

Lavender@MIT: The Case for an All-Gender Restroom Paradigm on the MIT Campus

by

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Submitted to the Department of Architecture on
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ABSTRACT

It is obvious that transgender and gender non-conforming students experience MIT differently than cisgender students – what is less obvious is that one of the biggest differences in experiences stems from, ironically, something universally human: the need to use the restroom. In this thesis, we approach the issue of restroom equity (and inequity) on the MIT campus in three areas, offering a window into how nonbinary students experience MIT’s restroom infrastructure, documenting the history and recent progress around all-gender restrooms at MIT, and showing that MIT students have a vested interest in and thoughts about both all-gender restrooms and institutional restroom design in general. Parts I and II offer an account of my personal journey interacting with all-gender restrooms and all-gender restroom policy and activism on the MIT campus, and culminate with a series of proposed physical interventions and a single renovation to both increase the visibility of all-gender restrooms on campus and to act as a possible example for future single-gender to all-gender multi-stall restroom conversions. Part III widens in scope, and acts primarily as proof that the general student body truly does care about the existence of all-gender restrooms on campus, whether they are transgender/gender non-conforming or not.

Thesis Advisor: Sheila Kennedy, AIA
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of course). You remind me that there is a (happy! fulfilling!) world outside of MIT; I live every day trying to emulate your empathy towards others.

- To Mary: for being a reliable companion on stressful and sleepless nights – you've been a lovely source of calm over the past couple of years, and more helpful than you can ever know.

Introduction

It is obvious that trans and gnc students experience MIT differently than cis students – what is less obvious is that one of the biggest differences in experience stems from, ironically, something universally human: the need to use the restroom.

A note before we begin: recognizing that readers may be unfamiliar with LGBTQ+ terminology (terminology which plays a central role in this thesis), I have included below a brief glossary of important terms. Annotations are italicized.

A Few Helpful Definitions

A few definitions:

transgender: A term describing a person’s gender identity that does not necessarily match their assigned sex at birth. This word is also used as a broad umbrella term to describe those who transcend conventional expectations of gender identity or expression.

(In this thesis, I will be abbreviating “transgender” to “trans,” as that is the label that most trans people in the MIT community use to describe themselves.)

nonbinary: An adjective describing a person who does not identify exclusively as a man or a woman. Nonbinary people may identify as being both a man and a woman, somewhere in between, or as falling completely outside these categories. While many also identify as transgender, not all nonbinary people do.

In this thesis, I refer to nonbinary people as “enby” or “enbies”.

cisgender: Refers to an individual whose gender identity aligns with the one typically associated with the sex assigned to them at birth.

(Abbreviated in this text as “cis.”)

gender non-conforming: A broad term referring to people who do not behave in a way that conforms to the traditional expectations of their gender, or whose gender expression does not fit neatly into a category. gnc can include trans and nonbinary people, but it is not limited to them. A person can be cisgender and also gender non-conforming.

(Abbreviated in this thesis as “gnc.”)

gender dysphoria: Clinically significant distress caused when a person’s assigned birth gender is not the same as the one with which they identify.

There are many other gender identities beyond these, but these are those that I refer to in this thesis. For the sake of brevity, I will be referring to the groups of people who don’t identify as cis collectively as “trans” and the groups of people who identify as gender non-conforming collectively as “gnc.”

Thesis Outline

In order to give readers a further understanding for the motivation and context for this thesis, and my role within my own research, I begin the text by stating my positionality towards all-gender restrooms. I then provide a brief summary of the history of restroom policy in Massachusetts (and the U.S. in general), then narrow down on the history of restrooms on the MIT campus specifically. Currently, the documentation around MIT’s restroom infrastructure is spotty at best, and must be assembled piecemeal from disparate sources; this thesis attempts to synthesize a more cohesive history from those sources. Because MIT policy (and importantly, state policy) around all-gender restrooms has been changing rapidly over the past academic year, this thesis also adds a more updated history of restroom policy to the synthesis from previously existing sources. In short, this thesis is attempting to capture a moment in restroom policy in which history is literally being made.

After providing the requisite context for my thesis work, I move into a more narrative portion in which I provide personal context and documentation of how I have engaged with all-gender restroom activism on the MIT campus over the past two years (outside of this thesis, that is) – this section motivates the next two sections, in which I share the methodology and results of a survey seeking student opinions (and information about student knowledge of) all-gender restrooms on main campus; I proceed to use these conclusions to motivate some of the architectural and design interventions included in a proposal for an all-gender renovation in a currently existing multi-user restroom in the student center. I then draw conclusions in two parts: both from the data I was able to gather and from my personal experience working on this thesis. This section leads into a discussion of future work for this thesis, and a general conclusion for the entire body of work I have completed over the course of the two years I have been able to spend on this thesis.

Statement of Reflexivity and Positionality

It is important in any research to identify and make explicit the researcher's relationship to the population and material they are engaging with; this need becomes even more important when the work in question takes on a narrative quality, as this thesis has. It is therefore my intention to make clear my personal relationship to the material covered in this thesis, as well as to briefly examine ways in which my relationship to the material has affected the trajectory of my thesis.

In approaching this thesis, I am first and foremost an undergraduate student who identifies as queer, nonbinary, and neurodivergent; this gives me a personal stake in the research I have done, the activism around restroom equality I have engaged in over the course of this thesis, and the ways in which I interact and communicate with the greater student body and administrative regulatory bodies at MIT. I am also able-bodied, white, and without children – I thus have a different relationship with issues of intersectionality around restroom equity than members of those marginalized groups. Though the scope of this thesis is centered around restroom access for those in marginalized gender identity groups, I also acknowledge that a true rigorous treatment of equality in restroom access requires input and engagement from and with members of communities at the intersections of marginalized groups. I attempt to make note of where further intersectional advocacy work can be done when it is relevant in the thesis, but because of my background, I also acknowledge that these notes may not be complete, and I may have missed areas.

It is also worth noting that this thesis has followed an atypical timeline: typically, students completing thesis work will take 4.THT: Thesis Research Design Seminar in the fall of their senior year, then complete their theses by taking 4.THU: Undergraduate Thesis during the spring of senior year, for a total thesis timeline of around 9 months (or around 3-4 months, if one just includes the thesis semester). I began this thesis during 4.THT in the fall of 2020, the beginning of my senior year, then proceeded to finish much of the background research during the Independent Activities period of 2021. My path (and my thesis' path) diverged from the standard timeline during the spring of 2021, when I placed my thesis work on hold until the Independent Activities Period of 2022. This extended timeline is relevant to the thesis because the landscape around all-gender restrooms and all-gender restroom activism changed significantly over the course of two years, particularly during the 2021-2022 academic year.

Initially, I intended to provide a model and proof of concept for a design justice approach towards all-gender restroom renovations on the MIT campus. When beginning the actual work of the the-

sis (beyond background research and context-gathering), I quickly realized that this scope was far too broad for the resources and time I had at my disposal, and that a thesis, being a single-person body of work by definition, was antithetical to a design justice approach – I decided to descope and pivot my approach to something more personal, more narrative. So while it is implementing certain aspects of a design justice approach (in the sense that I am a nonbinary student proposing design changes for a community that I am a part of), this thesis is not an example of a comprehensive design justice methodology, and should not be taken as one. It is meant to document the current state of all-gender restrooms and all-gender restroom activism on the MIT campus as seen by one nonbinary student, and to exist alongside other such narratives in the Institute's journey towards more inclusive infrastructure.

