configuration of “dorm row.” In six of the sessions, including those at McCormick, PBE, French House, Next House and Tang, participants stated that they did not like the current arrangement of dorms along a row, or wished that residences were configured differently. In these discussions, participants said that a “courtyard” style of residence distribution would have been preferable to a row, and that clustering residences in general would have been better than spreading them out. Only at MacGregor did participants indicate that they liked dorm row, particularly because their position in the middle allowed them to have a greater degree of interaction with people traveling along Amherst Alley.

Discussions on the layout of the campus and the placement of residences led to a discussion on how campus layout effects the residential experience. One effect that was cited in several discussions is something called “MIT inertia.” This is commonly used to describe the phenomenon of students not wanting to leave their residence, but in these discussions it more specifically referred to a phenomenon of students not wanting to travel “farther out” (i.e., farther away from the main campus) than their place of residence. This was reflected in comments from participants at Next House that few people from other residents like to visit, along with participants in a few other discussions who independently expressed pity for those who live at Next. Participants at Simmons reflected similarly on their own experience, because no other

students live on Vassar Street and thus it seems that few people venture out.

Another noted effect was the difference in the characteristics and “personalities” of the communities within the different residences. Each residential group at MIT has a specific culture that has its own unique characteristics and carries with it stereotypes about the people who live there. A phenomenon known as the “east-west divide,” cited in at least five of the sessions, refers to the differences in student culture between undergraduate dormitories on the eastern and western sides of campus (with Random falling into the “east” category). There was much debate over the positive and negative aspects of this phenomenon among and within the sessions. Many participants felt that it is important for residences to be separate in order to form independent cultures and thus strong internal communities, and that having all residences clustered together would “homogenize” the residential cultures. However, others commented that the separation among residences, and the fact that many students interact infrequently with residences that are not their own, leads to negative stereotypes and some social friction among members of different residences. Some participants felt that it would be ideal to have a campus in which residences had different internal cultures but could interact with one another more easily, while others felt that the internal cultures would not survive without some sense of isolation. This debate did not reach any clear resolution.

Activity centers

Within the discussion of the overall shape of the campus, participants frequently commented that the campus is too long or spread out, with no sense of a center. In many sessions, this theme continued into a discussion on the lack of a central congregating area around campus. In almost all discussions, participants expressed some sort of dissatisfaction at the lack of an activity center, particularly after hours, and felt that this was costly to a sense of MIT community and school spirit.

Participants in discussions at the Warehouse, Next House, Simmons and MacGregor all noted that MIT is in need of a central congregating area that is active at night. They mentioned Harvard Square and the student center at Northeastern University as examples of successful college activity areas, and noted the efforts being made by the University of Pennsylvania and Temple University in Philadelphia to support a greater nightlife around their campuses. Participants at Eastgate noted that they would like to see more coffee shops and general places to hang out around campus, especially ones open on evenings and weekends. On the other hand, participants at the Warehouse commented that the MIT campus contains many activities and small gathering places, such as LSC movies, the Thirsty Ear Pub, the student center video arcade, and department lounges, but the problem is that these activities are too scattered around the campus.

Related to this discussion of a lack of a central congregating area was a discussion around the use of the Student Center. Participants at WILG, Simmons, and McCormick noted that the Student Center is inconvenient and not actually “central” to anything. It is at the edge of the academic and research side of campus and at the edge of the student housing side of campus as well, but does not link the two. Participants at Next House and Simmons noted that the Student Center doesn’t perform well because it is unattractive and its internal structure does not best support its uses. On the other hand, participants in many sessions including those at the Warehouse, Random, PBE, Tang, Eastgate, and East Campus mentioned that they think the new furniture on the first floor of the student center is a good improvement that allows more people to “hang out” there and provides a stronger community feel.

Participants in many sessions expressed disappointment at the lack of common recreational areas on the main campus. Participants at the Warehouse and WILG brought up the idea of establishing an all-night “Student Center-like” activity area somewhere in the center of the main campus, such as Lobby 10 or Lobby 13, but

debated whether such a place would be used. Participants at Random, Simmons, PBE, and Tang also mentioned that they would like to see more places to sit and hang out around main campus, pointing out that the Dome Cafe seems to be the only central place on main campus to do that. Some mentioned that lounges along the infinite corridor would be useful, since it is probably the most active of all places on campus, yet there is no place to “stop” along the way.

Residential and academic uses

The broader discussion of campus layout also involved discussions on the relationship of particular uses to one another. In one discussion, participants specifically questioned why MIT made the decision to separate academics and research from residential uses. It seemed that some of the sites where new research centers are being constructed might have been appropriate for new residences as well.

Participants in residences that considered themselves away from academic parts of campus such as Random and Next House made comments indicating that a physical distance from campus led to a psychological distance as well, allowing for a comfortable “buffer” between work and home. However, participants in residences closer to campus did not indicate negative feelings associated with being too close to their workplace. On the contrary, it was agreed upon at PBE that their house constitutes a “home within campus,” a refuge that is nearby enough that students can escape the academic world even for a short time during the day if they need to. At East Campus, where some participants considered themselves “one with the campus,” they similarly felt that they were “on the edge” in the sense that their dorm is separated enough, at least psychologically, from the academic uses of campus to allow for escape.

Another set of discussions focused specifically on the topic of libraries. Participants at Next House, Random, and WILG noted that the library system does not work very well for them, either because it is difficult to access or because it is too

decentralized. Participants at Next House agreed that the lack of academic resources such as libraries has an effect on their learning. Some even mentioned, perhaps facetiously, that students at Next House might perform better academically if the libraries weren't so far away for them. These participants also mentioned the counter-example of Radcliffe College at Harvard, where, even though the residential quad is somewhat separated from the main campus, there is still a library and other common facilities for study and community gathering.

On the other side of this discussion were participants at East Campus, who commented that they found library facilities to be very convenient for study. They even mentioned that empty classrooms could be used at night for group study or other after-hours academic activities.

Athletics Facilities

In several sessions, participants noted that access to athletics facilities is an important quality of a residential campus. At the conversation at the Warehouse, participants pointed out that participation in sports can serve a community-building function. Those participants who commented expressed overall satisfaction with the convenience of accessing athletics facilities, and participants in at least four discussions agreed that people are very satisfied with the new Zesiger Sports and Fitness Center. One participant even observed that MIT seems like an overly fitness-conscious campus, with ample centralized fitness facilities as well as exercise facilities in most residences.

Part of this conversation focused on Briggs Field. Participants in some sessions mentioned that this field serves as a good resource when the weather is warm, and that it must be useful because it is booked solid whenever it is usable. However, participants in discussions at MacGregor, French House, Next House, Tang, and Simmons strongly agree that Briggs field is too large and empty most of the time,

especially at night, that it becomes muddy and unusable during winter months, and that the fence around it is an annoyance. The muddiness, darkness, and possibility of having to climb fences makes the field very uncomfortable to cross, but people cross it anyway because it is the most convenient way to get back and forth from Vassar Street to dorm row. As previously mentioned, this difficulty contributes to a sense of isolation for residents of Simmons.

Pedestrian access

Many aforementioned discussion topics deal with the ability of campus residents to access different parts of the campus by foot. Issues relating to the “linearity” of the campus, the “inertia” that isolates residential communities from one another along dorm row, the difficulty of west campus residents in accessing Star Market and public transit, and the barrier created by Briggs Field are all examples of issues that relate to the topic of pedestrian access. A few other issues were mentioned as well. Participants at the Warehouse and Tang commented that there needs to be a safe and convenient way to cross the railroad tracks, so that Warehouse residents can access west campus facilities and Tang residents can access the emerging graduate student community in Cambridgeport. The current problem is that the Fort Washington crossing and the Vassar Street Garage overpass both feel unsafe, and so the preferred and most convenient way to cross is illegally, by passing through the fences surrounding the tracks at the end of Pacific Street. In addition, participants at the Warehouse and Edgerton mentioned that sidewalks along Albany Street and from Albany Street to campus are in fairly bad shape.

Providing another perspective, participants at East Campus expressed overall satisfaction with pedestrian access around the campus. They mentioned that the campus feels well-connected, that pathways are convenient and that everything is close. One participant claimed that the MIT campus has advantages over larger

campuses that may be more spread out and require transportation to get from one side to the other, because one can get from one end of the MIT campus to the other in about 15 minutes. This is contrasted with the comments of participants at Next House, Tang and Simmons, who complain that it takes 25 minutes or more to get from one end of campus to the other.

Outdoor spaces

A conversation topic that came up several times was the quality and amount of “open space” or “green space” on the campus. This was an interesting part of the conversation because participants differentiated among different types and functions of open spaces. For example, in the aforementioned discussions criticizing Briggs Field, many participants believed that it does not serve effectively as an “open space” because it is enclosed by a fence.

Participants at Edgerton, Random, Next House, Tang, Eastgate, East Campus and McCormick all mentioned that outdoor lawn space is an important feature that enhances the quality of life on campus. These participants also largely agreed that MIT is lacking in the provision of open space. MIT was compared to campuses such as Berkeley and Wellesley, where there seems to be much more outdoor activity, at least during the daytime.

There was debate, however, as to whether more green space was actually needed on the MIT campus, and whether it would be used. Participants at Next House, Simmons, and PBE all suggested that outdoor activity at MIT is heavily impacted by the fact that the weather is bad for most of the academic year. Participants in a couple of sessions even suggested that instead of providing more green space, MIT should extend its tunnel system to the residences. Participants at McCormick made a counter-point that when the weather does get nice, it makes people happier to be outside. In addition, participants at Edgerton debated whether or not the open space

that did exist at MIT was underused because students simply do not have time to enjoy it, and so more open space would go underused as well.

Participants at Tang brought up the idea that open space at MIT needs to be more usable and “efficient.” Spaces need to have more places to sit, picnic tables, barbecue pits, and the like to allow people to use them for casual recreation. Participants at McCormick and East Campus agreed that the campus would be improved with more outdoor seating.

In one case a faculty housemaster, discussing the impact of living on the MIT campus with a family of children, mentioned that MIT needs to provide more “play space” on the campus in order to support more families and children in residence. While this could not be supported through discussions involving other residents with children, the topic of “play space” did come up within the context of the student experience. At McCormick, participants mentioned liking the “play spaces” available to East Campus dorms, which have courtyards with places to sit and areas for games. Participants at East Campus similarly acknowledged their own barbecue pits and volleyball court as well as the tire swing in the Senior House courtyard. Also, participants at MacGregor agreed that outdoor courts that are open for general use, such as basketball courts, would be a useful addition on the western part of campus.

As a final topic within the broad subject of campus layout and uses, there was some discussion on the relationship between the campus and the Charles River. This began with a participant at the Warehouse commenting that the design of the MIT campus does not take good advantage of its river access. The construction of residences along Memorial Drive created a “wall” between the campus and the river. Participants at Eastgate mentioned that the river side of the campus could make a nice park with more places to sit and better plantings.

Participants along dorm row hardly mentioned the river in their discussions, and so I had to prompt them on the topic. Participants at Tang, French House, and

McCormick agreed that the river is difficult to access because Memorial Drive serves as a barrier, and because the spaces at the fronts of their residences are not designed to open to the river. On the subject of river views, participants at French House commented that the river view is nice, but not important enough to justify the separation from other residences, while participants at Tang mentioned that residents appreciate the river view but realize that it is one of the few amenities the building has, and participants at MacGregor mentioned that they enjoy the river view but equally enjoy the ability to view what is happening on campus.

