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PEER-REVIEWED ARTICLE

Counter-mapping as Action Research: Lessons Learned from the Microgeography of Universal Public Restrooms

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Single-occupancy restrooms benefit families and caregivers as well as trans and non-binary people. Recent US state laws restricting the use of gendered restrooms based on a person's sex assigned at birth highlight the importance of improving access to these places. Part of our university's response to a state law restricting restroom access was to share a map (layer) that identified the location of all-gender restrooms on campus. After identifying mistakes and learning these locations were not ground-truthed, we re-mapped these locations by visiting every public building on campus. Our work illustrates the nuances of restroom access on college campuses, identifies opportunities for advocacy, and provides a product that helps students and staff who do not conform to a binary definition of gender.

The design and evolution of public spaces provides insights into a society's core values and beliefs. Mapping these spaces is one way to better understand how they operate and affect the everyday lives of users. This is true for parks, benches, sidewalks, libraries, museums, and, indeed, for public restrooms. Restrooms have long been contested sites where ideas about privacy, gender, race, and disability play out. They can be places of oppression, but also of access and social inclusion. We find that the act of mapping these spaces represents both an opportunity to better understand how access works at the scale of the building as well as to direct and amplify efforts to improve access.

In November 2024, our state, Ohio, passed a bill restricting the use of gendered restrooms in K–12 schools and universities to the sex users were assigned at birth. Single-occupancy restrooms provide a non-gendered option, making the ability to find these facilities important for those who do not fit into definitions imposed by the law. These restrooms are valuable to trans and non-binary people under the new state law, but also remain important for families with small children, people with disabilities, caretakers of the elderly, and many other situations that require a single-user or mixed-gender room.

We are part of a small community geography lab on a public university campus, where we create free maps on request from, and in collaboration with, the community.[1] We are both cis women, but with friends, family, and colleagues affected by the new state law. In December 2024, we reached out to the staff/faculty LGBTQ+ organization on campus, attended their monthly meeting to hear about specific concerns and needs, and offered to make a map of universal restrooms on campus. We suggested that we could make a simple Google My Map and post signs with QR codes linking to the map outside gendered restrooms around campus. We also met with the campus LGBTQ+ center, asking what data they would like shared on the map and what type of advertising of this map they would be most comfortable with.

The LGBTQ+ advocates obtained a list of universal restrooms[2] created by our campus facilities management

1. While our university's identity is clear from our affiliation, we chose to keep our discussion of our location non-specific, recognizing that the challenges revealed through the mapping project could apply to any college campus. We also describe campus buildings by their use rather than their proper names, which are less meaningful to most readers.

2. There are several terms used to refer to individual-stall restrooms. In our research we followed the university's use of the term "universal" in reference to restrooms not labeled by gender, per Ohio Administrative Code Rule 3342-5-12.18. While most universal restrooms were also in compliance with the Americans with Disabilities Act (ADA), a few were lacking push buttons and two were only accessible by stairs.

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department. However, they expressed concern about how the university identified which restrooms were "universal," and requested we double-check locking and signage. But when we asked for the list of these restrooms as a starting point, the facilities office seemed uncertain about sharing this data, and wanted assurances that we would keep the map up to date. After we made these assurances, we were then told by a representative from our campus human resources/diversity office that they did not want us to make a map that would compete with the official campus map, which includes a layer for universal restrooms. This was understandable, so we offered to instead ground-truth the existing map layer and they agreed.

We originally approached this as a community mapping project, not as research. But the fieldwork required for mapping restrooms provided a far deeper understanding of the challenges of accessing and sharing the locations of these facilities. We argue in this paper that the process of mapping helped us learn more about the microgeography of restroom locations in buildings, providing greater insight into how to better accommodate those who use single-occupancy restrooms. This fine-scale analysis illustrated the difference between universal restroom *existence* in a campus building versus universal restroom *accessibility* in these places. The mapping process also identified opportunities for advocacy around access issues, highlighting the value of cartography in ongoing social justice work.

COMMUNITY GEOGRAPHY, COUNTER-MAPPING, AND CRITICAL GIS

Creating maps to support social justice has a strong tradition in geography. While in hindsight many early Western maps were most often produced by and for those in power, in recent decades maps have been increasingly promoted as a tool for social justice (Harley 1991, Monmonier 2018, O'Sullivan 2006, Parker 2006, Alderman et al. 2021, Velázquez Soto 2024, Buckley and Case 2025). The work of the Detroit Geographical Expedition and Institute, for example, represented a "radical break" in which cartographers created maps to advocate for change and visualize municipal neglect (López Garrido 2021, Warren et al. 2019). In more recent years, maps have been used to identify cases of environmental racism, discriminatory eviction practices, queer spaces, and health disparities, among many other examples in which the maps served as tools of empowerment (e.g., Cinderby et al. 2008, Maharawal and McElroy 2018, Swab and Gieseking 2022, Binte Mohiuddin 2025).

The growth of GIS as a tool for mapmaking led to multiple concerns about this new field, in particular the emergent recognition that only those with skills and an expensive software license could make maps. Early responses called for Public Participatory GIS (PPGIS): computer-assisted mapping that involves, from start to finish, members of the community that is being mapped (Parker 2006, Corbett et al. 2016). More recent focuses on community-engaged geography have broadened calls for public involvement beyond mapmaking to include co-producing knowledge from research questions to data collection to analysis to sharing results (including through maps; Koopman 2024).