Motivation and Context

Motivation

Context

Before we begin a discussion on proposed changes to building codes, we need to first take a look at how they developed – many people treat gender separated restroom facilities as immutable, a natural consequence of nature, a social necessity that has been and always will be. In order to try to switch to a gender inclusive paradigm, we need to acknowledge the history of gendered restrooms, most importantly: there is nothing fundamental about them, and they weren't even around until relatively recent history.

A Brief History of Building Codes in the United States

Gendered restrooms didn't exist at all until the 1700s, and didn't make their way to the U.S. until even later – in the 1850s, as luxury features in hotels.¹ In fact, the first indoor restrooms were actually un-gendered – it wasn't until women had a larger place in public architecture that space within buildings (and thus bathrooms) were partitioned on the basis of gender.¹ And although gendered restrooms became an unspoken architectural convention, regulations around gendered facilities were not codified until 1887, when Massachusetts passed the first legislation requiring gender separated facilities in businesses.²

The default paradigm is to include equal fixtures in a restroom for men and women, but there are a few reasons that this model is inadequate to serve the public, although they all can be summed up in one phrase: potty parity. The potty parity problem refers to the demonstrated difference in waiting times between men's and women's restrooms; unsurprisingly, women's waiting times are much longer. Anthony and Dufresne put it even more succinctly, defining potty parity as “equal speed of access” to public restrooms³.

We will demonstrate the problem through example: by code, men's and women's restrooms are

required to contain a certain number of fixtures, depending on building use and occupancy⁴. We can assume an equal number of fixtures per square footage in both men's and women's restrooms, although this is a generous assumption, as urinals require less footage than enclosed stalls. Even so, assuming equal numbers of fixtures between gendered restrooms, we still run into potty parity issues, because it takes women longer to use the restroom than men³. This difference in use time is due to a variety of reasons, as Anthony and Dufresne explain:

- those using women's restrooms must always use enclosed stalls to relieve themselves, whereas those using men's restrooms are more likely to be able to use an unenclosed urinal
- people assigned female at birth have internal urinary systems, whereas people assigned male at birth have external urinary systems
- people using a women's restroom are more likely to be menstruating than those using a men's restroom, which adds to the average time people spend in women's restrooms.

The takeaway here is that even if men's and women's restrooms have equal square footage, and equal numbers of fixtures, it will take longer to use the women's restroom, on average, than the men's. The end result of this, of course, is a common sight in public facilities: long lines in front of the women's restroom, while men get in and out of the restroom in comparatively little time. This is the "potty parity," problem in action, and we will see how it manifests on the MIT campus in particular in the next section.

There remains one question: how did this problem become so widespread? How did regulations imposed in Massachusetts in the 1880s expand in scope and scale to cover restrooms in the entire U.S.? The answer lies in the development and promulgation of Model Building Codes. The first national code, fittingly named the National Building Code, was established in 1905, and mostly dealt with fire safety, but by the 1920s codes, published by three regional authorities within the U.S., regulated a much broader number of factors in building construction. This development continued through the 1900s and in the late 90s, when the three regional bodies merged to form the International Code Council (ICC). As of now, the ICC publishes regulations pertaining to every part of construction documentation, and these regulations are used in state codes across the U.S.¹.

There have been efforts to change code regulations to try to achieve potty parity – as of 2006, 21 states have enacted some sort of potty parity legislation (usually something mandating a greater ratio

of women's to men's fixtures), but this leaves many states without any regulations at all³. This is where a gender inclusive restroom paradigm becomes an attractive solution: there can be no disparity in men's versus women's access to restroom facilities if there are no men's or women's restrooms.

There are some groups working to change/adapt the codes to allow for a gender inclusive paradigm, but this work, as most work in regulatory processes, is slow. The process to submit changes occurs over the course of two years, and new editions of model codes are published only every three years⁵. Nonetheless, a group of architects, historians, designers, lawyers working on a project titled "Stalled!" have succeeded in getting regulations for gender inclusive restrooms (both multi and single stall) added to the 2021 International Plumbing Code (IPC), one of the main regulatory codes governing bathrooms in the U.S⁶. It is important to note, however, that this is not the end of the quest to amend model building codes: there are states that subscribe to a model code other than the International Plumbing Code, which will be unaffected by the change in regulations. For example, Massachusetts plumbing code is, at present, based off of the 2015 International Building Code (Board of Building Regulations and Standards). So even when the 2021 IPC is enacted, Massachusetts code will not allow for multi-stall gender inclusive restrooms.

It follows that MIT, being an institution built in Cambridge in the early 1900s⁷, it had to follow the model building codes in place at the time, and the current renovations and new constructions must also follow building code requirements, and thus fall prey to the potty parity problem as well.

MIT and Restrooms

At its inception, MIT was an all-male institution, and the infrastructure of the campus (including the restrooms) reflected that. It wasn't until 1873 that female students were allowed into MIT classes as special cases, and it took until 1883 for MIT to consider female applicants without taking their gender into account⁸. This change obviously resulted in a need for new facilities on campus, most notably, for women's restrooms. It is important to note, though, that separately gendered bathrooms were not yet required by law².

This had changed by 1916, when the Institute moved across the river into Cambridge – Massachusetts had by then passed code requirements mandating both men's and women's restrooms in co-ed facilities²⁷. This is not to say, however, that these restrooms were planned in equal ratio, or put in equally easy-to-access places on the main campus, which has increased the disparity in waiting times be-

tween men and women on campus as the gender ratio has approached 50/50 since the late 1800s. As late as 2005, renovations were being completed on the main campus to account for the inequality of restroom access – the Infinite hallway had previously had 3 men’s rooms and 1 women’s room, which was changed in 2005 to two of each⁹.

This also brings up another issue with restroom disparity on campus – the distribution of fixtures. Men’s and women’s restrooms exist in roughly equal numbers on main campus, with roughly equal square footage. This may, at first, seem to invalidate the claim that MIT still suffers from the potty parity problem, but on closer examination this is simply not true. In order to achieve potty parity in facilities with roughly equal gender ratios (such as MIT), women need more fixtures. So even though MIT has roughly the same square footage of men’s and women’s restrooms in a given building on main campus (which implies roughly equal numbers of fixtures, if not more in men’s rooms), this is not enough to achieve parity.

MIT, in the past 5 years, has been making changes to its restroom infrastructure towards a gender inclusive paradigm, although there is still a long way to go. In 2018, MIT launched its first gender inclusive restroom pilot program, which included 4 different facilities across campus: 4-201, 5-316, and two facilities in the Media Lab¹⁰. Because Massachusetts restrooms are required by code to have gender separated facilities¹¹, representatives from MIT had to meet the Massachusetts Board of State Examiners of Plumbers and Gas Fitters (MBSEPGF) to request a code variance; they were granted the variance, but on the condition that MIT would confine the gender inclusive switch to a yearlong pilot program, after which they’d report back to the MBSEPGF.

The Massachusetts Board of State Examiners of Plumbers and Gas Fitters is the governing body for Massachusetts plumbing codes, according to the 9th edition of the Massachusetts State Building Code (Section 2902), and so anyone looking for a gender-inclusive code variance must first get it approved through the Board.

The MIT pilot programs received such positive feedback from the community that in the spring of 2019, after a check-in with the MBSEPGF, they were made permanent (Institute Community & Equity Office). Even more recently, as of October 2019, MIT requested a code variance to void the requirement for urinals and to implement multi-stall gender inclusive bathrooms as part of the Hayden Library renovations (“MBSEPGF October Board Meeting Agenda”). As of 2020, MIT has switched from gendered single-stall restrooms to implementing a policy allowing any community member to request

that gendered signage on a single-stall restroom be switched to all-gender¹².