4.3.3 Campus Feel

Some of the prior topics of conversation contain items also related to the theme of overall campus “feel.” The impressions of the campus being too linear, non-centralized, and fragmented imply a particular kind of feel, leading one participant to comment that MIT doesn’t really feel like a “campus” at all. The discussions regarding the lack of activity centers and late-night dining on campus contributed to feelings expressed in several sessions that the campus has no sense of nightlife. Similarly, the discussions related to open space and river view on campus are generally related to a sense of campus look, feel, and character.

Aesthetics and architecture

Continuing on this topic of “campus feel,” participants made several comments regarding the overall aesthetics of the campus. Participants at Random, French House, and Tang commented that the MIT campus has an industrial or factory-like feel. Participants at the Warehouse and Edgerton commented on the poor aesthetic quality of the streetscape. Participants at Simmons and Eastgate simply commented that MIT is not pretty.

Some participants commented on the architecture of the MIT campus being ugly and depressing. A participant at East Campus commented that most buildings seem to be a uniform gray, and that more color in campus architecture might have a positive effect. Some participants also seemed to feel that the newer architectural elements on the campus are not helping to solve the problem. Participants at Tang agreed that the look of Simmons Hall, along with the rest of MIT's architecture, puts people in a "bad mood." Participants at East Campus note that the major types of architecture on campus—the gray limestone neoclassical, the cast concrete, and the new metallic avant-garde—all contribute to the same depressing effect. The exception was the Zesiger Sports and Fitness Center, which received only positive comments.

There were similar reactions to the new MIT campus aesthetic in other sessions as well. A participant at Simmons asserted that MIT could get a better design result without "world-class architects," citing the Warehouse and Sidney-Pacific as examples of good design that was more cost-effective than other recent building projects on campus. Participants at McCormick, discussing the lack of availability of seating areas on campus, stressed that benches should not be "artistic" but should simply serve their function well. Participants at the Warehouse and Random commented that they hate the new information kiosks in Lobby 7, and wish that MIT would return to allowing drop posters. In addition, participants at Random indicated they would like to see more sculpture pieces in lobbies, and a participant at East Campus commented that some of the most interesting aesthetic pieces on campus are ones whose author is unknown, such as the bubble machine in Lobby 6 and small murals that have appeared outside of some buildings.

Participants in many discussions indicated that MIT's architecture is highly "varied," and an interesting debate arose over the question of whether this is appropriate, or whether it would be better to have all the architecture on campus fit a similar style. Participants at Tang wondered whether more architectural "continuity" would help

make the campus less depressing. At McCormick, that sentiment initiated a debate between the idea that continuity in architecture creates a stronger campus feel and the counter-point that variation in the architecture of residences reflects the different communities and cultures in each. At MacGregor and Simmons, participants agreed that variation in the architecture is preferable.

Safety and security

A final topic discussed in the category of overall campus feel is the feeling of safety and security on campus. In most sessions, this topic did not come up until I prompted participants to discuss it. In eight sessions, participants indicated that they felt very safe, or that safety was not a major consideration for them.

However, participants at the Warehouse and Simmons mentioned that they had safety concerns traveling from main campus to their residences. Participants in both sessions indicated that traveling on Albany Street or Vassar Street at night feels unsafe, mainly because those streets are dark and largely deserted at night. Also, as previously mentioned, participants at the Warehouse expressed serious concerns about safety while crossing the railroad tracks, and participants at Simmons expressed similar concerns about safety while crossing Briggs Field.

There was also some discussion related to off-campus safety and comfort in general. At the Warehouse, Eastgate, and McCormick, participants argued over whether Central Square is safe or unsafe. Some participants mentioned that Central Square is an unpleasant and unsafe place, while others responded that they did not feel uncomfortable there at all. Participants at the Warehouse acknowledged that there may be a gender issue, and that women may find the area more unsafe than men, as this was reflected in the debate. However, at Random, located very near Central Square on Massachusetts Avenue, participants agreed that the area feels very safe—despite acknowledging some incidents of violence that have occurred very nearby in

recent years. Participants indicated that living at Random involves developing an “urban sensibility” and an understanding of how to deal with potential problems. Moreover, some participants at Random indicated that they felt less safe walking by the residences along dorm row, where there is much less pedestrian activity at night.

Chapter 5

Conclusions and Strategies

5.1 A Framework for Analyzing and Evaluating the Residential Campus

In undertaking this study, I believed that there needed to be a framework for analyzing and evaluating the MIT campus from the perspective of residents. It was also my hope that after discussing this issue with residents themselves, and hearing how the campus affects their quality of life positively or negatively, I would be able to construct an abstract framework for the systematic evaluation of the campus. The following is a recommended system for analyzing and evaluating the campus as a residential environment, based on the information gathered in the course of this study.

I have found one of the most revealing outcomes of this study to be the correlation between residents' own impressions of why a university has a residential function and the history of ideas that has shaped the development of the residential campus over time. History has shown that the creation of university residences is most often motivated by a need to provide housing that is affordable and convenient for students traveling away from home. These two ideas were also most prominent among

residents' reasons why universities should provide residences. History has also shown that after universities establish housing for practical reasons, they tend to recognize that living together as part of a campus environment has an impact on the social development and overall learning experience of students. Residents correspondingly indicated that a sense of community and an immersive learning experience are important reasons for having a residential university, perhaps as important or not quite as important as convenience and cost. Over the history of MIT's development, increases in the provision of housing have generally been associated with changes in the MIT's national "prestige", and this is reflected in residents' observation that housing is necessary for a university to effectively compete with other universities for students. As a final example, the complicated situations faced by universities whose residential systems were designed to suit an "in loco parentis" function are reflected in residents' conflicted reactions towards the idea that a university residential system should be expected to control student behavior.

Another revealing outcome of this study is the relationship between the eight categories of reasons for having a residential campus and residents' comments regarding the specific quality of the MIT campus. Most important topics of discussion can be represented in terms of one or more of the eight noted "considerations". In the discussion on food, residents complained about having to trade cost for convenience, as residents of the west campus were unsatisfied because they could either pay higher prices for food that is available at nearby locations or save money by traveling to inconvenient places such as the supermarket. Community was also an issue, as some residents supported community dining as a way to enhance community interaction, while other residents criticized community dining for its control over students' eating habits. In the discussion on residential location and activity centers, residents demonstrated how inconveniences in getting from one part of campus to the other has negative impacts on community interaction and collegiality, since it disconnects resi-

dents from each other, from the center of campus, and from academic uses. Residents also indicated that the overall feel of the campus, along with the lack of activity centers and open space, has negative effects on their own comfort and on the coherence of the area as an integrated “campus”. Finally, residents made indirect references to the competition issue by comparing the residential experience at MIT with the residential experience at institutions that are comparable academically, such as Stanford, Berkeley, Harvard, and Yale.

Because these “c-words” seem to be useful in categorizing not only the reasons for having a residential university, but also in explaining the history of the residential university and criticizing the university campus as a residential environment, I am inclined to believe that this set of ideas may comprise a suitable framework for analyzing and evaluating the quality of the MIT residential environment. Therefore, I recommend that this list of considerations, with some modification, serve as a set of criteria to be used in evaluating campus development from a residential point of view. The modification I have made is the substitution of **control** for another c-word, **choice**, which is related to “control” (perhaps as its opposite), and seems to be a more appropriate ideal to consider based on information from the history and discussions.

The following is a summary of what I have chosen to call, for now, the “8C” model of residential campus analysis. This summary is meant to define the criteria themselves and describe the relationship among them.

Convenience and Cost. These two factors comprise the “baseline” of the framework. If university affiliates from outside the region of a university could easily find housing that is a walkable distance from campus, and pay for such housing at a low price, then university housing would probably be deemed unnecessary. Moreover, if university housing were not close to the other functions of a university, and if it were unaffordable or difficult to obtain, then it would probably serve no purpose. These

criteria can be thought of broadly as the basic economic decisions that people make all the time, since, within the MIT context, time is more important than money. So in considering any kind of campus development that is meant to serve residents, particularly with regards to its location, the primary considerations should be to minimize the time and difficulty residents will have to endure, as well as minimizing the monetary costs. If these two basic criteria are not met, it becomes very difficult to achieve the rest.

Community and Collegiality. The university is a setting in which people who have a common interest in learning can interact with each other and share ideas, and so the residential function of a university should provide opportunities for residents to interact with one another at all levels. In a broader sense, the university's residential function should allow for a maximum of interaction with the university at large in order to foster, as residents have proposed, a more "immersive" educational experience in which people are learning at all times. In order to achieve this level of interaction, it is important that the prior considerations are addressed. Wherever it is inconvenient or costly for people to travel or communicate, there will be fewer opportunities for interaction.

Comfort and Coherence. After considering the campus from an economic and social perspective, it is important to ensure that the campus is designed in such a way that makes residents feel it is their home. All the uses of the campus, as well as the pathways connecting them, should provide a sense of physical and psychological safety and comfort. The campus should also be coherent as a residential environment, meaning that it has an integrated feel and an overall sense of identity. If addressed properly, the considerations of comfort and coherence can enhance a campus residential environment that is simply convenient and community-supporting by allowing people to take pride in their surroundings and encouraging people to venture out and interact with the form of the campus.

Choice. If the preceding six criteria have been considered, it should not be difficult to also ensure that residents have some ability to define a personalized residential experience for themselves. The set of individuals who define a university is typically diverse, and is becoming increasingly so. While convenience, cost, community, collegiality, comfort and coherence should be considered uniformly across the campus, at the detailed level, options should be provided that may suit different individual lifestyle choices.

Competition. Only when all other factors are accounted for can the university begin to consider how it performs with respect to other universities. This consideration must be saved for last, because without the preceding criteria, a university might be comparing itself along the wrong lines. For instance, MIT might aim to create an improved aesthetic for its campus, in order to compete with other campuses that are praised for their aesthetic qualities, without realizing that it needs to improve in terms of providing convenient access or opportunities for interaction.

The results presented in this study provide a “snapshot” evaluation of the campus at this particular point in time, considering the particular characteristics of the present MIT residential community. Hopefully, these criteria can be useful in performing ongoing evaluations of current as well as future campus development. MIT should continually ask its campus residents to evaluate the campus according to these criteria, using discussions like the ones I have initiated but perhaps using survey mechanisms as well. MIT should also ask its present residents to evaluate new development policies and plans according to these criteria. Additionally, MIT should develop ways in which future residents can evaluate the campus. This study has dealt primarily with single undergraduate and graduate students, and only marginally with faculty and married students, because that reflects the current composition of the campus residential community. While in many respects the impressions of the few faculty and students with families were similar to those of single students, it would be helpful to

undertake this type of analysis with a greater number of faculty and staff if they are expected to play a larger role in the residential community in the future.