The evolution of these practical interventions into the mapping process mirrors a broader theoretical understanding of the role of geographers in their local community. Long a field of "explorers" who visit places briefly, extract knowledge, then leave, more recent understandings of geography argue that it can, and should, be a research process that co-produces knowledge with local community members; one in which those affected help determine research questions and methods as well as work together with researchers to produce, analyze, and disseminate results. Shannon et al. (2021) define community geography as praxis, bridging theories of inclusion and empowerment with the actual approach to conducting research in the field. This perspective suggests an active engagement by geographers and cartographers in counter-mapping. Counter-mapping is defined by Harris and Hazen (2006) as "any effort that fundamentally questions the assumptions or biases of cartographic conventions, that challenges predominant power effects of mapping." In the case of restroom locations, the production and sharing of a universal restroom map is an act of resistance to the conventional assumption of restroom ubiquity and homogeneity. At a time when ideas about gender and sex are increasingly legislated, restroom mapping is both an act of recognition of human heterogeneity and a response to basic human needs and comfort in navigating everyday life.

A SHORT HISTORY OF GENDERED PUBLIC RESTROOMS

Sex-segregated restrooms in the United States were first introduced when women entered the professional workforce in the late 1800s (Kogan 2007). Though women had access to, and frequented, public spaces, there were no policies dedicated to women's use of public facilities until Massachusetts enacted a sex-separation law in 1887. This law, and those that followed, reinforced the idea that restrooms needed to be segregated by sex based on morality, privacy, and women's modesty. The creation of sex-segregated public spaces, including restrooms, reinforced the idea that women were physically and intellectually different than (i.e., inferior to) men (Kogan 2007).

Segregation of public restrooms by sex coevolved with racial segregation of public facilities that were part of Jim Crow laws. Along with the passing of the Civil Rights Act of 1964, outlawing the segregation of public facilities and accommodations, activists pushed for inclusive restroom construction provisions (Gershenson 2010). Though public facilities became more accessible and less racially segregated in the 1970s, restrooms remained sex-segregated.

The first alternative to this traditional architecture arrived in 1991, when the first family restroom debuted at a suburban shopping mall (Davis 2020). While justified through cis/heteronormative families, they also created a space that could be used by people regardless of gender identity. By the early 2000s, some states required that at least one family restroom be included in new buildings. While family restrooms grew in popularity, college students advocated for gender-neutral and mixed-gender restrooms on campus, including in dormitories. By 2005, private businesses and public parks began to add unisex restrooms to increase the amount of ADA-compliant restrooms at a lower price point (Anthony 2006).

This brief period of focus on increased flexibility and access was short-lived. In 2016, North Carolina's House Bill 2 (HB2) restricted the use of multiple occupancy public restrooms by sex assigned at birth. This law resulted in national outrage and boycotts, and the bathroom portion of the bill was rolled back a year later (Prichep 2024). But political climates can shift quickly, and similar laws were easily passed in other states in 2023 and thereafter. In 2024, thirteen states had laws that restricted the use of public restrooms in schools and/or government buildings based on sex at birth (Human Rights Campaign 2024). In Ohio, these restrictions include schools and college campuses, where the law took effect at the end of February 2025.

MAPPING ACCESS TO PUBLIC SPACES

Basic campus maps rarely show restroom locations, as they are assumed to exist within all buildings. And while this is true, a restroom's type and microgeography impact its accessibility. There is an element of transactional access that lies within the confines of when the building is open, if individuals feel comfortable using the space, and if state law allows for their use of the space. While they are often not shown on campus maps, (gendered) restrooms are frequently included on interior maps of public buildings, to aid in access. The idea that universal restrooms would need to be distinguished on these maps from gendered restrooms is relatively new, but a critical perspective on public spaces recognizes the value of this information to people with a variety of different identities and situations.

Gendered restrooms are just one part of a broader discussion about public spaces. A larger question, tackled across academic disciplines, is one of access: Who moves easily through public space and who is restricted? And why? The practice of mapping these spaces, and learning through the mapping process, is important for a better understanding of how these spaces both affect and are affected by cultural and political realities. A longer history of mapping access focuses on disability, particularly how and if those with limited mobility can access public facilities. Kitchin (2002) describes a landscape of curbs, steps, narrow doorways, and unpaved walkways encountered daily by those in wheelchairs and advocates for a mapping process that identifies challenges and empowers users. While we did not use participatory mapping in our project, we certainly recognized the power of using on-the-ground experiences of everyday landscapes to better understand access.

Hamraie (2018) sees critical accessibility mapping as an "open-ended process, a negotiation, and an intersectional

and multimodal issue" rather than a task with an end point (456). Hamraie continues: "Beyond aiding navigation, accessibility mapping became a device for asking questions: what counts as access, for whom, and under what conditions?" (460). More broadly, maps can disrupt power by guiding users to safe, friendly, or accessible places, or away from dangerous and/or discriminatory spaces. Past examples include Green Books showing Black-friendly businesses (1936–1967) and Bob Damron address books (1960s–2021), also known as the Gay Guides (Bottone 2020, Regan and Gonzaba 2019). Today, counter-mapping includes mapping queer-friendly spaces, sanctuary cities or immigrant-friendly businesses, sites of Indigenous presence, and safe/dangerous spaces for women (e.g., Fileborn 2021, Anti-Eviction Mapping Project 2021).