In addition to this, the Hayden renovation requiring the variance in October 2019 has now been finished; there are now 9 new all-gender single stall restrooms on the lower floors of Hayden Library, as well as two all-gender multi-stall restrooms on the second floor. Moreover, since the world has sort of restarted in a waning (hopefully) pandemic, there have been larger policy changes – Massachusetts has announced that it will be officially updating its building code – the updated code will be based off of the 2021 International Codes¹³. Unfortunately, this update does not mean that architects wishing to design multi-stall all-gender facilities will be able to do so without still getting a code variance from the MBSEPGF – Massachusetts would have to adopt the 2021 International Plumbing Code in order for that to happen (or significantly amend the current building code). Fortunately, there is a bill (as of March 24th, 2022) that is moving through the Massachusetts legislature that is proposing just that [14]. Though movement towards restroom equity has been slow, it appears that we're in a moment of growing legislative momentum working to change the status quo. Before we begin a discussion on proposed changes to building codes, we need to first take a look at how they developed – many people treat gender separated restroom facilities as immutable, a natural consequence of nature, a social necessity that has been and always will be. In order to try to switch to a gender inclusive paradigm, we need to acknowledge the history of gendered restrooms, most importantly: there is nothing fundamental about them, and they weren't even around until relatively recent history.

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The MIT pilot programs received such positive feedback from the community that in the spring of 2019, after a check-in with the MBSEPGF, they were made permanent (Institute Community & Equity Office). Even more recently, as of October 2019, MIT requested a code variance to void the requirement

for urinals and to implement multi-stall gender inclusive bathrooms as part of the Hayden Library renovations (“MBSEPGF October Board Meeting Agenda”). As of 2020, MIT has switched from gendered single-stall restrooms to implementing a policy allowing any community member to request that gendered signage on a single-stall restroom be switched to all-gender¹².

In addition to this, the Hayden renovation requiring the variance in October 2019 has now been finished; there are now 9 new all-gender single stall restrooms on the lower floors of Hayden Library, as well as two all-gender multi-stall restrooms on the second floor. Moreover, since the world has sort of restarted in a waning (hopefully) pandemic, there have been larger policy changes – Massachusetts has announced that it will be officially updating its building code – the updated code will be based off of the 2021 International Codes¹³. Unfortunately, this update does not mean that architects wishing to design multi-stall all-gender facilities will be able to do so without still getting a code variance from the MBSEPGF – Massachusetts would have to adopt the 2021 International Plumbing Code in order for that to happen (or significantly amend the current building code). Fortunately, there is a bill (as of March 24th, 2022) that is moving through the Massachusetts legislature that is proposing just that [14]. Though movement towards restroom equity has been slow, it appears that we’re in a moment of growing legislative momentum working to change the status quo.

Methodology

Undergraduate Student Survey

There are two important pieces of information to note before getting to the results of the all-gender restroom student survey, concerning its intent and its scope.

The intent of the survey was to gain an understanding of undergraduate student awareness of and attitudes towards all-gender restrooms on the MIT campus. The survey consists of a few main sections, each with a different focus. The first section asks for demographic information, and this is mainly to understand the makeup of respondents and identify any sampling bias (specifically because I – correctly – expected a disproportionately large response from students who identify as trans or gnc and wanted to be able to account for that). The second section contained questions asking students about their awareness and comfort levels around different types of restrooms on campus (not just all-gender), and the third asked students specific questions around different types of restroom fixtures and how comfortable they'd be using them in an all-gender restroom environment. I will be picking out specific questions with responses I found informative in this section, but the full text of the survey (questions, possible responses, and visual material) can be found in Appendix A.

I sent this survey out as a Google Form through dormspam – for readers unfamiliar, dormspamming involves sending an email (bcc'd) to (ostensibly) the entire undergraduate population at MIT via their dorm mailing list. Functionally, these emails do not actually reach everyone – a few dorms (Maseeh, New Vassar, Simmons, and Baker) require that emails sent to all dorm residents from an outside student must be approved by a moderator, and sometimes those moderators do not approve emails in time or do not see message requests. For this reason, I do not know with any amount of certainty if my survey reached residents in those dorms. Additionally, many undergraduate students live off-campus or have email filters in place such that they do not receive dormspam.

All in all, because of the rather significant sampling bias, I hesitate to extrapolate these survey responses (particularly the responses that can be represented quantitatively) to the entire undergrad-

uate population; they may be representative, but it is unlikely. I include some of these quantitative responses for completeness, but the reader should understand that these data require context to be interpreted and should not be taken outside the context of this thesis.

That being said, this survey received 207 responses, 186 of which were from undergraduates. For context, the entire undergraduate population at MIT is roughly 4400 students, split up into classes of 1100 students each. It's also important to note that 139 of the respondents identify as trans or gender non-conforming (67% !!) – so while this is a decent sample size, it is not representative of the general makeup of the college population, which hovers around 1.7% trans and/or nonbinary¹⁵.

Quantitative Responses

There are a few questions that I'd like to call out in this section, less for the exact numbers and more for the general trends they show.

The first question I highlight asks about student awareness of the locations of all-gender restrooms, and the results are shown in Figure 4.1. The takeaway here is rather obvious: although there are some respondents who are completely unaware of all-gender restrooms on the MIT campus, most are at least semi-aware that they exist, including a subset of the cis population (since the total percentage of respondents who marked very or somewhat aware is higher than 67%).

How aware are you of the locations of all-gender restrooms (both single and multi-stall) on main campus (this does not include dorms)?
207 responses

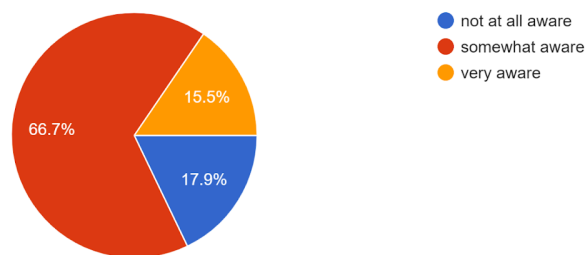


Figure 4.1: Awareness of all-gender restrooms on MIT campus.

The second question that I include asks about respondents' comfort level using different types of restroom facilities on MIT's main campus, shown in Figure 4.2. The instructive results from this question are on the right, particularly on the comfort level around using single stall all-gender restrooms:

173 respondents indicated that they'd very comfortable using a single stall all-gender restroom; this number jumps up to 193 respondents when those who responded either "somewhat comfortable" and "very comfortable" are combined. Based on this, single stall restrooms are clearly not that contentious. This changes when we start considering multi-stall all-gender facilities, as shown in Figure 4.3. Even combining responses that "slightly support" and "strongly support" an all-gender multi-stall restroom paradigm, we still only see about 68% in support – aside from the fact that this number is heavily impacted by sampling bias, it shows something more obvious: people are not as comfortable with all-gender multi-stall restrooms. Though this thesis does not extensively deal with cultural attitudes towards all-gender restrooms, responses like this indicate that some cultural shift would likely be necessary to implement widespread all-gender multi-stall restrooms.

How comfortable do you feel with using each of the following restroom options on main campus?

