



MIT in Transition

Student Perspectives on MIT's Legacy Strengths, Emerging Challenges, and Future Directions

Preliminary Briefing Paper *of the* Student Advisory Board to MIT's 16th President

24 November 2004

This document is a preliminary overview prepared by members of the Student Advisory Board (SAB) for MIT's 16th President, Dr. Susan Hockfield. We welcome President-elect Hockfield to the Institute and appreciate this chance to share our hopes and aspirations, fears and concerns, questions and suggestions. This document is intended to support a series of focused luncheons and open forum discussions, culminating in a more comprehensive report by the SAB to the President. Towards these ends, we touch here on three interrelated and important themes:

1. **Academics, Research, and Professional Development**
2. **Extracurriculars and Community Life**
3. **Global Connections, the Long-Term, and Strategic Planning**



1. Academic, Research, and Professional Development

In This Section – MIT is an intense incubator of the intellect, nurturing and guiding students throughout our individual academic and professional transformations. Students are committed to helping ensure the continuing excellence of all the pieces of this process, and, towards this goal, several dimensions stand out as areas of concern:

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| <ul style="list-style-type: none">a) Admissionsb) Curriculum & Programsc) Faculty Issues | <ul style="list-style-type: none">d) Professional Developmente) Researchf) Resources |
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- a) **Admissions** – The model of the typical MIT student continues to change. In past years the undergraduate admissions have been shifting away from the “candlelight techie” and toward a more “well rounded” group, but is this the direction in which we want to steer the tone of the Institute? How can MIT maintain or even strengthen goals for diversity among students in a meritocratic environment? The decentralized graduate admissions processes have led to difficulties in the Institute’s ability to meet diversity goals, an ever-increasing graduate student body size without proper analysis of the corresponding impact on graduate student community life. It may be time to examine moving away from purely distributed research hubs and towards greater coordination of departmental admissions. How can the institute balance its student body, both at the undergraduate and graduate level, in terms of demographics, diversity across many areas, and academic bent? How can students play a role in this process?
 - b) **Curriculum & Programs** – Students pride themselves on an extreme intensity and dedication to their studies. However, proper attention and resources are needed to optimize educational quality so that this intensity is not spent negotiating an unreasonable quantity of work that does not have fairly equal academic benefits. Students also value the idea of receiving a common grounding in science, mathematics, laboratory work, and the humanities. However, many students feel the current implementation of this core curriculum suffers tactical issues and should be reevaluated. Acclimation programs (such as Pass/ No Record freshman grading) that seek to ease new students into MIT’s unique academic life while engaging their curiosity to explore new subjects, play a pivotal role. Students agree on the need for an acclimation process, but community discussion is needed to determine the optimal rate and manner of acclimation. Finally, for any and all curricular issues, thorough and regular academic reviews by faculty and students alike are essential to continuing excellence. How can MIT increase its accountability and enhance the decision-making process to these ends?
 - c) **Faculty Issues** – Faculty play multiple roles as educators, researchers, leaders, role models and advisors. Selection and tenure decisions appear to be based primarily on research abilities and less frequently on the ability to convey ideas effectively in the classroom, or to advise students on curricula or research. How can the Institute provide incentives for exceptional classroom teaching and for good personal, academic and career mentoring? Retention of valued faculty in the face of aggressive competition from sister institutions is an increasingly important issue. What incentives can MIT use in retaining excellence at this level? Finally, can the Institute better concentrate resources in ways to more effectively support the goal of faculty diversity?
 - d) **Professional Development** – There is a need to enhance curricula and programs to better supply students with skills necessary to not only excel as technical experts, but also as leaders. Might a more formalized, holistic process, linking *practical* leadership opportunities to community life and academics, benefit not only MIT students but also the community at large? How might MIT better integrate education of “soft skills” (such as communication and presentation) into the curriculum? Career advising for non-academic pursuits is felt to be lacking and advising services are inconsistent across departments. Alumni are a major untapped resource for such career advising, job opportunities, as well as mentoring, and departments could benefit from tightened relationships with alumni for more than the reason of fundraising.