CARTOGRAPHIES OF CAMPUS RESTROOMS

Even before restrictive legislation, university students and staff made efforts to map and identify restrooms that are single user, non-gendered, and accessible. In 2003, UC Santa Barbara affiliates created a coalition dubbed PISSAR (People in Search of Safe and Accessible Restrooms), which worked to increase awareness of and map safe, accessible, and gender-neutral restrooms (Chess et al. 2016). In 2022, an MIT student produced a map depicting single and multi-stall all-gender restrooms on campus. The map includes a dyslexia-friendly font family and colorblind-inclusive color scheme (Seaman 2022).

Maps of restrooms on college campuses are not rare: at least 456 college websites list these facilities (Beemyn 2024). Virginia Commonwealth University, for example, hosts a gender-inclusive restroom map on their website identifying single-stall, gender-neutral restrooms on campus. This interactive map was created using Google My Maps and includes detailed information about the restrooms, including handicap accessibility, public access, and exact location. There is an additional submission box for students, staff, or members of the community to submit new restroom locations and provide additional details. Other colleges and universities, including New York University, Oberlin College, University of Minnesota, and University of Illinois Chicago, use interactive mapping platforms to visualize non-sex segregated restrooms. Some colleges and universities do not host maps on their websites, but have lists of gender-neutral, single-user, or universal restrooms and their locations. In most cases, the maps and lists provided are separate from other campus maps and focus exclusively on showing non-gendered restrooms.

AN OFFICIAL UNIVERSAL RESTROOM MAP

Our regional Midwestern public university consistently ranks 5/5 stars in the Campus Pride Index. Our campus has approximately 30,000 students and 5,000 faculty and staff, with 6 percent (about 2,100) who identify as trans, non-binary, or gender fluid (Rankin Climate 2025). The university opened one of the first campus LGBTQ+ centers in the state (which closed in June 2025 due to a different state bill) and hosts the longest-running student LGBTQ+ organization in the country. While administrators have been cautious in a politically hazardous climate, they have made their desire to protect all students clear. So, while this article points out some of the problems with the existing campus map, this is certainly not a critique of the university's response to the new state bathroom law. It is important to reiterate: We have met no opposition to mapping and providing accurate information about the location of universal restrooms on our college campus, even if the bureaucratic wheels have sometimes been slow to turn. In fact, our experience is that most faculty, staff, and administrators see the value of this process and support creating safe, accessible spaces for students and staff. So rather than placing blame for access difficulties, this article focuses instead on the architectural and administrative challenges and opportunities of mapping universal restrooms.

Since at least 2014, there has been a universal restroom layer on the official campus online map. This map, created by Concept3D, includes 21 layers, ranging from academic buildings and ATMs to bike racks and lactation rooms (Figure 1). An email from three senior vice presidents in February 2025 shared this map (with the academic

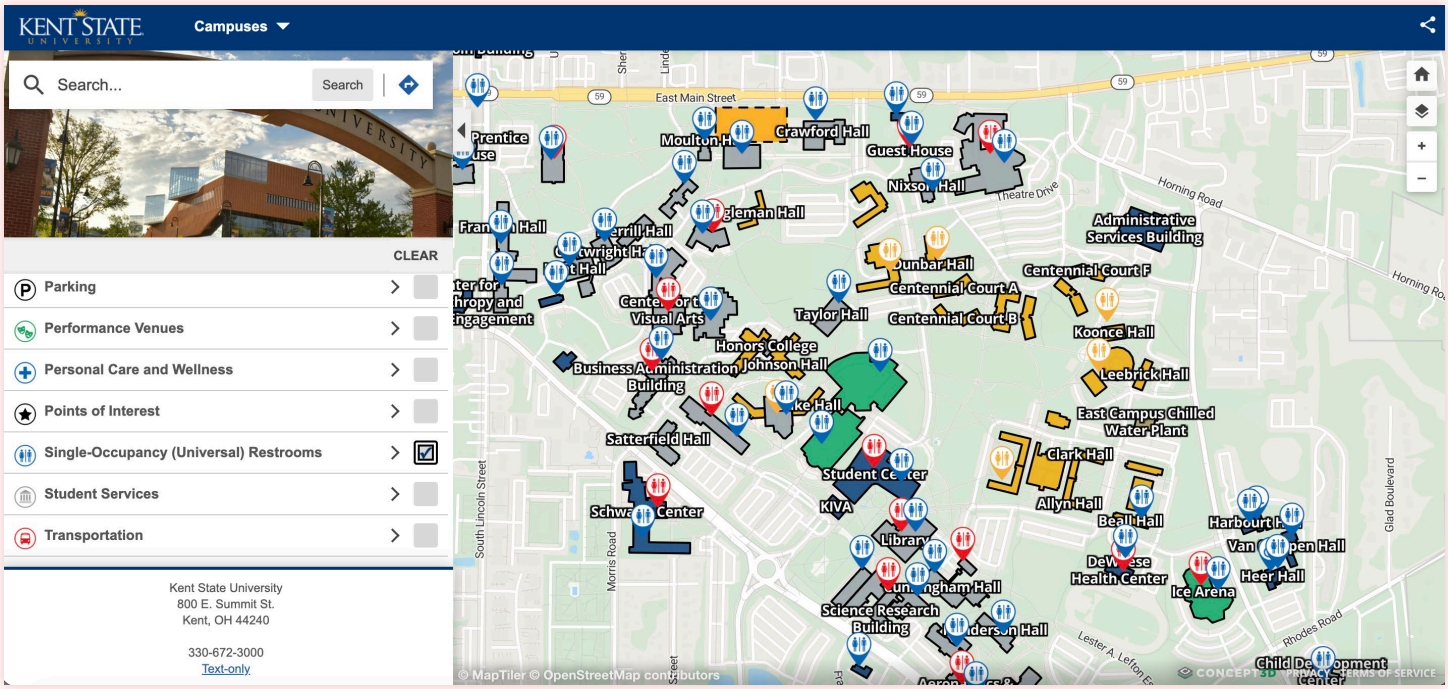


Figure 1. Screenshot of the campus map, with universal restroom layer turned on.

building layer checked, but the universal restroom layer unchecked) with students, faculty, and staff 15 days before the bathroom law went into effect. The email encouraged users to scroll down the list of map layers and click on the universal restroom layer. QR codes linking to the map were posted around campus, including monitors in the student center. At the time of this email, the map showed 168 universal restrooms in 52 public and semi-public buildings on campus.