Finally, while these results are based on impressions from the MIT community and are thus intended to be applied to MIT in particular, it would be interesting to learn whether they might be applicable to other universities as well. This could be accomplished by performing another study such as this, to determine if the criteria developed through discussions with residents at other universities share similarities with the criteria developed at MIT, or by directly testing these criteria at other universities to determine their importance. If these criteria are shown to be generally applicable, they can be a great resource for any university that wishes to improve its campus as a residential environment.

5.2 The MIT Residential Experience

In initiating this study, it was my impression that there are ways in which the campus itself contributes negatively to the quality of the residential experience, particularly with regards to supporting a campus-wide residential community. Based on an understanding of the form and uses of the MIT campus, the policies and decisions that have shaped it, the information provided through discussions with residents, and the “8C” model of residential analysis, I can attempt to explain the quality of the MIT residential experience and indicate how the campus positively or negatively effects that experience.

The current form of the campus has been the result of a campus development strategy emphasizing an overall separation of uses and a “house-style” residential system in which each separate residence has its own internal set of facilities and resources. This has proven to be a practical model, for it has allowed the research, academic, residential, and athletics programs to develop separately, and has allowed

for incremental investment into residential facilities by constructing one residence at a time. In terms of the “8C” evaluative model, the house system accounts for many important considerations, though only at the local level. Residents have some level of convenience, since many common spaces and facilities such as dining halls and kitchens exist within the residential building. Residents also experience a sense of community among those people who live in the same house or entry. The “group study” activities that occur within the house, along with the guidance that younger students receive from older students living nearby, are very valuable components to residents’ education. The quality of accommodations is generally high, both in dormitories and independent houses, and so residents generally feel comfortable within them. They also feel a sense of unity and identity within a particular residence or residential sub-group. This model has also allowed for a particular degree of choice. Residents can choose from among different types of residence— dormitory-style or apartment-style, university-controlled or independent— but once the choice of residence has been made, residents’ options are limited by the resources that are available to that chosen residence.

While MIT satisfies many residential criteria at the scale of the individual residence, it does not adequately address these criteria with respect to the experience of residents on the campus at large. Unfortunately, it is the west side of campus, where most residential resources have been created over the past several decades, where the campus seems to fail the most. Residents lack convenient access to food and transportation, and moreover, because of the arrangement of residences in a long row, they lack convenient access to other residences, which inhibits opportunities for interaction. Because many residences are far from campus, residents are isolated from academic resources, including libraries and study areas as well as faculty and even their own classes. The pathways along Amherst Street, around Briggs Field, and particularly along Vassar Street and Albany Street are recognized as not being par-

ticularly comfortable or pleasing to residents, particularly those who have to travel a long way. Residents also indicate the lack of an integrated “campus feel”, and a sense that MIT is a place where there is little activity going on, especially after hours.

Perhaps it is fortunate that MIT was not successful in its initial strategy to consolidate housing on the west side of campus, because that has allowed for some different and interesting types of residential experience to emerge. For instance, on the east side of campus, residents have convenient access to academic uses and therefore feel some sense of cohesion between their residential environment and the MIT academic environment. Also, on the north side of campus along Massachusetts Avenue, residents have access to a more “urban” experience with access to a variety of supermarkets, restaurants, and stores. In both of these areas, residents have convenient access to public transportation hubs and the commercial centers that have grown around them. On the far west side of campus, residents do not have convenient walking access to either academic resources or “urban” resources, and transportation is not conveniently available. On the other hand, it might seem that the west side of campus has the benefit of proximity to athletics resources and open space. However, these resources are perceived as being not easily usable most of the time. Moreover, Briggs Field serves as an impediment to convenience and community, because it separates residences from one another, as well as an element of discomfort, because of its chain-link fence and its deserted feel at night.

On the campus-wide scale, it is perhaps MIT’s greatest failing that it lacks a central place where all residents can gather. It is somewhat shameful that a campus with so much activity going on at all hours should feel so deserted. The lack of an activity center seems to be due to a combination of many factors, including the separation of residential from academic functions, the distribution of residences in a linear fashion away from the main part of campus, and the distribution of recreational uses, such as restaurants, movies, bars, and the like, across different parts of the

campus area. The Student Center, which might be expected to serve in this role, has been criticized for not connecting well to either academic or residential uses, for being visually unappealing, and for not containing an appropriate mix of activities to draw people in and convince them to stay. However, recent improvements seem to have helped create some sense of centrality. The addition of furniture on the first floor of the student center has made it a more comfortable place for people to sit and congregate. The completion of the nearby Zesiger Center has also contributed a sense of coherence to the athletics uses on the west side of campus, and has supported the development of community by bringing individuals from across MIT together in one setting for athletics and recreational activities.

Continuing to support the notion of an activity center on campus could have enormous benefits to the residential community. Such a center would provide convenience, choice, community, coherence, and comfort by concentrating a diverse set of resources and giving residents a safe setting in which to gather at all hours. In terms of competition, it could make MIT's campus more attractive, and provide it with something comparable to other university activity centers such as Harvard Square.

I believe that this evaluation helps to confirm, explain, and extrapolate upon the observations of the Task Force on Student Life and Learning, which found that MIT supports strong individual residential communities while lacking a sense of campus-wide community, and also found that MIT needs to more strongly integrate the formal and informal components of its educational program. It will be difficult to address either of these problems without a campus development strategy that integrates uses and provides convenient opportunities for cross-residence and cross-campus interaction. If MIT's goal is to create a greater sense of cohesion to the entire MIT community, it needs to support a residential experience that extends beyond the walls of particular buildings and considers the campus as a whole.

5.3 Strategies for Future Development

In considering MIT's apparent desire to create a more integrated living and learning experience, I am reminded of Thomas Jefferson's concept of the "academical village" as a model for the University of Virginia campus. As mentioned in Chapter 2, the academical village combined academic, residential, and common facilities into an interconnected complex that could be expanded upon over time. Borrowing from this concept but giving it a more "urban" orientation, I suggest that the ideal for the MIT campus could be an "educational neighborhood". The educational neighborhood, like the academical village, interweaves academic, research, residential, and recreational uses to create a mixed-use environment that is focused around learning. In addition, unlike the academical village, the educational neighborhood includes private and civic uses as well as institutional uses, and it is integrated with the city and region at large. The aim is to ensure that no residences are isolated, to combine the academic and residential experiences, and to provide the urban amenities of access to a variety of different resources within the area and region. To conclude this study, I have developed some recommendations on the educational neighborhood theme that might be incorporated into a future development strategy for MIT.

Residential uses typically form the overall "base" of a neighborhood. MIT should not try to concentrate residences into one area, but continue to distribute its residential uses across the campus. Residential uses could include dormitory-style housing, apartment-style housing, houses for fraternities or independent cooperatives, even condominiums. No matter the type, residences should be clustered to a degree that they are not isolated, but distributed so as to provide a cross-campus "residential feel". Residences should be connected to each other through convenient and comfortable pathways. Food uses should be similarly concentrated and distributed, such that each residence has access to a diverse set of food providers, and each food provider

serves a broad range of residences.

MIT's development history has shown that once areas have begun to be used for housing or any other use, they will likely continue to be used that way despite attempts to remove and replace them elsewhere. MIT's resources are limited, the need to develop housing will probably never subside enough to allow for a consolidation of residences into one area, and the availability of different housing site options will benefit MIT's long-range planning. Therefore, for practical reasons as well as for the betterment of the campus environment as a whole, MIT should consider developing and encouraging the development of more housing in various parts of the neighborhood, particularly those areas where isolated residential buildings have already been established.

The results of this study indicate that placing residences near academic uses does not have a negative impact on residents' experience. In fact, residents can benefit from living near academic uses by being closer to their classes, having greater access to study resources, and feeling more connected to the campus at large. This implies that MIT might consider changing its current development policy in a couple of different ways. First, it could develop more housing on the east side of campus, to be closer to academic and research facilities. This would give more residents the opportunity to benefit from living close to academic uses while strengthening the residential community in the area. Additionally, MIT might develop more academic uses on the west side of campus. Facilities such as libraries, classrooms, and even faculty offices on the west side of campus would better integrate residents into the academic fabric of MIT, as well as bringing faculty into closer contact with a large residential community. Strategic positioning of such academic facilities might also help to connect west campus residences to one another and provide activity areas that lend a greater sense of cohesion to the west campus.

This study has also shown that the policy of concentrating athletics fields on the

west side of campus has proven to have some negative impacts on the experience of west campus residents. Not only is the field space inaccessible to students for informal recreational use, and unusable for most months of the year, it is also a barrier to cross-residence interaction. MIT needs to consider how to make better use of this space, so that the field space is usable and the campus has safe and convenient connections. If a strategy is adopted that calls for the development of more academic uses on the west side of campus, then a necessary converse strategy will be to develop more athletics field space on other parts of campus, such as the largely undeveloped northwest campus, the east side of campus, or even the main part of campus, if space becomes available. Smaller field spaces that can be left open will provide more convenient opportunities for recreational and intramural sports for residents not living on the west campus. For varsity sports, field locations might be considered closer to the center of campus or near high-traffic areas where they might draw spectators.

It seems likely, based on MIT's current land holdings and its most recent residential projects, that the northwest area of campus will emerge as a new residential center. If this is the case, MIT needs to seriously consider the availability and quality of pathways that link this area to the main and west parts of campus, and, vice versa, link the west campus residences to the amenities provided in Cambridgeport. Railroad crossings will be a major consideration. These should be located along all major pedestrian routes, and should provide safe and comfortable access without requiring large amounts of travel time. If the two areas are well connected, the area between Vassar and Albany Street might present opportunities for food, recreational, academic, and other uses that would serve both the west and the northwest areas simultaneously, and thus reduce the sense of isolation for both. Such development could also anticipate the development of an "Urban Ring", a public transit line circumscribing the downtown part of Boston, and in the process connecting Westgate to Kendall Square while passing through the center of the campus near Massachusetts Avenue

and Vassar Street. Such a service would connect the west and northwest parts of campus to the regional transportation network, and could encourage activities along the transit line that would link the areas to one other.

Finally, a strategy to improve the campus as a residential environment should include a plan to develop a true MIT activity center. As previously mentioned, there is a range of recreational activities taking place at all times of day and on weekdays and weekends, though at distributed locations across the campus. These activities include some restaurants, cafes, “college bars”, spectator sports, movie showings, theater performances, large parties and the like. MIT might benefit from consolidating many of its recreational activities into an area that is safely and conveniently accessible to all parts of campus. Housing should be included into this mix as well, to enliven the area and create opportunities to live within a very convenient distance of many amenities. Academic facilities such as large lecture halls might even be included.

The intersection of Massachusetts Avenue and Vassar Street, spanning both sides of both streets and possibly extending to Albany Street, might serve as an effective location for this center. This area is already near the “center” of campus, the entrance at 77 Massachusetts Avenue, which bridges the two main “halves” of the campus. If designed well, this location could conveniently and coherently link the major academic, athletic, and recreational centers of campus while positioning itself along the major pathways from the west, east, and north. This area also has a large amount of potentially developable or redevelopable space. New building space could be developed by extending the Student Center to the street-front, developing new uses in the Metropolitan Storage Warehouse, and rebuilding or renovating building 35, creating a new entrance to the main MIT academic complex that would face the northern side of the campus and Cambridge in general. New buildings could also be constructed on existing parking lots just to the north and south of the railroad tracks. Finally, this location has public transit service via the MBTA’s Number 1 bus, and

may have even better service if the Urban Ring is developed through it, which would draw people from MIT as well as other parts of the region to this particular junction.