- e) **Research** – The advisor/advisee relationship is central to a successful research experience; however the Institute does not currently emphasize the importance of faculty mentorship. Particularly for graduate students, expectations for both students and their advisors must be more clearly defined prior to the start of a student’s research work. For undergraduates, the Undergraduate Research Opportunities Program (UROP) is widely popular within MIT and is one of the most unique, frequently highlighted aspects of the university’s undergraduate education. However, the relationships between student and faculty researchers would again benefit from a clearer definition and stewardship.
- f) **Resources** – In order to sustain or increase its creative output, an ongoing assessment of space allocations, size of support staff, and information infrastructure is required. Students are concerned about the planning, distribution and allocation of academic, research, professional development and other space. Cuts in academic and research support staff and resources have impacted the ability of students to learn and work effectively. In addition, the lack of fiscal transparency has exacerbated many problems. How might MIT better engage the community to deal with these resource issues?

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2. Extracurriculars and Community Life

In This Section – The MIT community consists of a diverse group of students, faculty, and staff united by a passion for exploration, education, and advancement. Students recognize the crucial role of risk and choice in allowing the development of a unique, diverse, and inclusive community. The tremendous expansion of *in loco parentis* at universities across the country – and at MIT in particular – threatens vital elements of our MIT education and overall experience. The open opportunities and our primary concerns for enhancing extracurricular infrastructure and community life include:

- a) **Community Culture & Standards**
- b) **Personal Development Outside of Academics**
- c) **Extracurricular & Community Resources**
- d) **Balance**

- a) **Community Culture & Standards** – MIT students passionately embrace their autonomy, flexibility, and freedom to experiment and pursue a wide variety of cross-cutting activities and interests. MIT has a tradition of boundless choice: allowing students to best choose where to live, how to live, how to work, and how to learn. How can we continue to embrace discovery and exploration in an increasingly risk-averse world? The dedication and focus MIT students bring to both work *and* play can sometimes lead to negative repercussions since many pursue their passions beyond their normal limits (hence the phrase ‘IHTEFP’, short for both ‘I Hate This F*ing Place’ and ‘I Have Truly Found Paradise’).

The wide array of living options open to MIT students allows them the freedom to create unique communities that provide support and educational opportunities outside of the regular classroom. Fraternities, sororities, and independent living groups (FSILGs), as well as dorms and halls within dorms, have unique identities and environments that play significant roles in students’ MIT experiences. Students recognize the difficulty in balancing the administration’s responsibility for safety and security with student freedoms, but fear that reduction in student choice and exploration will negatively impact the value of these and other support networks. Recent changes in MIT’s relationship with the student community, such as housing all freshmen on campus, have created what many students perceive as a threat to MIT culture. Of concern are not only the ramifications of decisions, but also the lack of proper student involvement in decision-making. How will MIT administration earnestly and effectively engage students in Institute-wide discussions and decisions?

- b) **Personal Development Outside of Academics** – An MIT education encompasses far more than classroom or research related learning alone. MIT’s plethora of student groups and outside activities play an integral role in providing opportunities for students to explore their interests, take on leadership roles, pursue entrepreneurial endeavors, and improve the community around them. The variety and cross-cutting nature of these activities unites the MIT community. Can we better celebrate and encourage these opportunities? Might we engage Institute faculty or alumni in these non-academic learning outlets?
- c) **Extracurricular & Community Resources** – The vast quantity and quality of extracurricular and living group activities at MIT augment the Institute’s educational mission. Many of these areas require more effective support and attention. The welcoming of a new student to the community sets the tone for the remainder of their MIT experience. Many students perceive undergraduate orientation to be patronizing and ineffective in conveying key components of the MIT life and culture. Undervaluing and lack of support for student-run orientation activities has reinforced this feeling. In addition, graduate orientation suffers from a competition of resources with undergraduate orientation and a lack of consistent departmental efforts.