GROUND-TRUTHING THE OFFICIAL UNIVERSAL RESTROOM MAP

The data on the official campus map came from the campus architect's office, but was not ground-truthed before the map was shared in February 2025. In fact, we learned of the need to correct errors on the spreadsheet we received in early 2025 by noticing that the information for our own building (earth sciences) was incorrect, as it stated that there were two universal restrooms, but there was only one. The methods we used focused originally on correcting errors, but expanded during the project to qualitatively assess access issues for these restrooms.

To re-map campus universal restrooms, we visited all floors of all non-dormitory buildings on campus. Visiting these buildings allowed us to see if the building was truly accessible to the public, and to look for both listed and unlisted restrooms. Field research lasted for three weeks in March and April 2025, with follow-up visits to answer additional questions in June 2025. In addition to identifying the existence or absence of universal restrooms, we also looked for any barriers to access. We only looked for restrooms in buildings where we were allowed to walk around the building without explaining our presence to an office worker. This restriction was self-imposed as we felt potential restroom users would not want to ask permission to access interior spaces where visitors are required to check in or explain themselves to access the building's semi-public spaces.

We found a key aspect of our assessment of restrooms to be centered on whether they were accessible to all: Were they *public* restrooms? There are two parts to this question (Figure 2). First, is the building itself publicly accessible? Access to dormitories is clearly the most restricted on a college campus, so we began by assuming these to be private. Only students with swipe cards or their guests can access the interior of these buildings. The police station, health center, and preschool also have strong access restrictions. At the opposite end of this spectrum are buildings

that are clearly public: our campus library and student center, for example, are open long hours (including weekends) and do not require swipe cards. Academic buildings

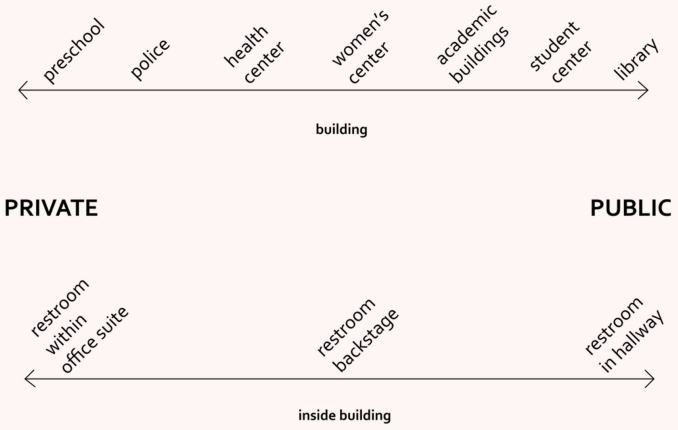


Figure 2. A spectral understanding of public and private buildings on a college campus, as developed during our research on the location of universal restrooms.

(which often pair faculty/staff offices and classrooms based on discipline) are typically open to all during regular business hours. Other buildings are in the middle, with unlocked doors but people at a front desk whom you need to check in with to proceed into the rest of the building. The next part of the question is: within the building, is the restroom in a public space? Restrooms in hallways in public buildings are the most public. Restrooms in closed (and sometimes locked) office suites are the least public. Other spaces are somewhat in between, and these can make the user feel uncomfortable due to their unclear status.

We categorized 75 campus buildings as public, semi-public, or private (Figure 3). Public buildings could be entered by anyone during business hours (or beyond). Semi-public buildings required a check-in with office staff (a specific appointment with someone who works there or a planned event), and private buildings were restricted to those with special permission (the preschool or police station). These