5.4 Further Considerations

This study presents a new perspective, the residential perspective, from which to think about MIT's campus development. The recommendations I have made represent general policies and ideas that might improve the MIT campus as a place to live. However, there are many more issues that need to be considered before this can be shaped into a comprehensive development plan.

MIT needs to consider the practical considerations of how to quantify MIT's future facility needs with respect to academic, research, recreational, and housing activities. Financing needs to be considered, not only in terms of securing the funding for the construction and maintenance of MIT's own facilities, but in terms of private and civic facilities that are to be included within the neighborhood. Both of these considerations may require the use of creative financing techniques. In addition, MIT needs to consider the issue of its own land ownership and development capacity, to determine the extent of development that is feasible in particular areas. This may prove to be a difficult issue, because while zoning laws allow residential uses to be developed almost anywhere in Cambridge, university housing uses are not considered residential but rather institutional, and are much more strictly regulated.

MIT also could also develop a more specific set of design and aesthetic considerations that reflect the residential perspective. It would be best if the aesthetic considerations, as is the case with the planning considerations I have constructed, were developed through consultation with campus residents. These would help to change the image or "sense of place" of the campus, such that it has the sense of a "neighborhood" instead of the sense of a "factory", as many campus residents seem

to regard it.

Creating a campus development plan based on the residential perspective will be very difficult, primarily because there are many “non-residential perspectives” that need to be considered as well. The current separation of residential from other uses lends itself to a sense of “territoriality”, in which each segment of the MIT population has claim to its own area of land. The faculty who direct MIT’s research programs, the vast majority of whom do not live at MIT, may not react favorably to a strategy of integrating residential with research uses because they might view it as an intrusion into research “territory”. On the other hand, those junior faculty who “live in lab” might see the value of enhancing the residential quality of the campus, as well as providing nearby housing for themselves.

Similarly, the athletics department might be opposed to distributing athletics fields in order to develop uses that would bring academic uses to the west side of campus and bridge the two sides of Briggs Field. Indeed, it has even proven impossible to allow for pedestrian crossings on Briggs Field because it would compromise athletics space. Since the MIT residential community consists almost entirely of students, the residential perspective does not carry enough power to influence issues of campus development, especially when residents have a point of view that conflicts with that of the faculty or administration. The report of the Task Force on Student Life and Learning is a strong statement indicating that if MIT is to maintain itself as a top-tier university, it must bring its residential and recreational programs to the level of its academic and research programs. While this represents a strong statement, it must be supported by equally strong policies, plans, and decisions.

Additional conflicts with the non-residential perspective occur outside of the campus proper. The MIT campus area has become very attractive to companies working in high-technology fields such as biotechnology. While the educational neighborhood concept might readily include private research and development uses as an integrated

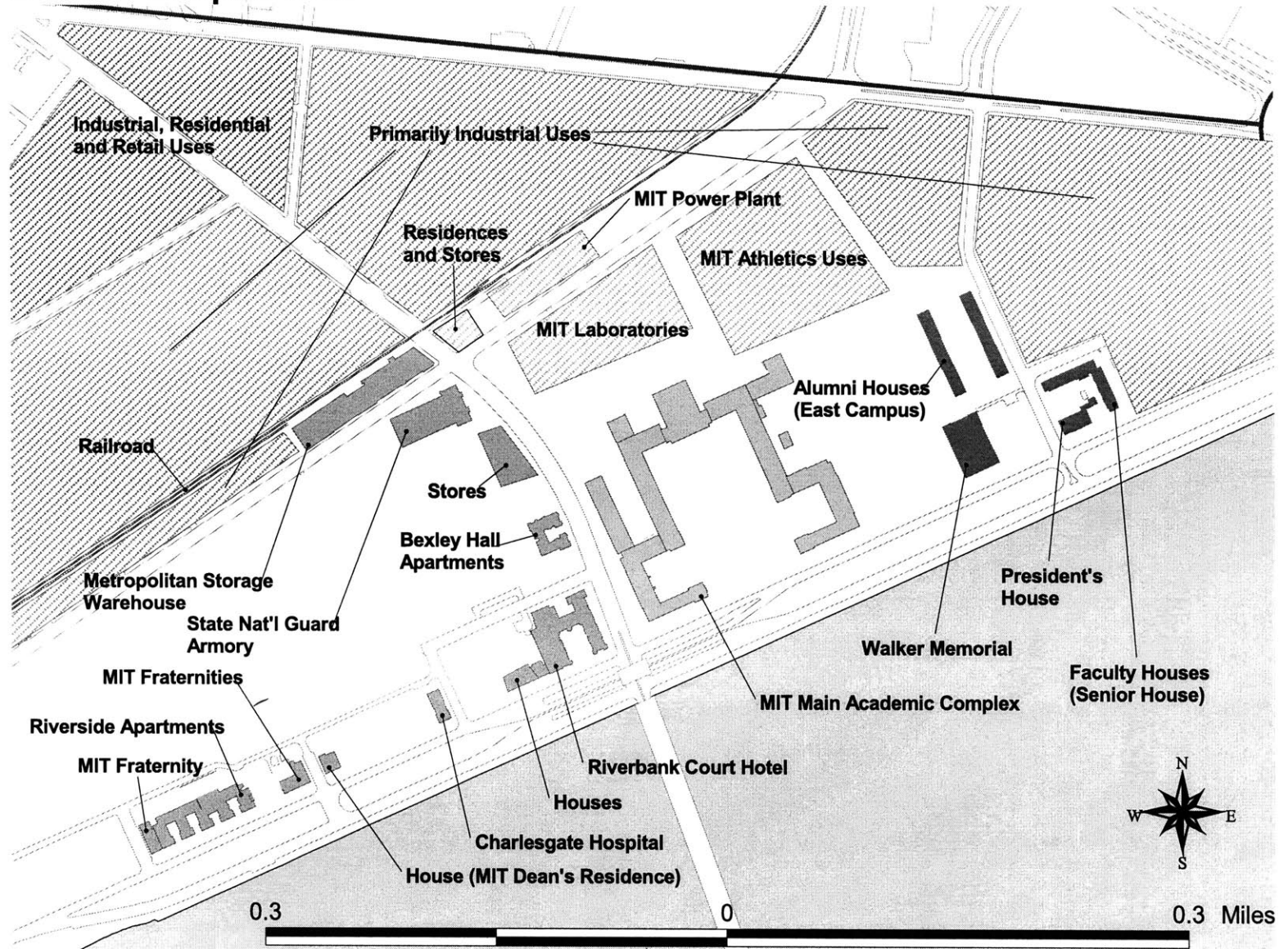
part of the urban fabric, biotechnology companies are tending to occupy large contiguous areas of land and not provide housing or residential amenities. On the other hand, in developing towards a educational neighborhood, MIT might find an unlikely ally among the residents of Cambridge, who share the goal of creating a more livable neighborhood around MIT. Already, Cambridge residents have used political mechanisms to ensure that developers of commercial property also provide for residential uses and amenities.

Finally, while MIT may not be suited towards taking a strong “residential perspective” on issues, due to its historic and present culture, one should remember that it is still a relatively young institution with respect to its academic function. Having started from having no residential function at all, it has grown greatly over time. Still, only about half of MIT’s entire student body and virtually none of its faculty and staff live on the campus. As the number of individuals living and desiring to live on campus increases, the residential perspective will become stronger. The more MIT grows as an institution, the more important it will be that it improves as a residential environment.