Housing resources serve as an underpinning for much of the MIT student culture. The system of on-campus faculty housemasters and graduate resident tutors, which focus on support rather than policing, provide great value to undergraduate residents. Might they be expanded (or new programs created) to more closely involve MIT faculty in student life and to increase ties between graduates and undergraduates, or upperclassmen and freshmen? FSILGs face a variety of difficulties, most severely

their ability to remain viable given economic and recruitment problems that have arisen over the past several years. Given their unique and overwhelmingly positive role, students feel it is crucial to ensure that these communities survive. Graduate students face multiple housing challenges, including a lack of sufficient on-campus graduate housing, exceedingly high Cambridge-area rent and an understaffed Off-Campus Housing Office.

Resources must be made available to students in affinity groups such as women, families, minorities and international students, all of which play key roles in enhancing the overall community. Student groups are also often subject to a dearth of resources, which highly contrasts with the extent of their positive effect on the community. Given the often stressful nature of the MIT experience, medical resources must be readily available, effectively publicized and affordable.

Financial concerns pervade every avenue of student life and community, and have a direct impact on the quantity and quality of the resources available. Yet students perceive a lack of transparency with regards to financial matters. MIT's increasing attempts to generate revenue by running things "like a business" have generated concern with regards to the Institute's policy on profitability. How can we maintain fiscal discipline while remaining focused on the higher goals of education and an integrative community?

- d) **Balance** – The challenges at MIT extend to finding balance between work and the rest of life. MIT students work late into the night, sacrificing sleep to enhance their educational experience. Yet too much "tooling" can create or exacerbate mental health problems and can deter from non-academic growth. Better consideration of and resources for students in this position are required. Students with families (e.g., spouse/partner and/or children) are often positioned to have to choose between spending adequate time with their families and excelling academically. Could enlightened Institute policies, or shifts in attitudes, help them find a balance which enables both? Finally, a balance must be struck regarding the focus of the MIT educational experience. How can the Institute allow or encourage students to become contributors to the global society, stepping outside of the "MIT Bubble", while preserving the ability to choose and without detracting from the core technical education?

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3. Global Connections, the Long-Term, and Strategic Planning

In This Section – Students care deeply about the Institute’s long term future, our sustained viability and the enduring pursuit of our founder’s inspirational MIT Mission. Specifically, we are concerned by and seek to address the following domains:

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| a) Grand Pursuits | d) Institute Economics |
| b) Expansion & Growth | e) Positioning Locally & Globally |
| c) Peer Competition | |