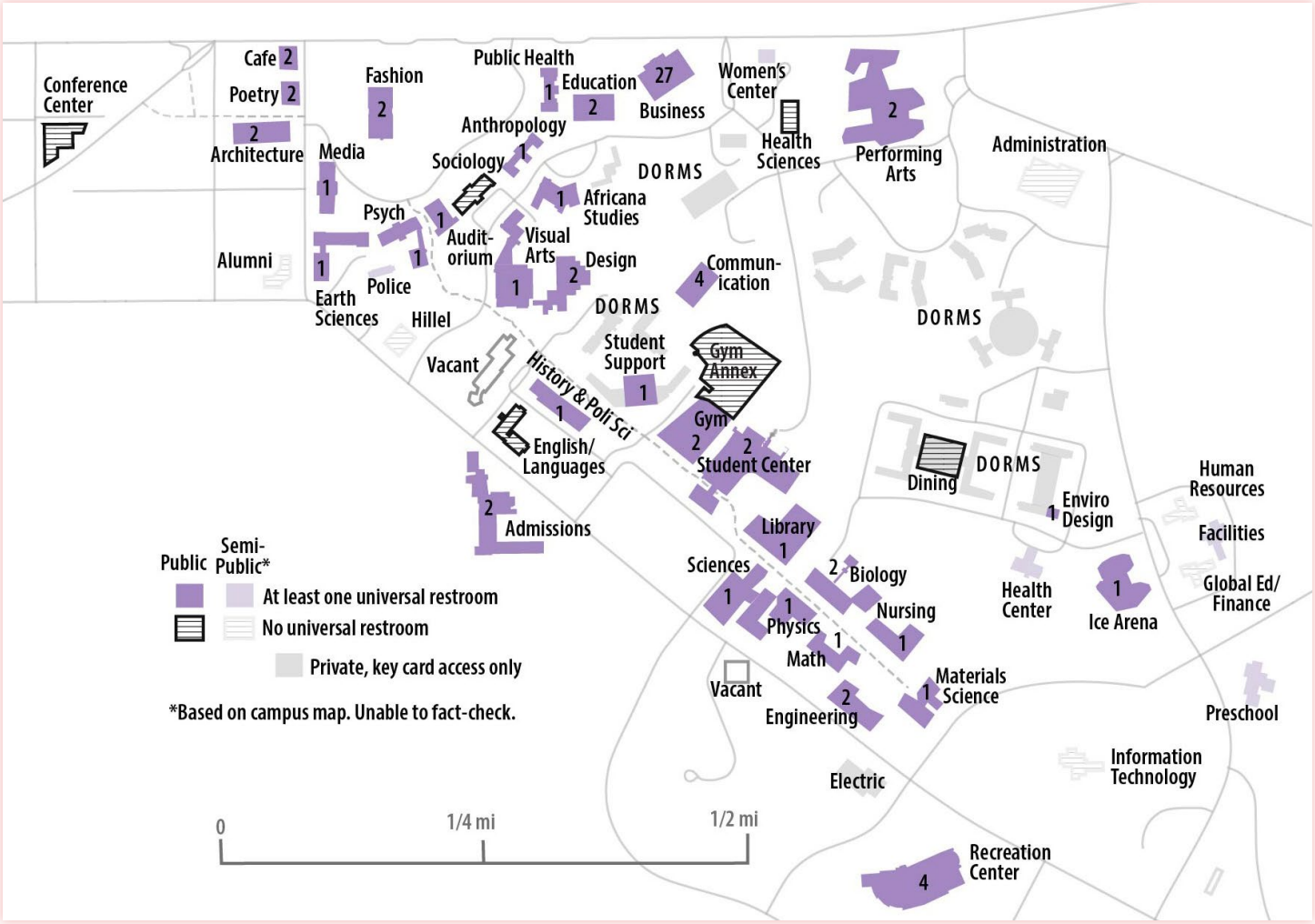


Figure 3. Map showing public, semi-public, and private buildings with and without universal restrooms, with quantity noted for public buildings.

Public Buildings					
Building purpose	Universal restrooms	False +	False -	Other	No Error
Admissions	2				•
Africana Studies	1	•			
Anthropology	1			•	
Architecture	2				•
Auditorium	1			•	
Biology	2				•
Business	27				•
Cafe	2	•			
Communication	4				•
Conference Center	0				•
Design	2				•
Dining	0				•
Earth Sciences	1	•		•	
Education	2			•	•
Engineering	2	•			
Enviro Design	1				•
Fashion	2	•		•	
Gym	2	•	•		
Gym Annex	0	•		•	
Health Sciences	0	•		•	
History/Poli Sci	1				•
Ice Arena	1	•	•		
Library	1	•			
Materials Science	1			•	
Math	1	•			
Media	1				•

Public Buildings (Continued)					
Building purpose	Universal restrooms	False +	False -	Other	No Error
Nursing	1	•	•		
Performing Arts	2	•			
Physics	1				•
Poetry	2		•		
Psychology	1	•	•		
Public Health	1				•
Recreation Center	4		•		
Sciences	1				•
Sociology	0				•
Student Center	2	•		•	
Student Support	1				•
Visual Arts	1				•

Buildings with Restricted Access (Semi-public)		
Building purpose	Universal restroom	Known error
Administration		
Alumni		
Facilities		•
Global Ed/Finance	•	
Health Center	•	•
Hillel		
Human Resources		•
Info Tech		
Police	•	•
Preschool	•	•
Women's Center	•	•

Table 1. Ground-truthing results for campus buildings.

categories were determined by both authors together given our experiences as faculty (Mapes) and student (Spence) and additional research (if needed). We did not extend our research to sports stadiums and similar outbuildings. On the main campus there are 25 private buildings: 24 dorms and the campus power plant. There are 39 public buildings on campus and of these, 32 had at least one universal restroom. Of the remaining buildings, 11 are semi-public, and while we were limited in our ability to ground-truth these, the campus map stated that five of these had universal restrooms. Overall, we found universal restrooms in 74 percent of public and semi-public buildings, confirming in-person 80 of these spaces in public buildings across campus. But these basic statistics do not adequately represent everything about the experience of finding and using universal restrooms on campus.

Combining our categorization of public and private spaces on campus, along with a survey of every floor of every building, we found that more than half the entries on the official campus map were inaccurate or misleading, for a variety of reasons (Table 1). The data used by the official map was missing some single-occupancy restrooms (false negatives) and included some that were gendered or not

publicly accessible (false positives). Even in semi-public buildings that we could not check, some errors were clear: classrooms in the campus preschool were identified as having universal restrooms, even though the school is not accessible to the public, and the restrooms are not intended for adult use. Restrooms inside exam rooms at the health center were also identified on the map layer, despite being only accessible by the patient occupying the room.