Appendix A

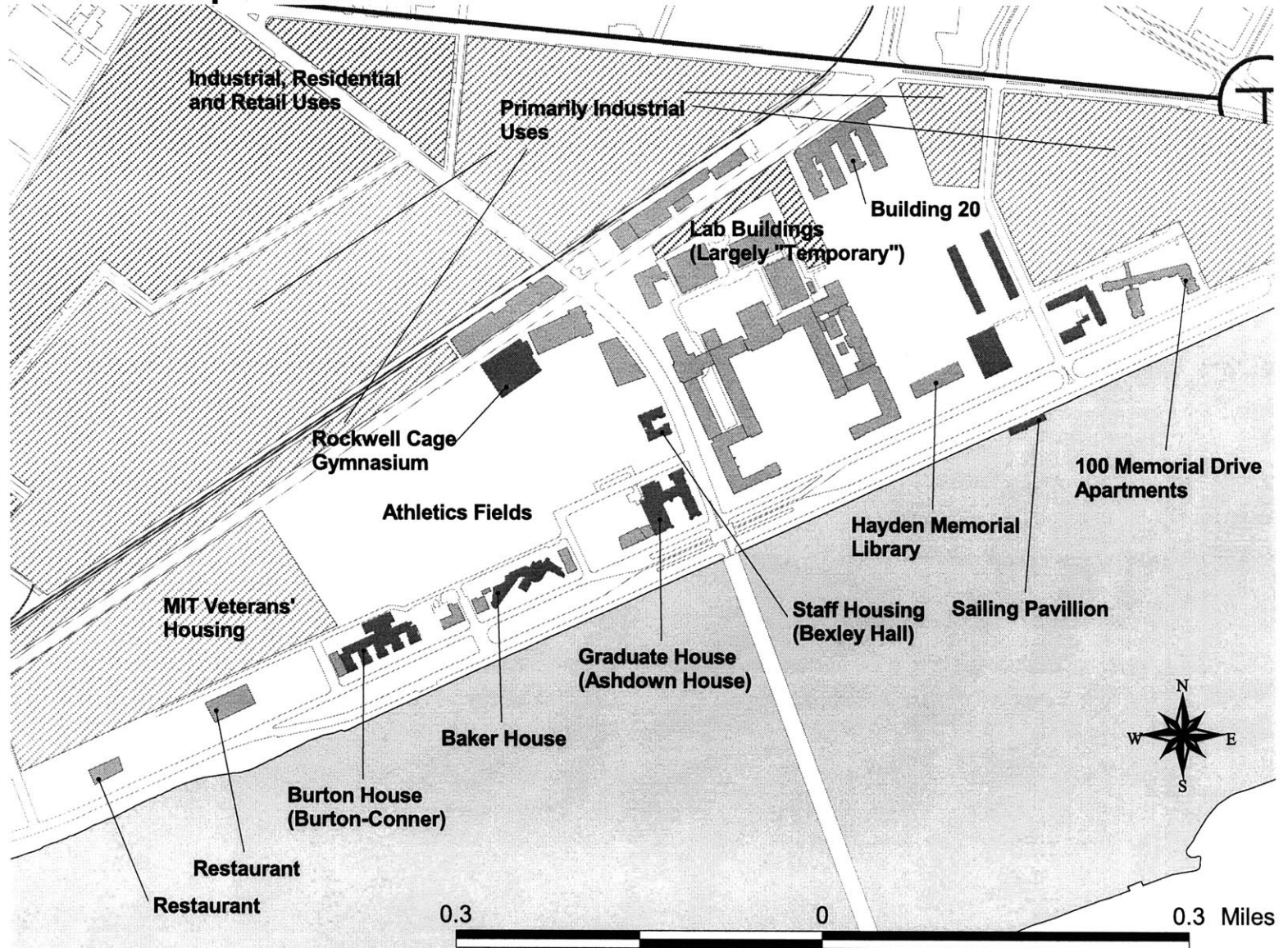
Figures and Maps

2-1 MIT Campus 1931



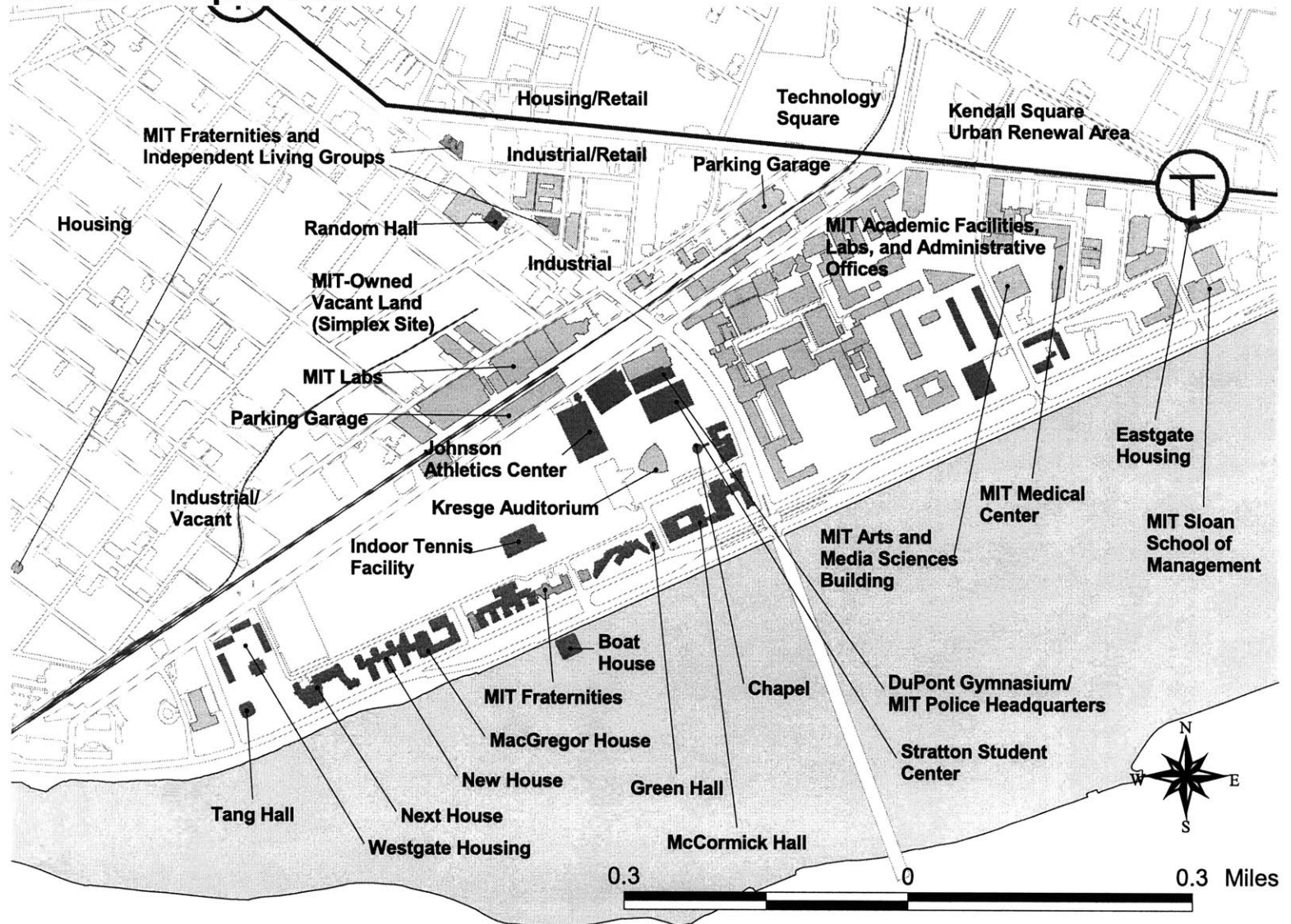
Sources: Sanborn 1934, MIT Department of Facilities, City of Cambridge. Author: Jeff Roberts

2-2 MIT Campus 1950



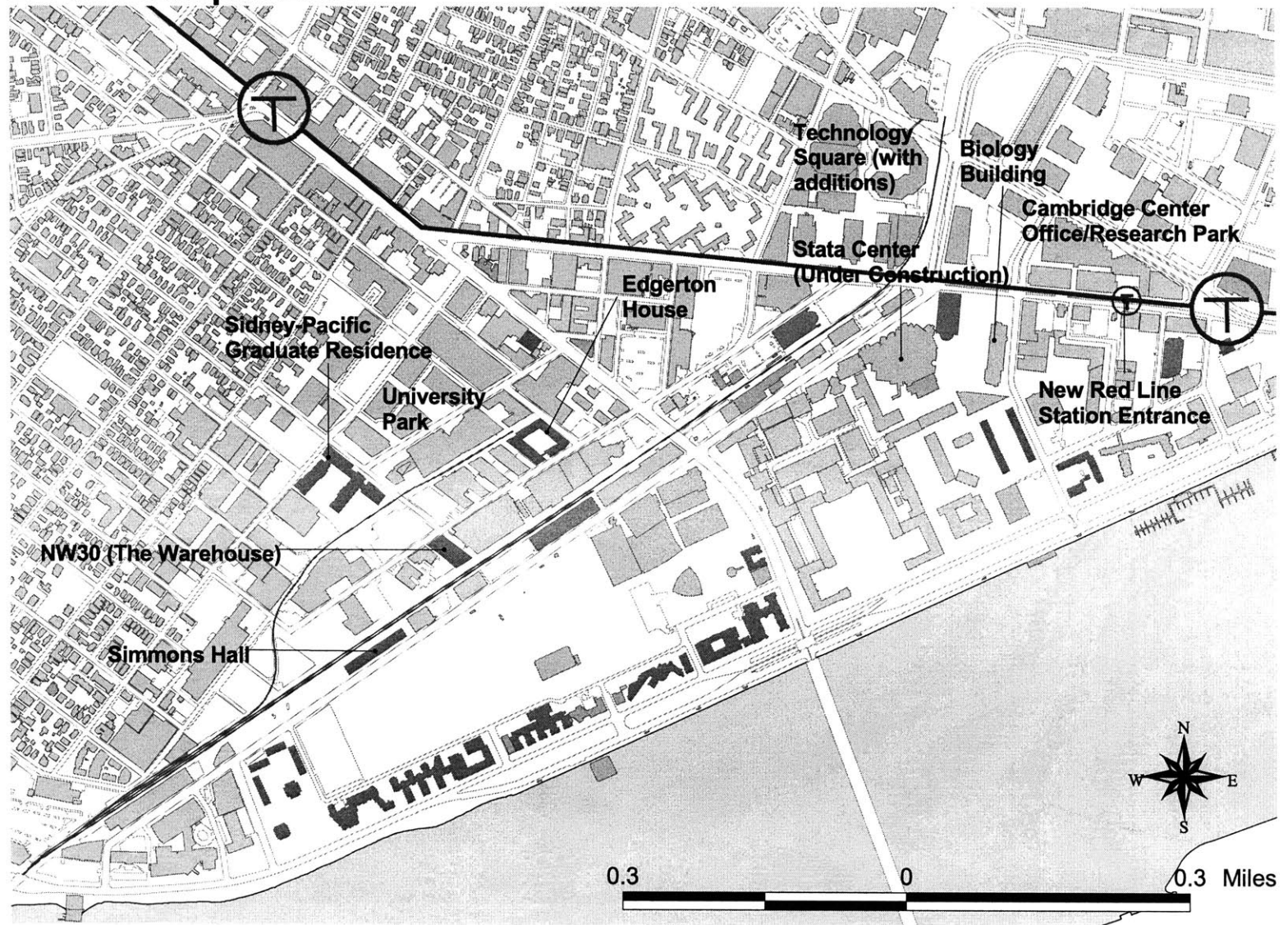
Sources: Sanborn 1950, MIT Department of Facilities, City of Cambridge. Author: Jeff Roberts.

2-3 MIT Campus 1983



Sources: MIT Department of Facilities, City of Cambridge. Author: Jeff Roberts.
* Off-campus neighborhood buildings based on 1995 City of Cambridge data.

2-4 MIT Campus 2002



Sources: MIT Department of Facilities, City of Cambridge. Author: Jeff Roberts.

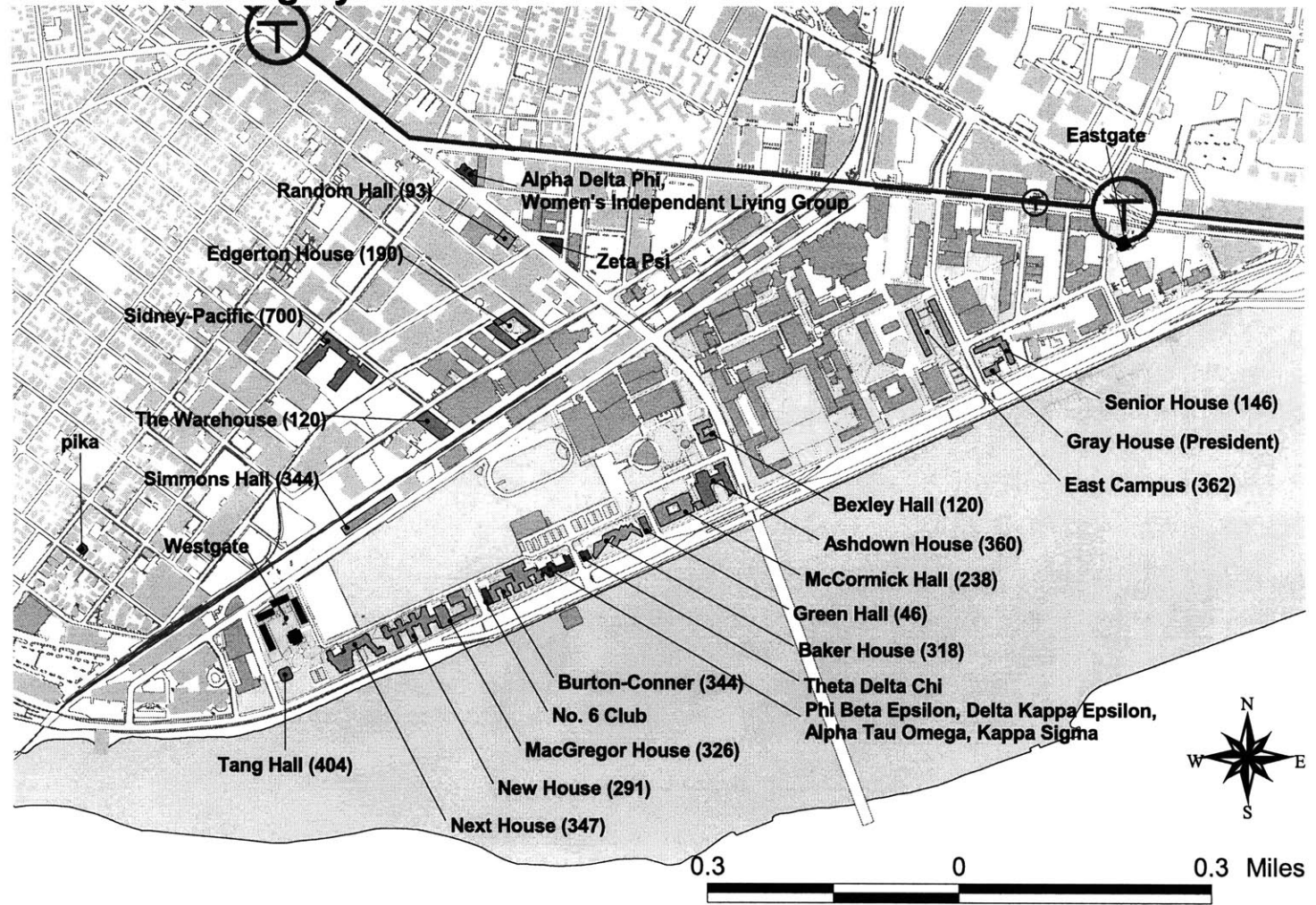
* Off-campus neighborhood buildings based on 1995 City of Cambridge data.