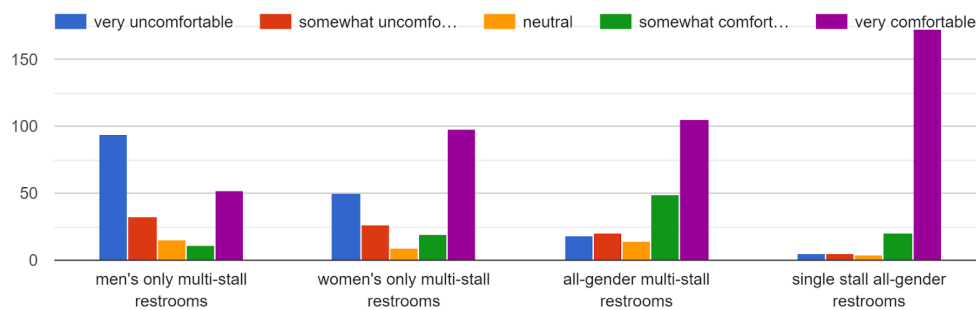


Figure 4.2: Comfort levels using different restroom types on MIT campus.

How do you feel about implementing all-gender restrooms as the default for multi-stall facilities across campus? (In this context, "as the default" m... most, but not all, restrooms would be all-gender)

207 responses

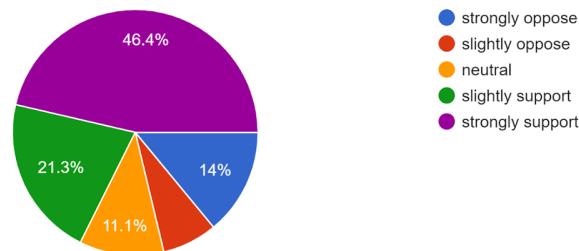


Figure 4.3: Attitudes towards implementing all-gender restrooms by default.

Figures 4.4 and 4.5 both show respondents' attitudes towards different implementation levels of all-gender restrooms on the MIT campus, and should be viewed together. The annotative text underneath both of the charts is cut off in some cases – starting from the left, the text underneath each of the banks of responses in Figure 4.4 reads: all single-occupancy restrooms are all-gender; single occupancy restrooms are 75% all-gender and 25% genders; single occupancy restrooms are 50% all-gender and 50% gendered; single occupancy restrooms are 25% all-gender and 75% gendered; all single occupancy restrooms are gendered. The captions under the responses in Figure 4.5 follow the same pattern, but for multi-stall instead of single-occupancy restrooms. We can see a clear trend in attitudes towards all-gender single occupancy restrooms: respondents are generally in favor of making most (if not all) single stall restrooms all-gender facilities. Again, when comparing responses to the two questions, we see that all-gender multi-stall restrooms are quite a bit more contentious. Before we move on, it is worth noting that while responses are relatively varied to an all-gender multi-stall paradigm, a significant portion of respondents marked that a gendered-only restroom multi-stall restroom paradigm would be the least or next-to-least favorable option. So while there isn't a clear consensus about the level of implementation of all-gender multi-stall restrooms, there is somewhat of a consensus that not all multi-stall restroom should be gendered.

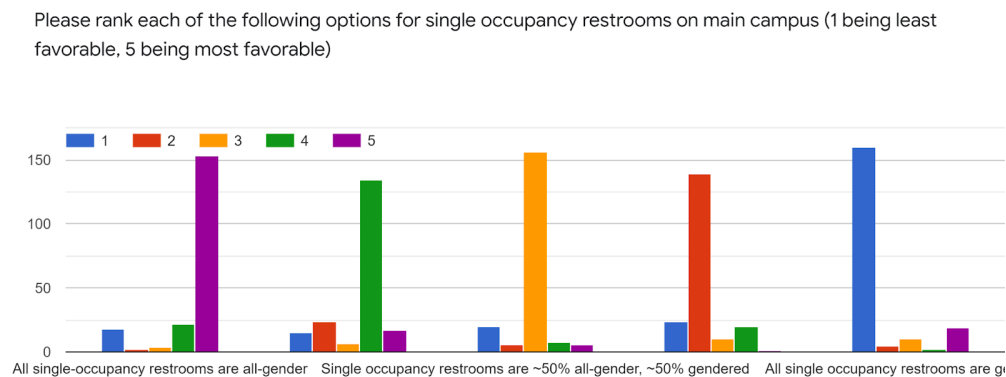


Figure 4.4: Attitudes towards varying implementation levels of all-gender vs. gendered single occupancy restrooms.

The last section of quantitative responses concerns respondents' attitudes towards different types of fixtures that might be implemented in an all-gender restroom (Figures 4.6, 4.7, 4.8, and their corresponding photos in Figures 4.9 and 4.10, 4.11 and 4.12, and 4.13, respectively). These questions were accompanied with photos of the fixtures in question, and I include them here for context. Addition-

Please rank each of the following options for multi-stall restrooms on main campus (1 being least favorable, 5 being most favorable)

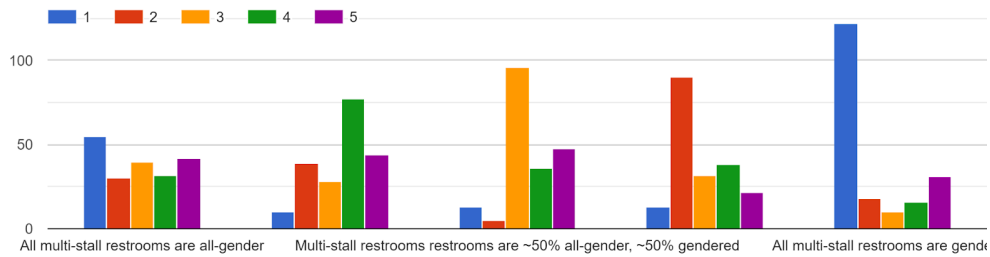


Figure 4.5: Attitudes towards varying implementation levels of all-gender vs. gendered multi-stall restrooms.

ally, I do not include the responses to the first two of these questions here – the questions were not worded clearly and so the responses were not particularly useful. The takeaway from these three sets of responses is also pretty obvious: people are generally comfortable in all-gender facilities if they feel that their privacy is being respected – this extends beyond trans and gnc respondents to the cis respondents as well. Another design takeaway (that becomes relevant to my design proposal later) is that people are about as comfortable in fully enclosed (floor to ceiling) stalls as they are in high-privacy (but not fully-enclosed) stalls – this is important because including stalls that are not fully enclosed is much less expensive a renovation than adding fully-enclosed stalls.

Please rate the following design based on how comfortable you'd feel using an all-gender restroom with the designs shown BELOW. (3 of 5)

194 responses

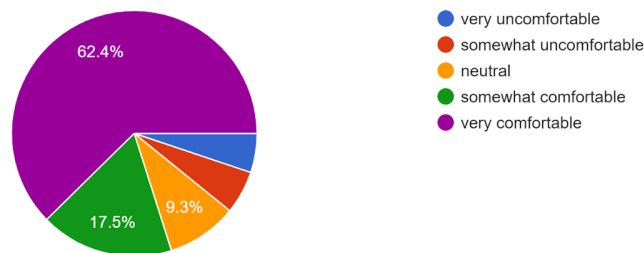


Figure 4.6: Comfort levels around using an all-gender restroom with stalls containing privacy strips and privacy panels.

Please rate the following design based on how comfortable you'd feel using an all-gender restroom with the designs shown BELOW. (4 of 5)

193 responses

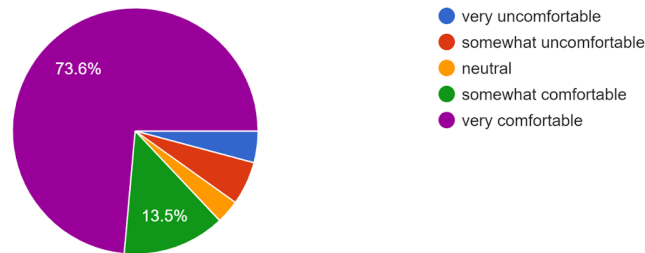


Figure 4.7: Comfort levels around using a fully enclosed stall in an all-gender restroom.