- a) **Grand Pursuits** – At key junctures in our past, Institute faculty and leadership have pursued transformative grand pursuits. These rich legacies, such as Project Athena, OpenCourseWare, and the hosting of the W3C Web Consortium, are endeavors which not only benefit our direct constituencies but reach out like a beacon of innovation to influence the world for the better and accomplish our larger mission. What are the grand aspirations which will inspire future generations of students? What role will we play in the development of K-12 education? Might the Institute embark on a Global Development Initiative in pursuit of economic viability and environmental sustainability? Such endeavors would be sources of moral inspiration to students, something in which we can take pride and help bring to reality.
- b) **Expansion & Growth** – MIT has committed significant resources over the last two decades to expanding and developing new and emerging areas of research, such as biological engineering and the cognitive sciences. Such ventures have not only inspired and driven new collaborative enterprises within and beyond MIT’s institutional boundaries, but also increased stress on common infrastructure leading to the squeezing of older, more classic fields. Over the last few decades, faculty and undergraduate numbers have stayed constant while graduate student, post-doc and staff numbers have climbed substantially. Are there identifiable constraints on this scaling process? Given a limited physical campus, there is serious concern about MIT’s ongoing ability to provide the adequate infrastructure and to sustain new research initiatives over the long term. Can the Institute continue to acquire land and create space for expansion, or are we committing to renewal through renovation and restructuring?
- c) **Peer Competition** – MIT faces increasing competition for both physical and intellectual resources from our peers both nationally and worldwide. New facility design and upkeep as well as better financial and service incentives (housing, childcare, etc.) can make all institutions attractive options for faculty and students. The reduction of student applications from other countries (largely affected by post-9/11 domestic policies) and the increased appeal of international universities affect the recruitment of the best candidates to MIT. The development of technical universities elsewhere using MIT as a model for emulation is a source of further competition for the Institute. In this landscape of exponential competition, what policies will MIT adopt to remain highly competitive?
- d) **Institute Economics** – The Institute’s cost-structure, tuition duties, deployment of endowment income, and capacity to deal with sponsor volatility all directly affect student life. The increasing tuition and fees of an MIT education and the large financial incentives to attend top state schools lead many families to question if an MIT degree is really worth the cost. Graduate students have many specific concerns as well, for instance the unique requirement to pay full tuition when they are not taking classes and have ‘All But Dissertation’ (ABD) status. The Institute, deriving large portions of its operating income from the endowment, has embraced a cycle of boom-bust spending, resulting in half-completed construction projects and under-maintained facilities, among other things. High rates of overhead and excessive and expensive bureaucracy at the Institute are further causes of concern for students. An additional source of Institute revenue increased throughout the 1990s, as MIT labs and centers engaged in bold partnerships with industry to fund research and facilitate the creation of marketable products. However, since corporate investment varies with the business cycle, the withdrawal of sponsorship has exacerbated the boom-bust problems. How can MIT balance sources of funding and internal operations to adequately meet the needs of the campus while remaining affordable and stable?

- e) **Positioning Locally & Globally** – As global inter-connectedness becomes the new world order, how ought the Institute seize the opportunity, seek out tomorrow’s talent and moneys, embody viable economic practices, and position ourselves for lasting success? MIT shapes the demographics of the City of Cambridge by attracting an innovative workforce, entrepreneurs and companies, and the students themselves. How can MIT constantly assess its pressures on Cambridge and steer an embracive, communal, and proactive course of engagement in the areas of educational outreach, licensing, and taxation? MIT is also in an unparalleled position to set the tone for American universities in matters of institutional policy. The next decade will bring critical review of affirmative action, an issue where MIT has already taken a very public national stance. Further, the Institute is approaching a critical moment to take a stand on how it regards its own students and addressing the prospect of considering them a population of citizens both self-reliant and responsible versus a group still requiring the “guidance” of in loco parentis policies.