3-1 MIT Housing System

Occupancy of single-student dormitories denoted in parentheses.

Westgate and Eastgate each contain about 200 apartment units, each of which may house 2 or more students and family members.

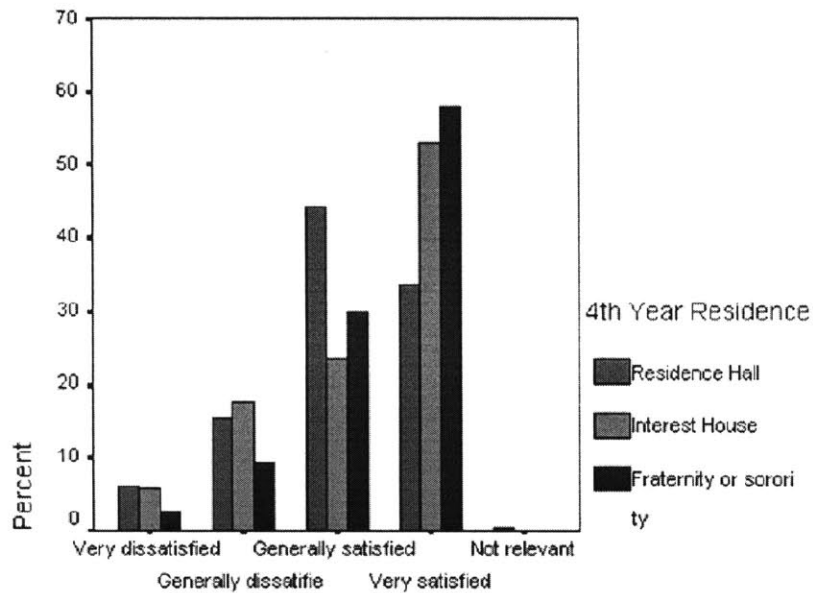
Fraternities and Independent Living Groups house varying numbers of students, typically around 30 students each.



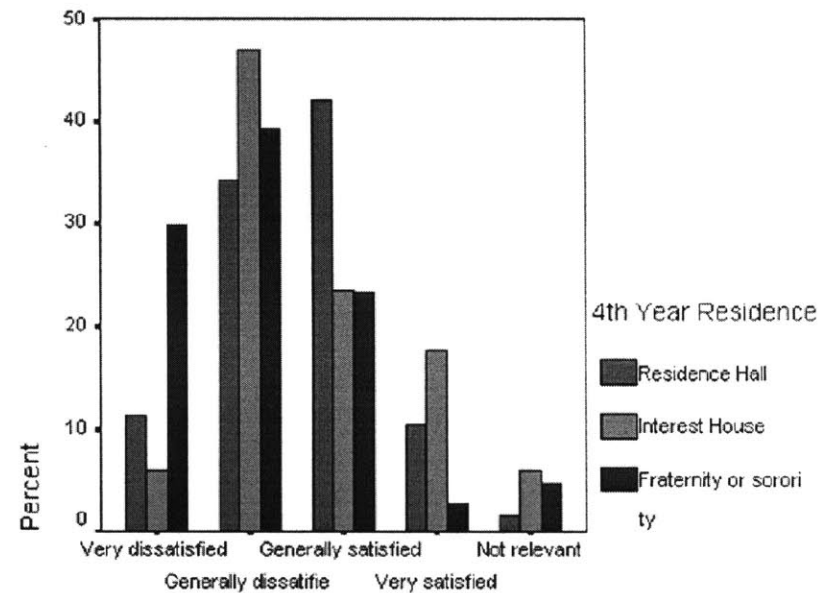
- Undergraduate Housing
- Single Graduate Student Housing
- Student Family Housing
- Fraternities and Independent Living Groups
- Other MIT Buildings
- Non-MIT Building Uses

*Shapefile Sources: MIT Department of Facilities, City of Cambridge.
 Residency information from the MIT Housing Office website.
 Author: Jeff Roberts*