Please rate the following design based on how comfortable you'd feel using an all-gender restroom with the designs shown BELOW. (5 of 5)

194 responses

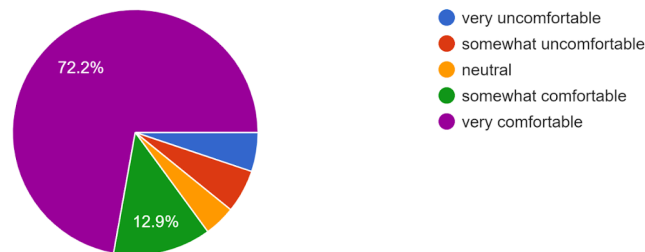


Figure 4.8: Comfort levels around using a high-privacy unenclosed stall in an all-gender restroom.

Qualitative Responses

In addition to the questions with checkbox responses, the survey also contained a number of questions with free responses; I focus on responses to the following, as they inform my design proposal later in the thesis:

1. **What about this place/these places makes them your favorite restrooms on campus?**
2. **How do you think on-campus restrooms (gendered and all-gender) can be improved?**

The first question in this section asked respondents to list the locations of their favorite restrooms on campus, followed up by the two questions I've included. As expected, there were a range of responses, but I've summed up the main points here.



Figure 4.9: Additional privacy strips covering gaps in conventional restroom stalls with toilets fixtures.



Figure 4.10: Toilet fixture in enclosed stall with additional privacy panels (the white strip).

To Question 1:

- Low traffic restrooms (not a lot of people around, mostly empty).
- **Good lighting – natural lighting also a plus but not necessary.**
- Cleanliness and/or decent smell. Natural ventilation a plus as well.
- **No gaps between restroom stalls and doors, stalls and doors that extend further up and down than standard American stalls.**
- Free menstrual products.
- **All-gender signage.**
- **No contact door-opening (specifically Step-N-Pull fixtures on doors enabling people to open doors with their feet).**

To Question 2:



Figure 4.11: Fully enclosed restroom stall with toilet fixture.



Figure 4.12: Fully enclosed restroom stalls

- Better maintenance (fixed taps, faulty HVAC, more frequent cleaning)
- Free menstrual products.
- **Bigger stalls and doors – more privacy.**
- **Menstrual product disposal in all restrooms.**

While some of these responses are calling out interventions that are not within the scope of this thesis (better maintenance, faulty HVAC, etc), some of these responses (those in bold) are *directly actionable* items. To this end, I attempt to include all of the bolded suggestions in the renovation proposal in the later part of this thesis.

The restroom I chose as the site of my renovation proposal already has decent lighting, which takes care of the first actionable item. I've included high-privacy restroom stalls and doors to increase user privacy and comfort, as well as partitions between urinals. To address the no-contact door opening, the renovation proposal gets rid of the doors – the shape of the room is such that this does not decrease the privacy of those in the restroom at all (in fact, the doors of the entrances to the



Figure 4.13: Stalls that are taller/go lower than conventional restroom stall. Stall doors also have smaller gaps between the door and the doorjamb than conventional restroom stalls.

existing restroom are often propped open anyway). I've also included trash cans in every restroom stall for menstrual product disposal, as well as menstrual product dispensers on both sides of the restroom.

Deliverables and Media Produced

Over the course of this thesis, I have produced two sets of deliverables: one a map depicting the current locations of all-gender restrooms on a subsection of the MIT campus, and the other a set of drawings and renders for a proposed renovation turning one of the (gendered) Student Center restrooms into a multi-stall all-gender facility.

All Gender Restroom Map

This map depicts multi and single stall restrooms across the MIT campus; note that it is not a full map of the MIT campus, nor does it include restrooms in residential buildings (dorms and FSILGs). I chose to scope the map in this way because I am specifically interested in how *undergraduate* students interact with and perceive MIT's public restroom infrastructure. As such, this map includes the spaces that undergraduates spend time in when they are not at home, and excludes spaces that are primarily used by graduate students and/or faculty. This results in a map depicting most of the "main" buildings on the MIT campus while excluding the Sloan Business School, the visitor's center and MIT Bookstore, and the research and administrative-focused buildings that line Vassar street and extend north. A full-size image of the map can be found in Appendix B, as well as an itemized list of all of the room numbers of the restrooms shown. The information necessary to make this map comes from a combination of the information available through MIT's Institute Community and Equity Office (ICEO), and through fieldwork that I did over the course of this thesis.

A brief note on accessibility in graphic design: although I did not extensively research the color palette for this map, it is worth noting that I did make some consideration for a variety of accessibility factors: namely choosing colors that are color-blind friendly and choosing font families that are dyslexia-friendly.

As a consequence of my work over the past semester with the All Gender Restroom Committee, paper copies of this map will be available to MIT visitors at the Visitor's Center; a version of the map will also be available to visitors and students at the upcoming 2022/2021/2020 Commencement festivities. I am also excited to continue my work with the committee as an alum so that eventually a large-format



Figure 5.1: Map of all-gender restrooms on the "main" MIT campus. Note that the restrooms in the MIT Medical Building (E23) are single-stall all-gender by default, but are not included in this map as MIT students in general do not interact extensively with MIT Medical infrastructure.

version of this map (one that complies with MIT's internal graphics standards) will be posted in at least one public place on campus (such as in the Student Center or somewhere along the Infinite).

Restroom Renovation Proposal: Siting

The other main contribution of this thesis takes the form of an all-gender renovation proposal, based on my personal experiences with the Institute's restroom infrastructure, the knowledge about restroom architecture I've gained over the course of this thesis, and the responses from the survey detailed in Section 4.

As shown in the plan (Figure 5.2), I've chosen the third floor of the student center (building W20) as the site of the proposed renovation. The considerations behind this siting choice can be separated into three main categories: social, accessibility, and logistical.

The entire student center is technically accessible to the public during the day, and that includes

the restrooms. I've chosen the existing third floor multi-stall restroom as the site of the renovation because, while it is still accessible to the public, it is a bit removed from the main floor. People who enter the building (who are unfamiliar with the restroom locations) will likely go to the second floor, which is the nearest restroom, instead of the third. Ideally, this will result in an all-gender restroom that, while publicly accessible, is still more private than a restroom on the second floor. Additionally, this restroom is centrally located: students working on the fourth floor could come down just as easily as students working on the second floor.

From a social perspective, it can be extremely othering experience to have to go find a different restroom than everyone else while in a public situation – imagine a group of friends leaving a study group to briefly use the third floor restroom; a nonbinary student uncomfortable with gendered restrooms would have to split off from the group and find a single-stall all gender restroom. A similar situation would play out if a student happened to be in a wheelchair – the third floor does not currently have an ADA accessible restroom. These students would have to either go to the second or fifth floors of the student center to use the restroom; they would also possibly have to wait for the restroom to open up (or if the locks are broken, as has happened to me on *numerous* occasions), as the ADA-accessible, all-gender restrooms in the student center are single stall. It's time consuming and annoying to have to consider the logistics around using the restroom in a space that is meant to allow students to focus on clubs and studying, and this restroom renovation would alleviate that.