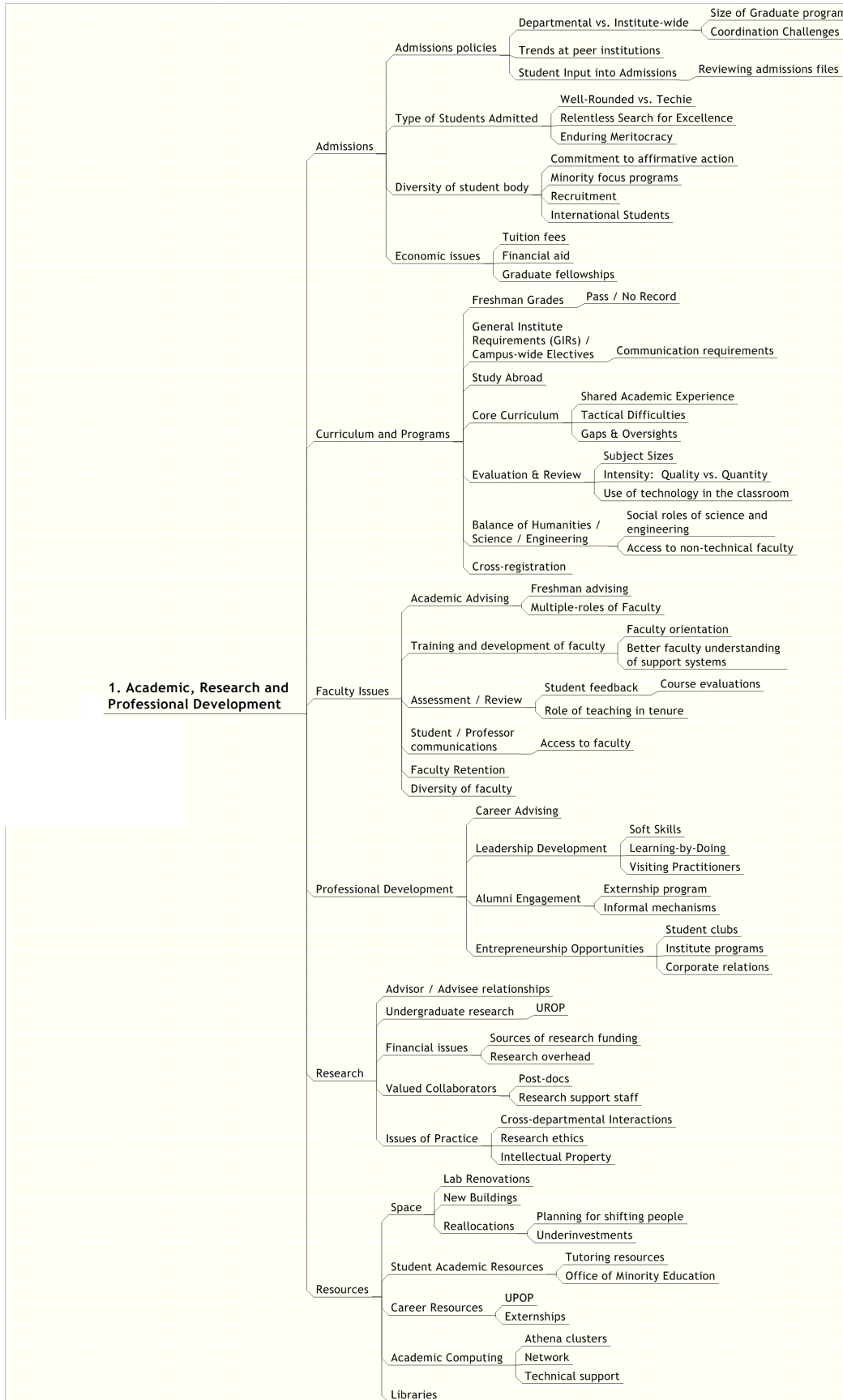
Academic institutions both up the road and as far away as Asia have declared policies which place them on competitive tracks with us in the coming decade. It remains important not lose sight of the trademarks of our individuality, including our flexibility and interdisciplinary connectivity. Our dominance has been our bold creativity, our advance anticipation of new research fields, and our repeat recombination of classic and emerging research genres, and we continue to exercise these strengths. MIT currently coordinates programs of international intellectual exchange, such as MISTI and the Knight Fellows, which help convey MIT ideals and culture to a multi-national audience. Outside of these programs, however, the formal curriculum allows relatively few opportunities for study abroad or student-generated short term international research projects. How might the Institute enhance or extend its existing programs in a way that positions students in the unique role as MIT ambassadors to the world?

We aspire to be the nation’s – and indeed, the world’s – premier academic epicenter of innovation. We pride ourselves on being a place which cultivates leaders and renaissance technologists who strive to change the world for the better. And yet this mission and inspiring vision is too readily lost in the press of more tactical and short-term items. How might we work to maintain our status and visibility as a premier institution and ensure that our efforts and aspirations are communicated to the world at large?