3-2 “Sense of Community” Survey Responses



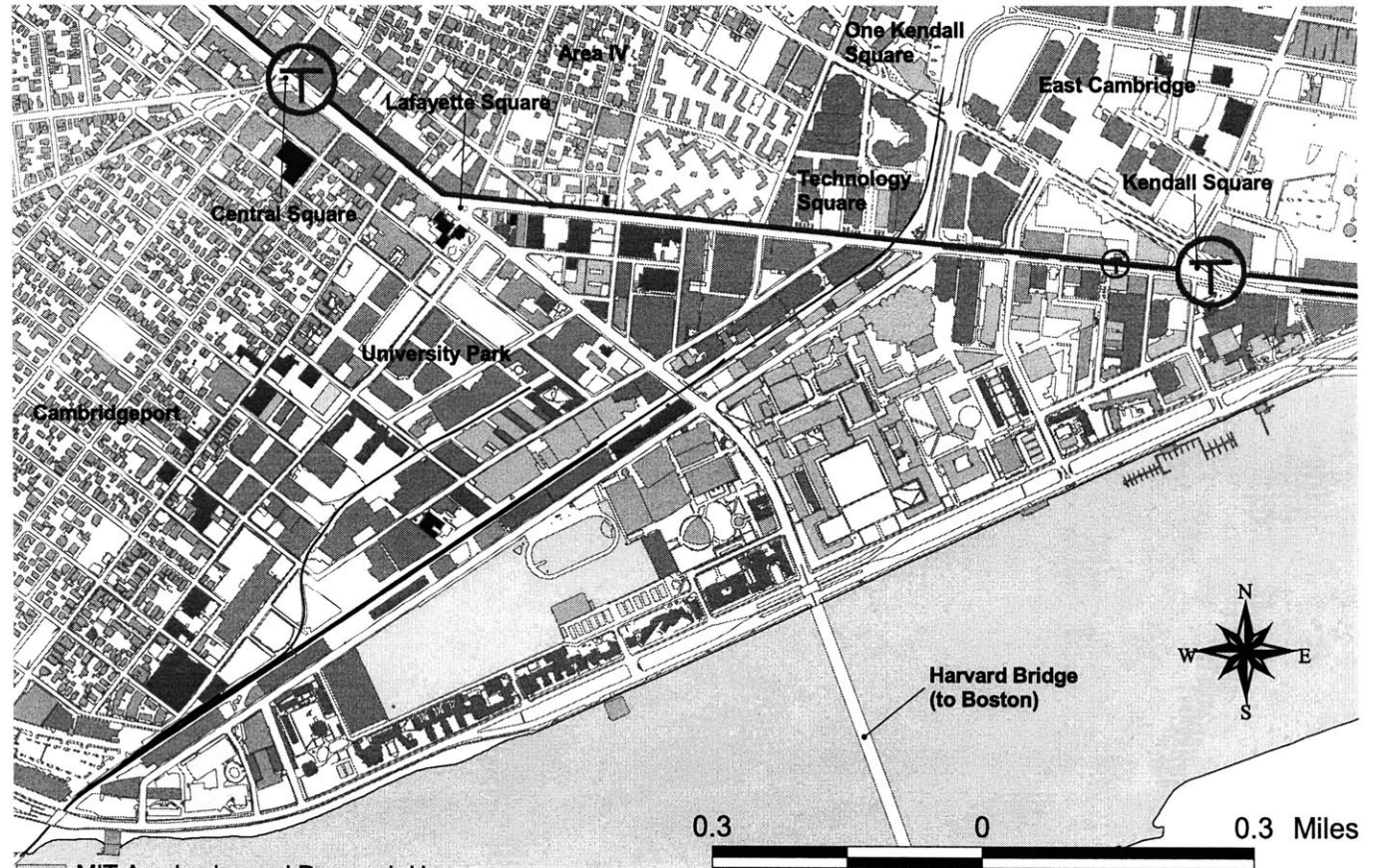
Sense of community where you live



Sense of a community on campus

Source: COFHE Senior Survey 2002, MIT Office of Institutional Research

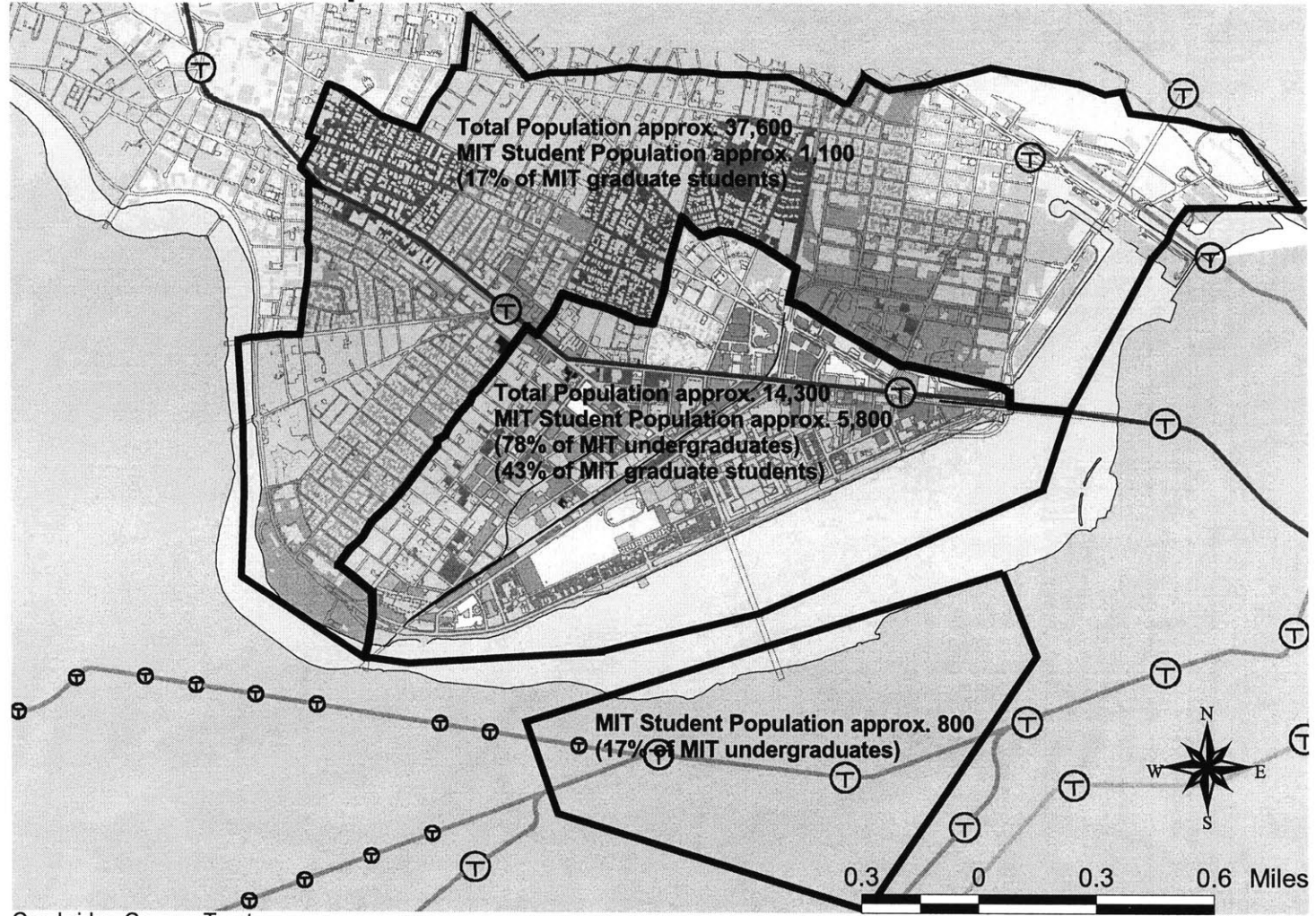
3-3 MIT Area Land Uses



- MIT Academics and Research Uses
- MIT Athletics and Activities Uses
- MIT Service Facilities
- MIT Student Housing
- Athletics Fields/Courts
- Private Offices and Labs
- Private Industry, Storage, and Contracting
- Parking Garages and Lots
- Retail, Restaurant, Hotel and Entertainment
- Civic and Religious
- Residential (Primarily)
- Vacant or Unknown

*Shapefile Sources: MIT Department of Facilities, City of Cambridge.
 Uses determined by direct observation, or by assumption based on character of the surrounding area. This is intended to demonstrate the character of the overall neighborhood, so accuracy with respect to individual buildings is not guaranteed.
 Author: Jeff Roberts*

3-4 MIT Student Population in Extended Area

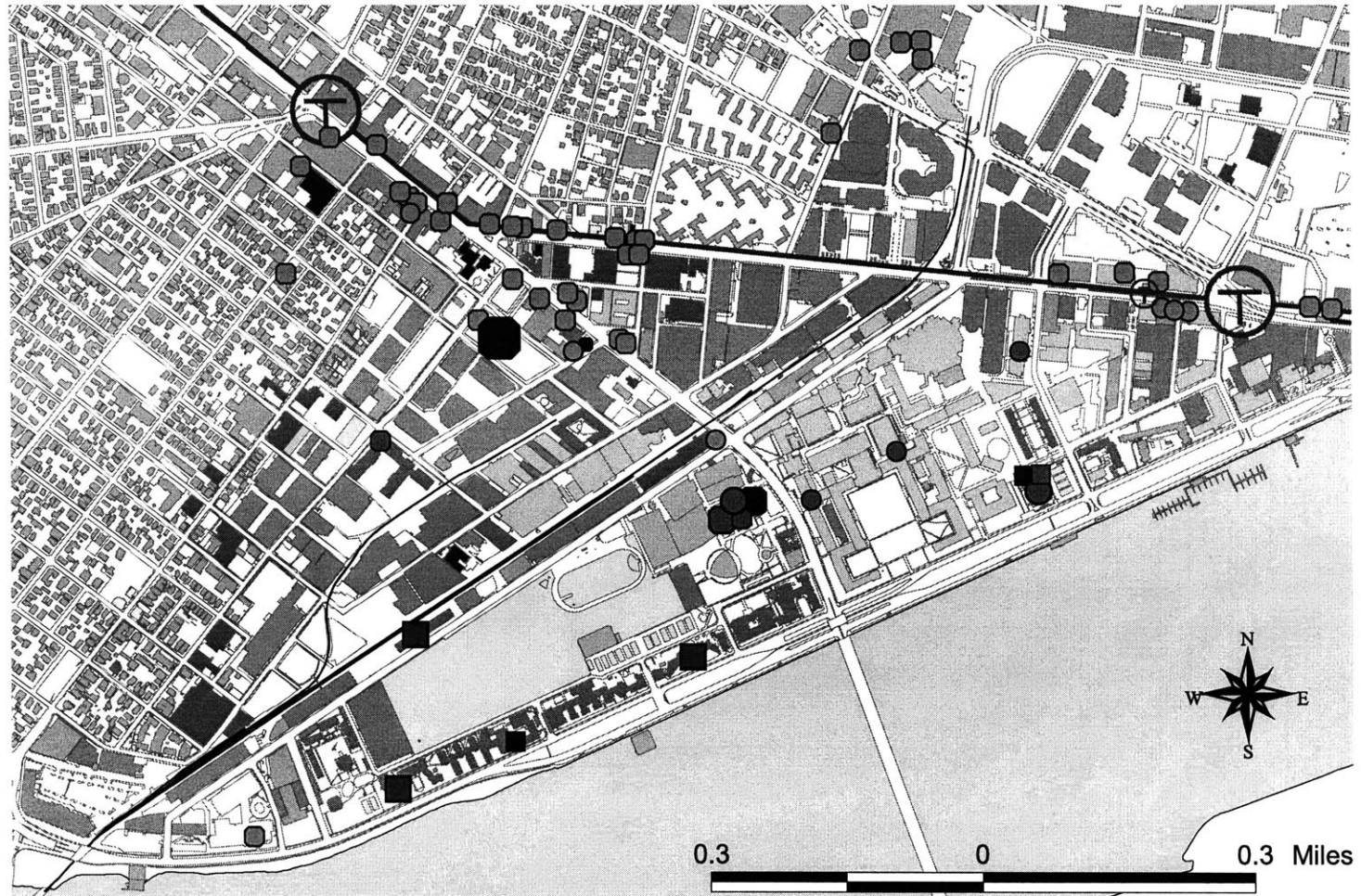


Cambridge Census Tracts
 0.03 - 0.105
 0.105 - 0.366
 0.366 - 0.778
 0.778 - 1.396
 1.396 - 2.596
 Outside Cambridge

(figures represent population density of off-campus MIT graduate students in persons/acre)

Shapefile Sources: MIT Department of Facilities, City of Cambridge, US Census Department. Figures estimated based on combined information from the MIT Office of the Registrar, the MIT Housing Office Website, the City of Cambridge website, and the 2002 MIT Town-Gown Report. Author: Jeff Roberts

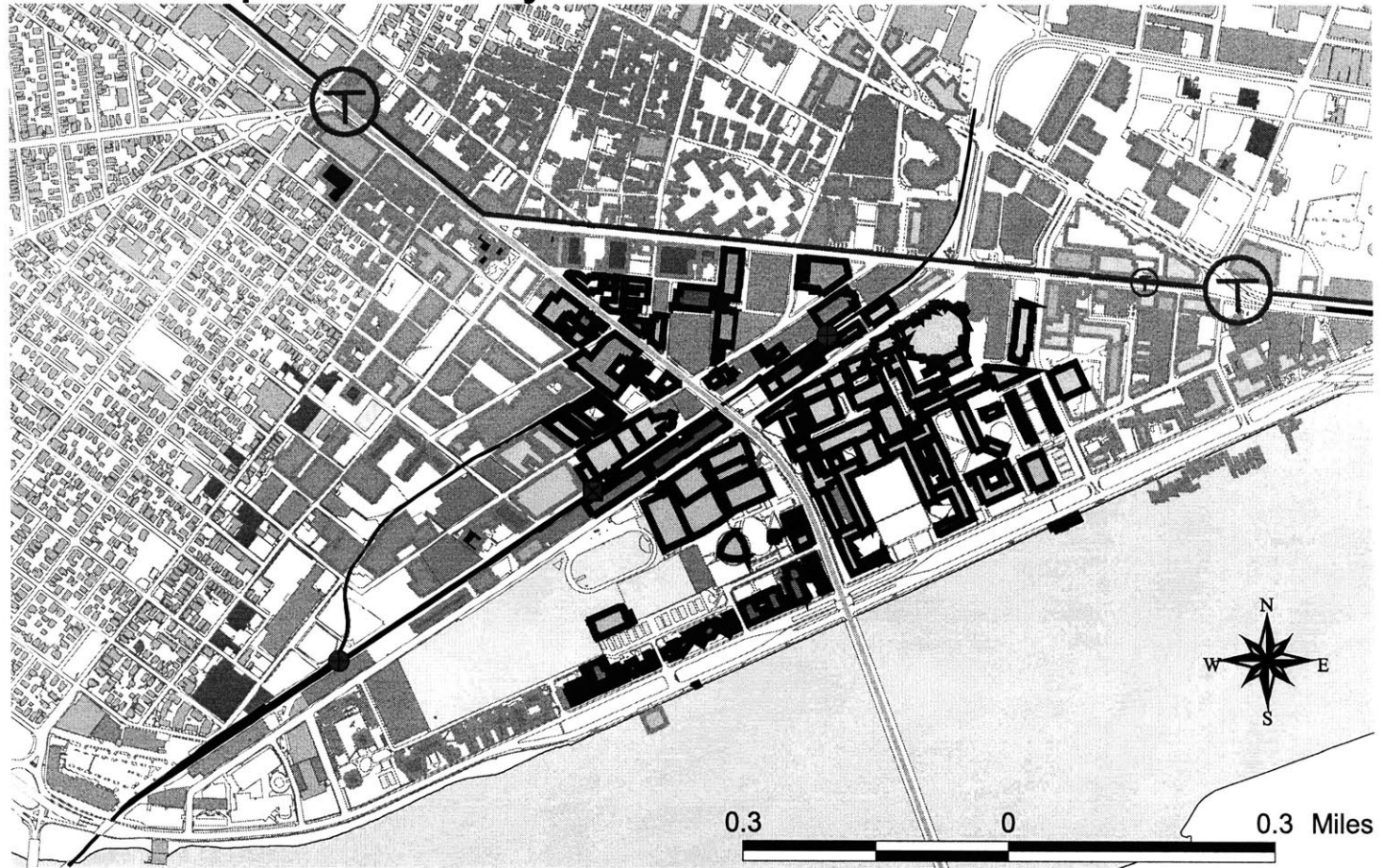
3-5 MIT Area Food Service



- Groceries: supermarkets (large), markets (medium), convenience stores (small)
- On-campus restaurants and food courts
- Commons dining halls
- Off-campus restaurants
- open daytime hours only
- open evening hours only

Shapefile Sources: MIT Department of Facilities,
City of Cambridge.
Author: Jeff Roberts