From a renovation complexity (and thus cost) perspective, this site is a prime candidate: all of the proposed interventions affect drywall only. The wall separating the men's and the women's restrooms is drywall only, and would require little to no plumbing re-routing if the renovation were to pass. Because the plumbing stacks don't have to be moved, the plumbing interventions are simplified to minor rerouting work and different fixture installation.

Restroom Renovation Proposal: Interventions

The architectural interventions I'm proposing can also be categorized: those that are more architectural and change the overall geometry of the room, and those that are fall into detail work.

The major architectural intervention is knocking out the central wall separating the men's and women's restrooms, creating a sort of donut shape that opens up the room for circulation. The other major intervention is the addition of the privacy restroom stalls, with taller stalls and smaller gaps between

stall doors and doorjambs – this type of higher-privacy stall was frequently mentioned in the survey responses as a favorable alternative to the typical stall type found in most on campus restrooms. Additionally, I decided on a higher-privacy stall type as opposed to a fully enclosed stall (which would offer the most privacy to users) because higher-privacy stalls do not require separate ventilation, unlike fully enclosed stalls. Because the current restroom is not equipped to individually ventilate each stall, instituting fully enclosed stalls in the space would require the renovation to go into the ceiling and install proper, up-to-code ventilation for the new fully-enclosed stalls. Because of the additional expense and complexity this would add to the renovation, I decided against fully enclosed stalls in favor of high-privacy, partially enclosed stalls (as used in the Hayden Library renovation – shown in 5.3).

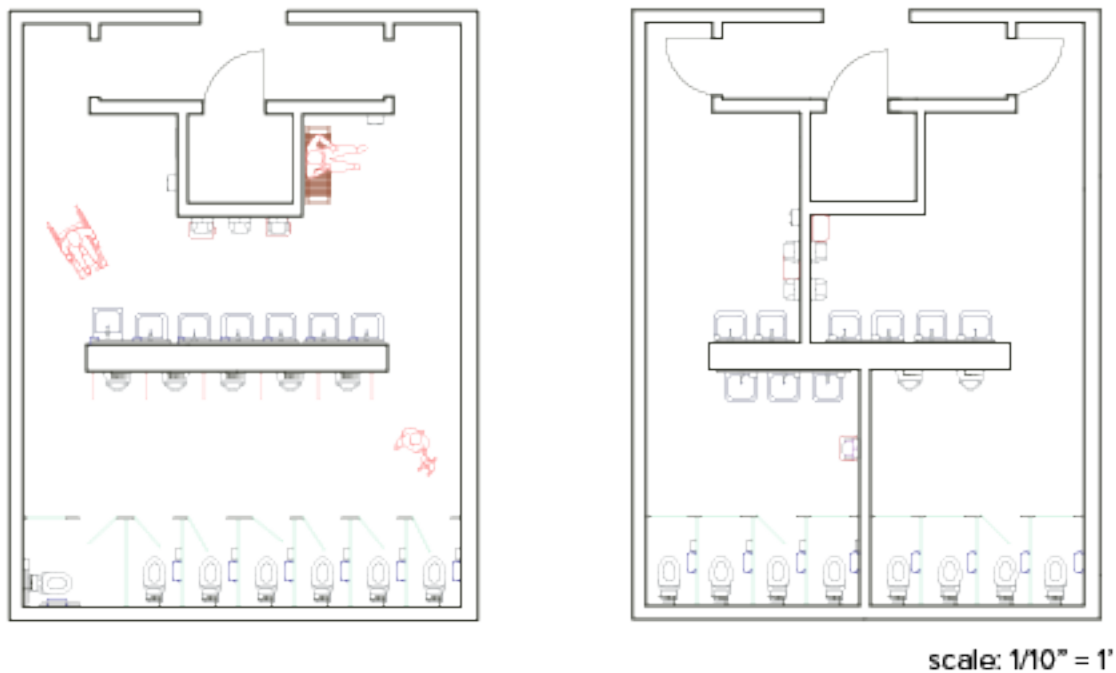


Figure 5.2: Plan drawing comparing the renovated restroom proposal (left) with the original restroom plan (right).

I've produced a series of renderings to help show the effects of these interventions, beginning by entering from the right side of the restroom (the former entrance to the women's restroom), moving towards the back of the restroom, where the stalls and urinals are located, then following the circulation path out through the other (formerly men's room) door.



Figure 5.3: High-privacy (but not fully enclosed) stalls implemented in the Hayden Library renovation.

We start by entering the restroom from the (formerly women's room) door, shown in Figure 5.4. We then move on to the back half of the restroom, where the restroom stalls and urinals are located (Figure 5.5). Moving on, we pass by the urinals and stalls. Figures 5.6 and 5.7 show the back half of the restroom from a different view, with and without the stalls in view. Past the stalls, we are in the front half of the restroom again, by the sinks and mirrors, shown in Figures 5.8, 5.9, and 5.10.



Figure 5.4: Rendering of the post-renovation right-side restroom entrance.



Figure 5.5: Rendering of the post-renovation restroom stalls and urinals.



Figure 5.6: Rendering of the post-renovation restroom stalls and urinals.



Figure 5.7: Rendering of the post-renovation restroom, focusing on the urinals.



Figure 5.8: Rendering of the post-renovation looking towards restroom entrance.



Figure 5.9: Rendering of post-renovation sinks, looking from left side of restroom towards right.



Figure 5.10: Rendering of the post-renovation restroom stalls and sinks from the left side of the restroom, looking back.

Conclusions

Future Work

The primary source of future work for this thesis lies in the shortcomings of its own structure: a thesis is designed to be a project completed by one person and one person only that showcases their skills in the field; while this is a sufficient structure for showcasing some skills (particularly technical skills – creating drawings, renderings, etc), it not sufficient for implementing more complex and harder-to-quantify design methodologies and processes. This is particularly true when one attempts to implement a participatory design or design justice approach to a design space in a thesis – these methodologies *require* community input and engagement to be successful. I've been able to somewhat resolve this tension by choosing a design space – all-gender restrooms at MIT – that affects a community that I am a member of; I have lived experience of being a student at MIT and interacting with MIT's restroom infrastructure. However, I am still *only a single person*, and thus the work in this thesis, though based off of lived experience and with some input from the MIT community, is limited.

This makes areas for future work very clear: in order to actually utilize a design justice approach, all-gender restroom design, siting, and renovation needs to be a community process, with engagement from all potential users, *particularly* those from marginalized communities. This thesis ends by presenting a proposal for a restroom renovation, and future work begins by expanding upon this proposal, taking it to interested community members, and getting feedback and otherwise involving the community in the design.

It is also relevant to mention that the work presented here does not address intersectional concerns around restroom access – for example, the renovation proposal does include an ADA-accessible stall, but it was not within my scope to design a space specifically for wheelchair-users' comfort. The same goes for other disabled users – I am able-bodied and cannot speak to their experiences around restrooms; I do not try to design for an experience that I do not have. This is precisely what makes participatory design approaches so important – if potential users are left out of the design process, the resulting design may be uncomfortable at best and unusable at worst for those users. Although I

have created a proposal that would benefit many trans and non-binary students, my experience ends there, and so does the proposal. If this project were to go forward successfully, I would need to seek input and feedback from a diverse group of potential users.

Additionally, I focused only on MIT undergraduates within this thesis – obviously undergraduates are not the only people using restrooms on campus. Understanding how faculty, staff, and graduate students view all-gender restrooms is a necessary step to taking this proposal further.