Errors listed under "other" in Table 1 refer to issues with accessibility such as locked doors, incorrect room numbers, and unsigned locations. Though the official map includes a note for some of the restrooms saying that they are in office suites or lounges, the map user must click on the restroom and review the pop-up window to find this out (Figure 4). These restrooms are technically single-user, but they are not easily accessible and their hidden, semi-private, or unfinished location may discourage potential users (Figure 5).

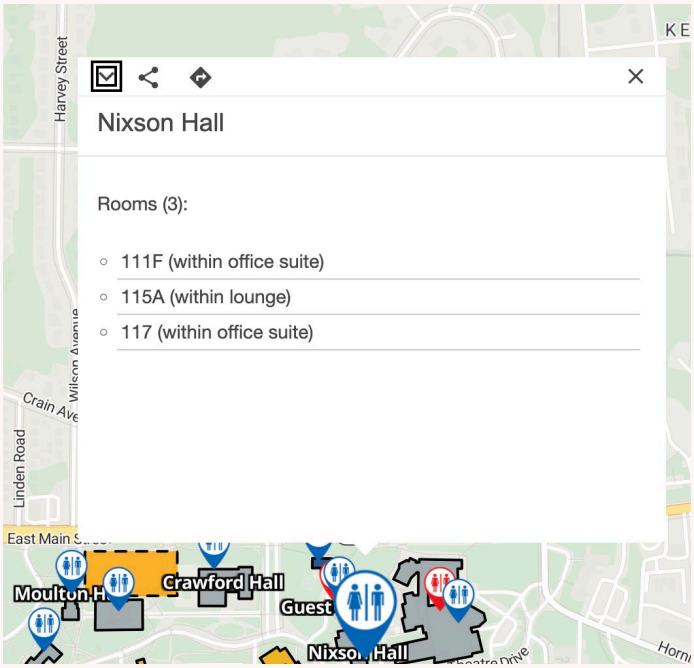


Figure 4. Notes on the campus map add caveats to the "universal restroom" designation, but in some cases this means the restrooms are not actually public.

WINDING ROUTES AND LOCKED DOORS

Within buildings, we found that the microgeography of restrooms determined how accessible they are to potential users. Some universal restrooms were in hallways, like most gendered restrooms. However, there were many others with more complicated geographies, making them more difficult to access.

BACKSTAGE

Several of the restrooms designated as universal were located backstage in auditoriums or small stages around campus. These posed a unique challenge because they were not built originally for public use, but for performers during performances. While it is always useful to have more single-user bathrooms, describing them with a broad brush as "universal" is problematic.

The campus auditorium building provides a good example of how a backstage location can make a restroom less-than-public. The building is a hub for faculty, staff, and students, and includes office suites, student lounges, and the auditorium. While the campus map identifies a universal restroom on the third floor, the difficulties in finding this restroom are indicative of broader problems with the identification of all single-user restrooms as both



Figure 5. The basement of the math building was listed on the campus map as including a universal restroom, but its location was unclear and the basement felt like it was not a public space.

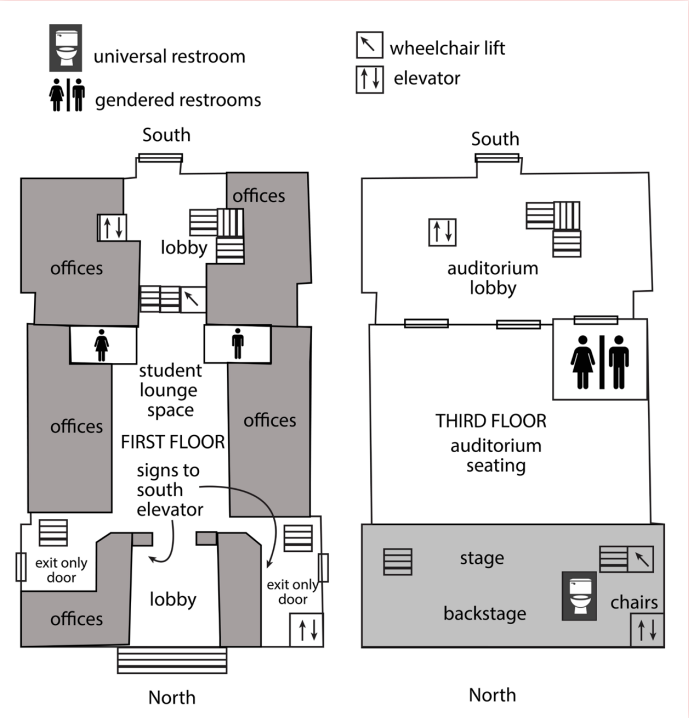


Figure 6. Administration/auditorium building floor plan: The north elevator is the only way to access the universal restroom, which is in back of the auditorium stage. There is no signage indicating the restroom's existence or how to get there from other parts of the building.