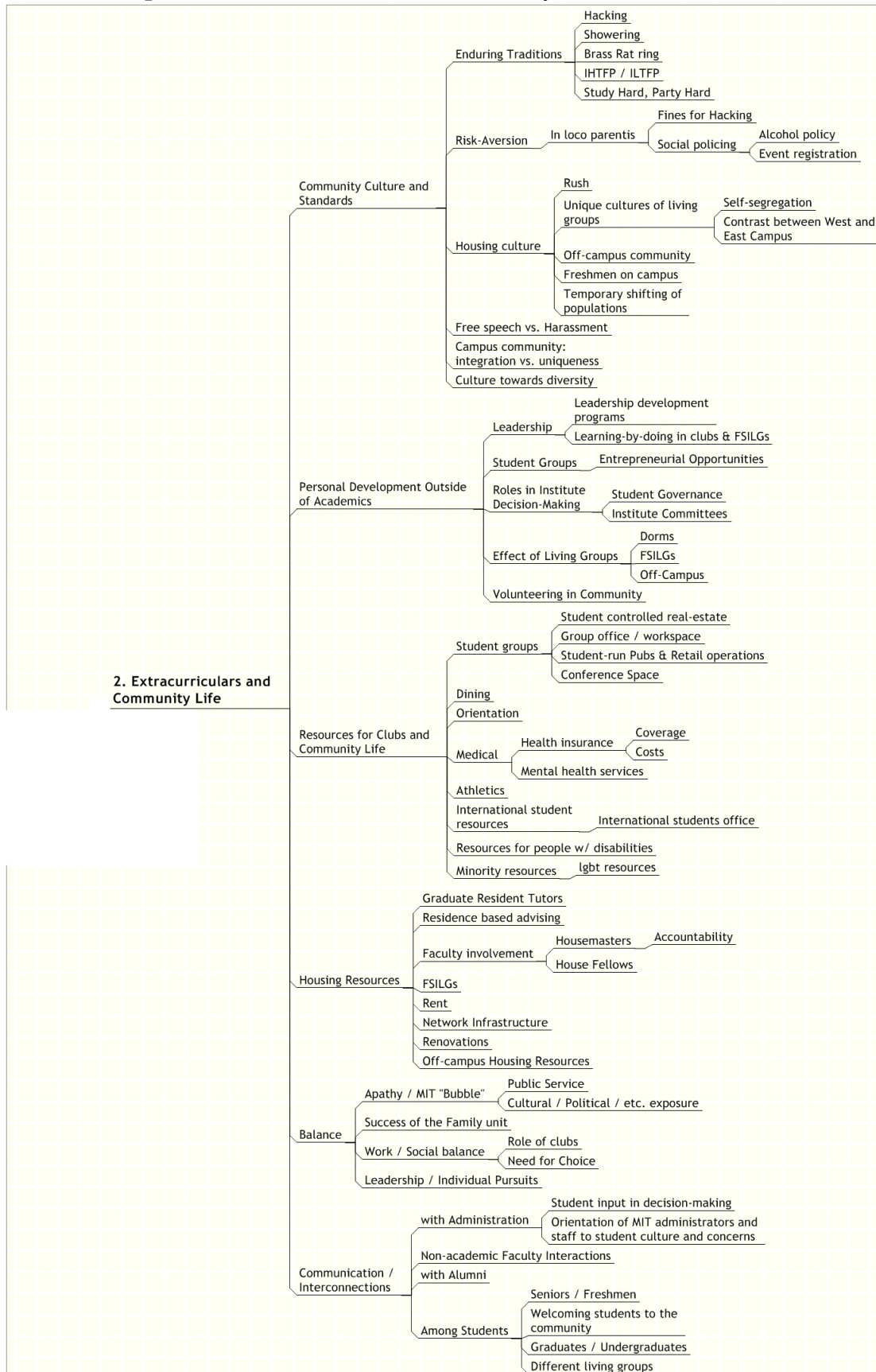
Appendix

For reference, we have included in this appendix a Mind Map of all major advisory board discussion points thus far, which have served as the underlying structure of this document. Future reports will expound further upon these individual points, as well as other questions & issues that are likely to arise from the board's interaction with President-elect Hockfield and the MIT Community.

A1. Mind Map on Academic, Research and Professional Development



A2. Mind Map on Extracurriculars and Community Life



A3. Mind Map on Global Connections, the Long-Term, and Strategic Planning