From a more practical standpoint, getting the MIT community involved with a project like this can take many forms: starting a series of focus groups, sending out surveys about restrooms to the *entire* MIT community, getting people involved in the policy work around all-gender restrooms, etc. Note that this expansion in scope requires institutional backing – a student cannot feasibly expect to be able to reach the entire MIT community in a single email, but this is very possible at an institutional level. Thankfully, there are current committees at MIT such as the All Gender Restroom Committee that are working to expand community involvement in and engagement with this process.

If one were to expand the scope even further than the entirety of MIT, there's activism work to be done in legislation at the state and national level. As mentioned earlier, there is currently a bill working its way through Massachusetts legislature proposing changes to the current Massachusetts building code that would allow for multi-stall all-gender restrooms. Expanding even further to the national scale: until 2018, the International Plumbing Code (IPC) did not mention all-gender multi-stall restrooms at all; the current provisions for all-gender multi-stall restrooms in the 2018 IPC would not be there if not for the advocacy efforts of the Stalled! project. Policy shifts of this manner are often the only way to effect large-scale, substantive change; while activism within communities is an important part of change, it must occur in parallel with state and national-level legislative advocacy.

Conclusion

In writing this section for the first time, I separated my "research conclusions" from my "personal conclusions"; I very quickly realized that trying to keep the two separate was a futile effort. This narrative nature of this thesis and the degree to which I am involved in the community I am studying and designing for guarantees that there will be (at the very least) significant overlap between my research conclusions and my personal conclusions.

Many of the conclusions that this thesis supports are fairly obvious: students (not just trans and gnc

students) care about the quality and location of their restrooms. At the end of the day, students just want to be able to find a restroom that's quiet, clean, and most importantly, where they feel their privacy is respected. The complicating factor for trans and gnc students (and for female students, to a lesser degree) is that finding restrooms that fit these criteria can be a non-negligibly difficult task on the MIT campus. Perhaps the more interesting (and hopeful) takeaway is that many of the concerns that people have around restrooms can be addressed through relatively simple design interventions: including high-privacy restroom stalls as a default is a relatively simple fix that would greatly improve the experience of using the restroom for *all* users, not just trans and gnc students. The same goes for including infrastructure for the disposal of menstrual products in *all* restrooms, women's, men's, and all-gender. Simple interventions can make a *huge* difference towards increasing accessibility.

MIT, as an institution, is pretty far ahead of the curve when it comes to all-gender infrastructure, but this does not mean that there is no work to be done – on the contrary: trans and gnc students are still marginalized on a daily basis by the lack of adequate infrastructure to support their needs. The changes that have been achieved towards restroom equity (particularly over the last 5 years) on the MIT campus are the result of advocacy from small groups of student and staff activists who have committed their time and effort to engaging with the MIT community, engaging with legislative bodies outside of MIT, and doing the physical and administrative work that goes into implementing all-gender facilities. Although I've gained a lot of knowledge around the development and implementation of building codes as they relate to restroom design, my conclusions in this thesis are larger than the individual implementation of building code policies: making substantive change to infrastructure is less a problem of creating the design proposal and more a problem of creating the *policy* proposal. This is not to say that the advocacy and activism of small groups is meaningless – as the previous paragraph says, MIT's current all-gender restrooms would not exist without the efforts of a small group of dedicated students and staff – but it is to say that the two types of activism must happen in parallel to create the most momentum towards equity.

Going through the process of researching, writing, and otherwise creating what has gone into this thesis has been an incredible learning opportunity and a source of personal and academic joy for me – it is not often that one gets the opportunity to craft a thesis around what would have remained as a personal project. I am eternally grateful to all those who helped along the way (either as a source of knowledge, a course of emotional support, or both) – this thesis would not exist without the communities I have had the privilege of interacting with and being a part of at MIT. I look forward to continuing

the work outlined in this thesis as an alum, and possibly further into my professional work. More than anything else, this thesis has taught me that architecture is not limited to design – it is activism.

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Appendices

Appendix A: Lavender@MIT Thesis Survey Questions

Lavender@MIT Thesis Survey Questions

1: Demographics

1. **What is your current affiliation with MIT?**
undergraduate student/graduate student/postdoc/staff/faculty/alum or recent graduate/dual undergrad-grad student
2. **If you are a current student (or taking a leave of absence), which of these most accurately describes your class year?**
first year/second year/third year/fourth year/fifth year/5+ year/grad student
3. **Do you identify as LGBTQIA+?**
yes/no/unsure or questioning
4. **If you answered yes or unsure/questioning to the above question, which of these do you identify with?**
gay/lesbian/bisexual or pansexual/asexual/transgender/nonbinary/genderfluid/genderqueer/agender/interse
not to answer/unsure or questioning/aromantic/gender nonconforming/demisexual

2: Awareness of All-Gender Restrooms

1. **How aware are you of the locations of all-gender restrooms (both single and multi-stall) on main campus (this does not include dorms)?**
not at all aware/somewhat aware/very aware
2. **How comfortable do you feel with using each of the following restroom options on main campus?**
very uncomfortable/somewhat uncomfortable/neutral/somewhat uncomfortable/very comfortable
3. **(Optional) If you answered neutral/uncomfortable to any of the previous types of restrooms, can you provide more detail?**
(free response)
4. **Do you go out of your way to use all-gender restrooms on campus?**
never/rarely/sometimes/often/always
5. **How do you feel about implementing all-gender restrooms as the default for multi-stall facilities across campus? (In this context, "as the default" means most, but not all, restrooms would be**

all-gender)

strongly oppose/slightly oppose/neutral/slightly support/strongly support

6. Please rank each of the following options for single occupancy restrooms on main campus (1 being least favorable, 5 being most favorable)
all single-occupancy restrooms are all gender/single occupancy restrooms are 75% all gender, 25% gendered/single occupancy restrooms are 50% all gender, 50% gendered/single occupancy restrooms are 25% all gender, 75% gendered/all single-occupancy restrooms are gendered
7. Please rank each of the following options for multi-stall restrooms on main campus (1 being least favorable, 5 being most favorable)
all multi-stall restrooms are all gender/multi-stall restrooms are 75% all gender, 25% gendered/multi-stall restrooms are 50% all gender, 50% gendered/multi-stall restrooms are 25% all gender, 75% gendered/all multi-stall restrooms are gendered

3: Design

1. **Where are your favorite restrooms on campus, if you have any? (Room numbers are helpful but absolutely not necessary – if you give a general description with the floor, building, and/or relative location in a building that is very helpful)**
(free response)
2. **What about this place/these places makes them your favorite restrooms on campus?**
(free response)
3. **How do you think on-campus restrooms (gendered and all-gender) can be improved? (can be the addition/removal of certain amenities, maintenance comments, interior design comments, etc)**
(free response)
4. **Please rate the following design based on how comfortable you'd feel using an all-gender restroom with the designs shown in Figure 7.1. (To clarify: this question is asking whether or not you'd be comfortable using a restroom containing both the urinals shown and standard restroom stalls). (1 of 5)**
very uncomfortable/somewhat uncomfortable/neutral/somewhat comfortable/very comfortable/(free response)
5. **Please rate the following design based on how comfortable you'd feel using an all-gender restroom with the designs shown in Figure 7.2. (To clarify: this question is asking whether or not you'd be comfortable using a restroom containing both the urinals in stalls shown and standard restroom stalls).(2 of 5)**
very uncomfortable/somewhat uncomfortable/neutral/somewhat comfortable/very uncomfortable
6. **Please rate the following design based on how comfortable you'd feel using an all-gender restroom with the designs shown in Figures 7.3 and 7.4. (3 of 5)**
very uncomfortable/somewhat uncomfortable/neutral/somewhat comfortable/very comfortable/(free response)



Figure 7.1: Two urinal fixtures separated by a divider; no separate stalls.