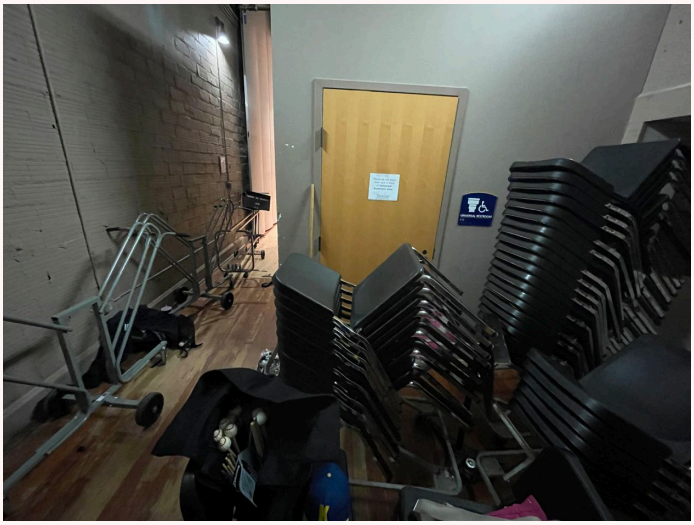


Figure 7. There is little space backstage in the administration/auditorium building, so during several of our visits to this location, chairs were blocking the restroom. The sign on the door suggests this is a known problem for access: "Please do not place chair rack in front of universal restroom door. Thank you!". Additional signs (not shown) illustrate the correct storage setup for equipment so it does not block the restroom. The doorway to the right, also blocked by chairs, leads to stairs and an elevator lift with access to the auditorium seats.

universal and accessible. At the front (south side) of the building, stairs and an elevator lead to the back of the auditorium on the third floor (Figure 6). There are gendered restrooms at the back of the auditorium, but no signs explaining how to get to the universal restroom or noting its existence. This restroom is at the back of the stage, and so was likely built for performers to discreetly use during a show. There are two options to get there. One involves cutting through the auditorium and stage to access backstage, but there are frequent events and musicians practicing there. The other requires the user to find a hidden elevator (on the building's north side) that is not mentioned on any sign and take this elevator directly backstage. We inspected this restroom multiple times and found stacked chairs blocking the door (and a sign saying users should not block the door with chairs) several times (Figure 7).

OFFICE SUITES, LOCKER ROOMS, AND LOUNGES

Three of the most public buildings on campus are the library, student center, and gymnasium. All three of these buildings had universal restrooms listed that were either not public or not found. We considered these to be false positives—restrooms listed on the map that did not exist or were not accessible by typical students or staff. In the library, the map listed four universal restrooms, but only one was a true universal restroom. One was within a gendered lounge (Figure 8) in the basement. Two others were located within office suites off-limits to all but staff of the president and provost (the library's second floor includes these top administrative offices). A similar situation was found in the history/political science building, which also hosts the dean's office—this office suite includes a single-user restroom adjacent to the dean's conference room. While there is no sign forbidding outsider use of this restroom, it is unlikely to be considered an option by anyone besides the dean and their staff. In the student center, one of the universal restrooms was in a sometimes-locked room where the Board of Trustees meets.

Our overall assessment of the campus map was that it is mostly accurate at the scale of the building. For example, eight universal restrooms are listed for the performing arts building on the campus map. And it is true that the building has universal restrooms. However, when we examined the microgeography of building layouts and function, we found that the picture is incomplete. Two of these eight restrooms were indeed universal, but one was multi-user (so, legally not permitted to be universal), two were

backstage, one was locked, and the other two were located in gendered locker rooms reserved for the dance studio.

As another example of how the picture becomes complex once we focused on the level of the building, the recreation center on campus includes two gendered locker rooms with strict single-sex policies for everyone over age four. But it also has two lockable gender-neutral rooms next to the pool, with lockers, showers, and a toilet. These are listed on the campus map. There is an additional restroom listed on the campus map that is "in a wellness suite" that we could not find. However, there were two single-stall restrooms on the first floor that seemed to have been recently switched from gendered to universal (one still has a urinal inside), but these were not listed on the map.

COMPLEXITIES OF BUILDING INTERIORS

Our research shows that simply inputting data from the architect's office does not work for mapping universal restrooms. Some of these facilities are within gendered or private spaces. In other cases, the construction of the building changed after the plans were submitted, making some areas more public and others less public. Other inaccuracies are mysterious: it is unclear how some non-universal restrooms were listed as universal on the campus map, or why others were left off.

If there is one problem we knew before this mapping project began, it is that campus buildings are weird. Architects get creative, and renovations over decades or even centuries can make them even weirder. Additionally, the locations of restrooms within buildings are often the result of overlapping layers of historic building use. This may include buildings not originally built to include women, and so restroom locations do not follow an expected pattern of two gendered multi-stall restrooms per floor (Hammonds 2020). The library on our campus, for example, is 12 stories of restroom confusion with a combination of male, female, universal, and mixed restrooms—but not all are available on each floor (Figure 9). The earth sciences building includes a single large multi-stall gendered restroom and



Figure 8. Library room 016 was listed on the campus map as a universal restroom, but it is a multi-stall restroom inside a gendered lounge. A sign directs those looking for a universal restroom to a different floor.