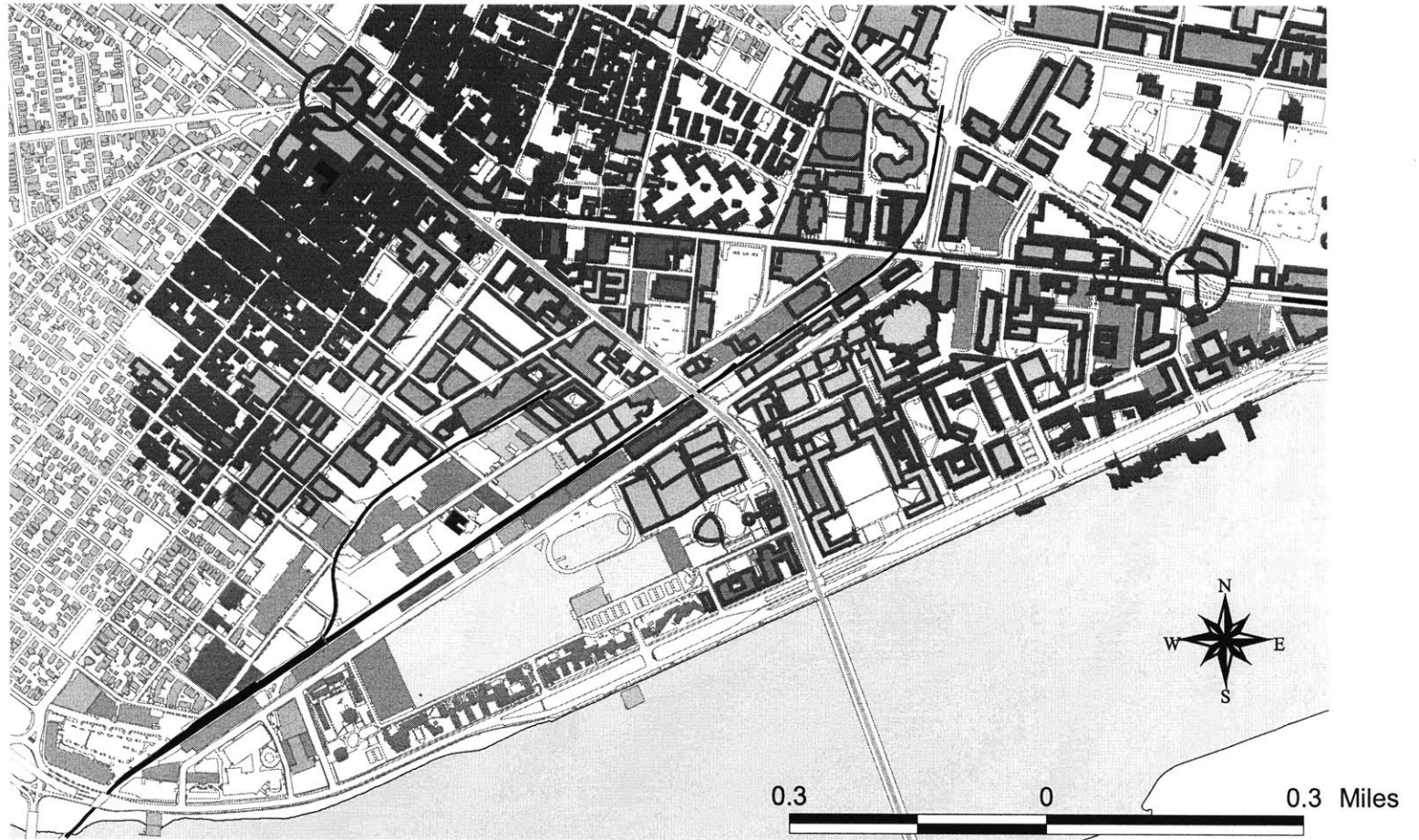
3-6 MIT Campus "Walkability"











- MBTA Red Line (w/stations)
- MBTA #1 Bus Line
- Buildings within 5 min. of campus entrance
- Buildings within 10 min. of campus entrance
- MIT Campus Walkways
- CSX Rail Line
- At-grade Pedestrian Rail Crossing
- Above-grade Pedestrian Rail Crossing

*Shapefile Sources: MIT Department of Facilities, City of Cambridge.
 Distances approximated using "77 Massachusetts Avenue" as the center of campus, a walking speed of 350 feet per minute, and allowing travel on all major roads, walkways, and pass-through buildings.
 Author: Jeff Roberts*

3-7 MIT Area Transit Catchment



-  MBTA Red Line (w/stations)
-  MBTA #1 Bus Line
-  Buildings 5 min. from Red Line station
-  Buildings 10 min. from Red Line station
-  MIT Campus Walkways
-  CSX Rail Line
-  At-grade Pedestrian Rail Crossing
-  Above-grade Pedestrian Rail Crossing

*Shapefile Sources: MIT Department of Facilities, City of Cambridge.
 Distances approximated using "77 Massachusetts Avenue" as the center of campus, a walking speed of 350 feet per minute, and allowing travel on all major roads, walkways, and pass-through buildings.
 Author: Jeff Roberts*

Appendix B

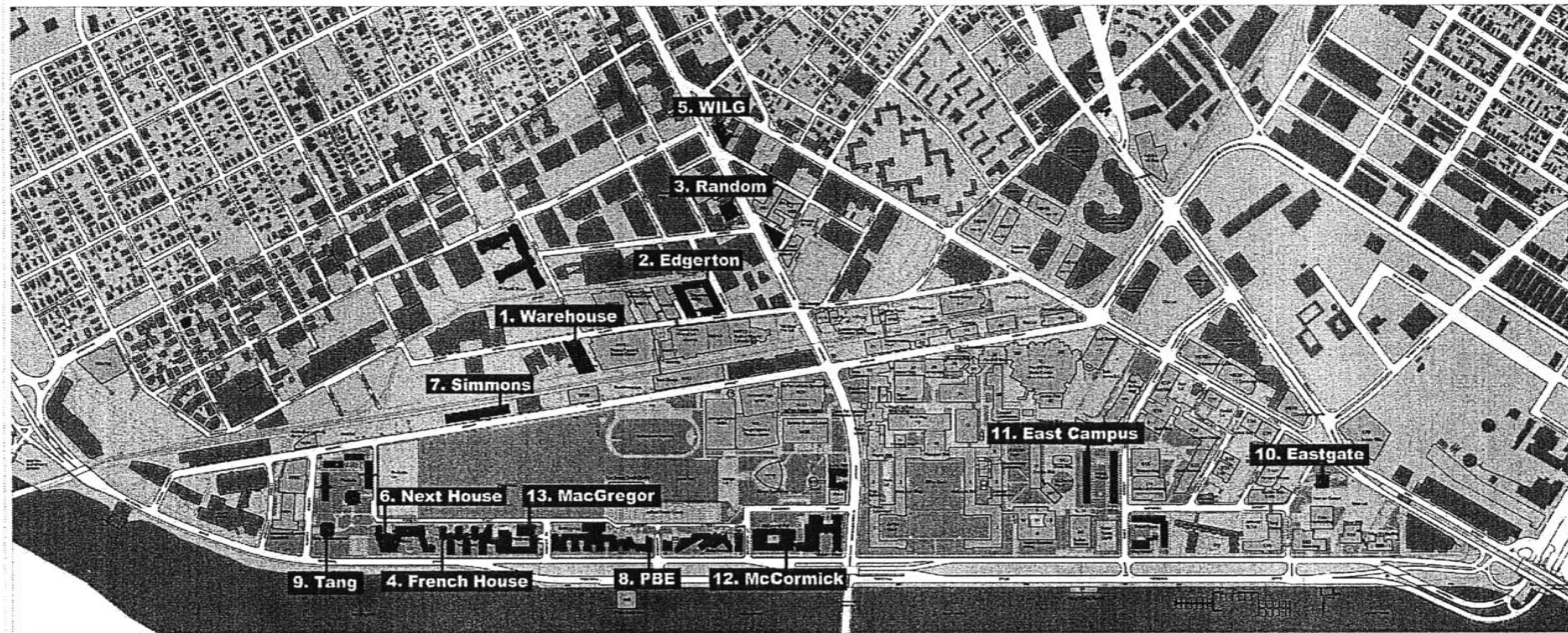
Information on Residence

Discussion Sessions

Notes on Residence Discussion Sessions

Number	Date	Start Time	End Time	Location Name	Residence Type	Max. num. of participants at one time	Min. num. of participants at one time	Setting
1	2/25/2003	9:00PM	10:30PM	Warehouse	Single Graduate Dorm	15	5	House-wide social hour
2	2/26/2003	8:20PM	9:20PM	Edgerton	Single Graduate Dorm	6	2	House-wide social hour
3	2/27/2003	9:00PM	10:30PM	Random	Undergraduate Dorm	9	7	House-wide study break
4	3/5/2003	6:30PM	7:30PM	French House	Undergraduate Cultural House	4	2	House dinner
5	3/6/2003	6:30PM	7:15PM	WILG	Undergraduate ILG	6	2	House dinner
6	3/6/2003	9:00PM	10:00PM	Next House	Undergraduate Dorm	13	8	Study Break: 3rd floor
7	3/10/2003	10:00PM	11:00PM	Simmons Hall	Undergraduate Dorm	11	6	House-wide study break
8	3/11/2003	6:15PM	6:45PM	PBE	Undergraduate Fraternity	11	7	House dinner
9	3/12/2003	8:15PM	8:55PM	Tang Hall	Single Graduate Dorm	7	4	House-wide social hour
10	3/17/2003	7:00PM	8:00PM	Eastgate	Student Family Apartment	3	3	Self-hosted
11	3/18/2003	9:00PM	11:00PM	East Campus	Undergraduate Dorm	5	2	Self-hosted
12	3/20/2003	8:00PM	9:00PM	McCormick	Undergraduate Dorm	7	5	House-wide study break
13	3/20/2003	10:00PM	11:00PM	MacGregor	Undergraduate Dorm	12	8	Study break: A entry

Map of locations provided on the following page.



	<p>MIT Department of FACILITIES <small>77 Massachusetts Avenue, Cambridge, MA 02139</small></p>	<p>1 25 50 100 FEET SCALE: 1" = 250'-0"</p>	<table border="1"> <thead> <tr> <th>SYMBOL</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>[Symbol]</td> <td>Building</td> </tr> <tr> <td>[Symbol]</td> <td>Open Space</td> </tr> <tr> <td>[Symbol]</td> <td>Water</td> </tr> <tr> <td>[Symbol]</td> <td>Other</td> </tr> </tbody> </table>	SYMBOL	DESCRIPTION	[Symbol]	Building	[Symbol]	Open Space	[Symbol]	Water	[Symbol]	Other	<table border="1"> <thead> <tr> <th>DATE</th> <th>BY</th> </tr> </thead> <tbody> <tr> <td>10/20/00</td> <td>...</td> </tr> <tr> <td>08/01/00</td> <td>...</td> </tr> <tr> <td>05/01/00</td> <td>...</td> </tr> <tr> <td>02/01/00</td> <td>...</td> </tr> <tr> <td>01/01/00</td> <td>...</td> </tr> <tr> <td>01/01/99</td> <td>...</td> </tr> <tr> <td>01/01/98</td> <td>...</td> </tr> <tr> <td>01/01/97</td> <td>...</td> </tr> <tr> <td>01/01/96</td> <td>...</td> </tr> <tr> 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