Figure 7.2: Urinal enclosed in its own stall with additional privacy panels (the white and metal strips along the doorjamb).

7. **Please rate the following design based on how comfortable you'd feel using an all-gender restroom with the designs shown in Figures 7.5 and 7.6. (4 of 5)**
very uncomfortable/somewhat uncomfortable/neutral/somewhat comfortable/very comfortable
8. **Please rate the following design based on how comfortable you'd feel using an all-gender restroom with the designs shown in Figure 7.7. (5 of 5)**
very uncomfortable/somewhat uncomfortable/neutral/somewhat comfortable/very comfortable



Figure 7.3: Additional privacy strips covering gaps in conventional restroom stalls with toilets fixtures.



Figure 7.4: Toilet fixture in enclosed stall with additional privacy panels (the white strip).



Figure 7.5: Fully enclosed restroom stall with toilet fixture.



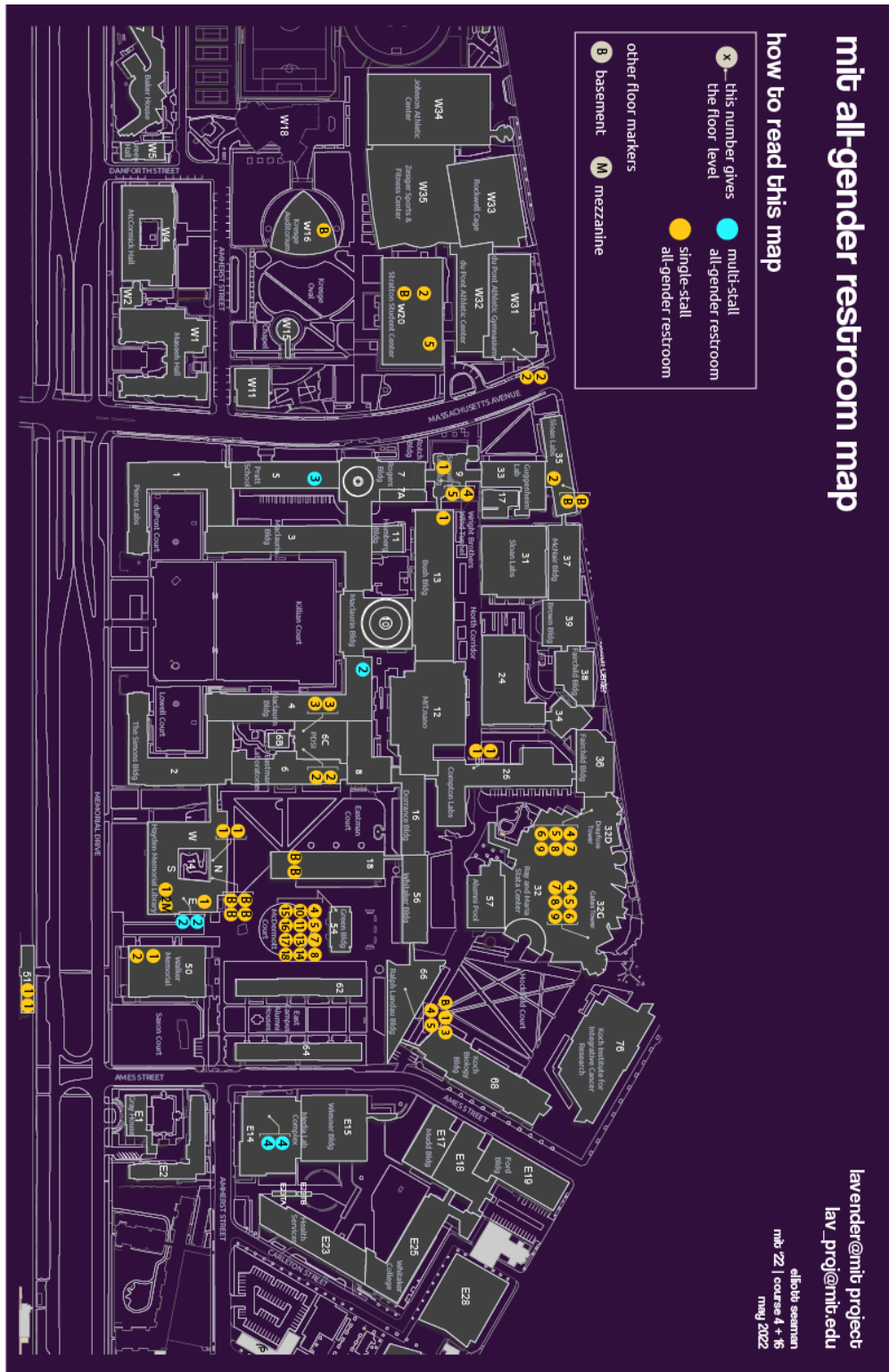
Figure 7.6: Fully enclosed restroom stalls.



Figure 7.7: Stalls that are taller/go lower than conventional restroom stall. Stall doors also have smaller gaps between the door and the doorjamb than conventional restroom stalls.

Appendix B: Map and List of Included All-Gender Restrooms on MIT Campus

Map of All-Gender Restrooms on MIT Campus



List of Pictured Restrooms on MIT Campus

| Building No. | Room No. | (S)ingle or (M)ulti Stall |
|---------------------|-----------------|----------------------------------|
| 4 | 201 | M |
| 5 | 316 | M |
| 6C | 242 | S |
| 6C | 244 | S |
| 6C | 306 | S |
| 6C | 308 | S |
| 9 | 105 | S |
| 9 | 406 | S |
| 9 | 504 | S |
| 13 | 1010 | S |
| 14 | 0640 | S |
| 14 | 0641 | S |
| 14 | 0646 | S |
| 14 | 0647 | S |
| 14E | 104 | S |
| 14N | 133 | S |
| 14N | 133B | S |
| 14S | 134 | S |
| 14S | 221M | S |
| 14E | 205 | M |
| 14E | 203 | M |
| 18 | 080 | S |
| 18 | 081 | S |
| 26 | 112 | S |
| 26 | 114 | S |
| 32D | 403 | S |
| 32D | 503 | S |
| 32D | 603 | S |
| 32D | 703 | S |
| 32D | 803 | S |
| 32D | 903 | S |
| 32G | 458 | S |
| 32G | 558 | S |
| 32G | 658 | S |
| 32G | 758 | S |
| 32G | 858 | S |
| 32G | 958 | S |
| 35 | 026 | S |
| 35 | 026A | S |
| 35 | 226 | S |
| 50 | 112 | S |
| 50 | 202 | S |
| 51 | 106 | S |

| | | |
|-----|------|---|
| 51 | 108 | S |
| 54 | 431 | S |
| 54 | 531 | S |
| 54 | 631 | S |
| 54 | 731 | S |
| 54 | 831 | S |
| 54 | 1031 | S |
| 54 | 1131 | S |
| 54 | 1331 | S |
| 54 | 1431 | S |
| 54 | 1531 | S |
| 54 | 1631 | S |
| 54 | 1731 | S |
| 54 | 1831 | S |
| 66 | 047 | S |
| 66 | 147 | S |
| 66 | 347 | S |
| 66 | 457 | S |
| 66 | 547 | S |
| E14 | 494 | M |
| E14 | 495 | M |
| W16 | 011A | S |
| W20 | 008 | S |
| W20 | 204A | S |
| W20 | 572A | S |
| W31 | 219A | S |
| W31 | 219B | S |