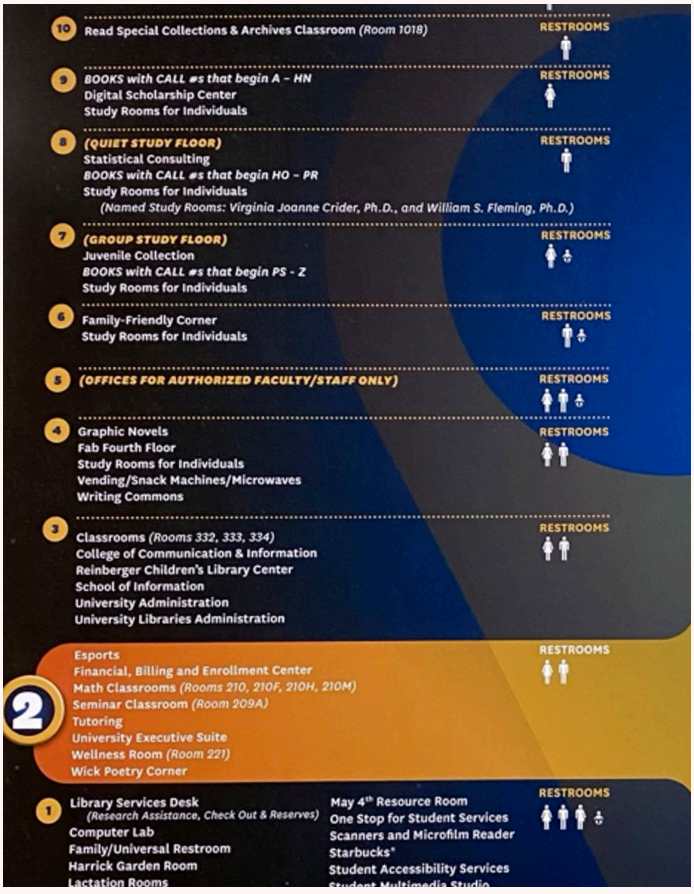


Figure 9. This sign, on the second floor of the library, shows restroom availability by floor in the column on the right, illustrating how the building was constructed with only one gendered bathroom per floor above the 5th floor.

two smaller gendered restrooms on the second, third, and fourth floors—these restrooms have likely undergone many iterations of what gender they are assigned to. Levine (2023) calls these incongruities "scars of organizational assumptions" in her autoethnographic survey of restrooms on Purdue University's campus (22).

While the age of campus buildings sometimes plays a role in their "campus weirdness," it does not necessarily determine whether they have a universal restroom. Many of these buildings were renovated recently and universal restrooms were added. The earth sciences building, for example, did not have a universal restroom until 2024, when the first floor was renovated and a single-user restroom was added (the first floor previously did not have any restrooms). Some of the most accessible setups and helpful signage are in buildings renovated or constructed in the past few years, including the new business building (2024) which includes 27 universal restrooms (one-third of all on campus) and only a single set of gendered multi-stall restrooms. On the other hand, the new 70,000 sq ft sciences building, which opened in 2017, only has one publicly accessible universal restroom and it is in the basement and behind an unmarked, closed outer door.

OPPORTUNITIES FOR ADVOCACY

While there are many takeaways from this mapping project about how easy it is to misrepresent access through uncritical mapping, we are optimistic that our more detailed process of ground-truthing and mapping has created many opportunities to improve access. While most of the on-the-ground mapping was done by one of the authors (Spence), we reached out to many colleagues across campus who know their buildings best. In doing this, and through the in-person visits to buildings, we were able to identify ways to make inaccessible spaces into accessible spaces and encourage our colleagues to advocate for these changes.

CHANGING LOCKS

One issue we found with universal bathrooms was locks. This problem can go in two directions. The state law requires that universal restrooms be lockable from the inside and include only one stall. On our campus, there are some restrooms that do not have a lock on the main door but include only a single stall that can be locked. Adding a lock on the inside of the main restroom door would transform this space into an "official" universal restroom. Conversely, other restrooms are locked on the outside and can only be opened with a faculty key. So, while they are single-user, they are not reliably public. This is another situation where an easy mechanical change can create a new universal restroom.

In the psychology building, there is a short hallway with a universal restroom at the end. It was originally built to be a semi-private office suite but has been converted into several separate offices and is now public. A sign on the hallway door says, "do not close, this door will lock." One colleague asked the department chair to change this locking door into an unlocked door to make clear that this is a public space, and therefore the restroom is public. Unfortunately, this was not successful, and the space is now identified as faculty lab space although it remains publicly accessible. In the English building, another antiquated setup includes signs designating single stall, gendered, unlocked restrooms as faculty only. Faculty voted to open these up to students, and they requested that locks and signs be added to make them universal restrooms under state law. During our mapping, we were included in an email request to permanently unlock the exterior door to the only universal restroom in the gym annex. This faculty request found its way to a student accessibility specialist who put in a request to campus facilities management, and they fixed the lock.

SIGNAGE

Appropriate signage can make a big difference in the accessibility of a universal restroom. These should be listed in the building directory, and signs should be added to guide users from gendered restrooms to universal ones. In many cases, the nature of complex academic buildings and complex numbering systems made universal restrooms difficult to find during our research. Grassroots advocacy work in the Africana studies building was clear from multiple, unofficial paper signs pointing users to the universal restroom (Figure 10). In the visual arts and design buildings, gendered restrooms included official (plastic) signs pointing the user to the nearest universal restroom (Figure 11). However, beyond these two examples, there

were very few attempts to provide helpful signs to universal restrooms.

In addition to the challenge of a lack of internal building signage, the appearance of universal restroom signs is also a topic of debate. Best practices call for a single-user accessible restroom sign to include a toilet symbol next to the International Symbol of Access (ISA) symbol (a person sitting in a wheelchair) and be labeled with the words "Universal Restroom" or "All-Gender Restroom" (Peebles et al. 2024). However, there is some debate regarding the ISA symbol, as it is not representative of all people who need accessibility aids—in other words, not everyone who needs an accessible restroom uses a wheelchair (Vice et al. 2020). Universal, or non-gender-specific, restrooms do not need to mention gender, only whether the restroom is accessible, and/or is single or multi-user (Colburn 2020).

RAISING AWARENESS WITH A ZINE

We were asked not to create a second online map, so we chose a different route for sharing accurate locations of universal restrooms on campus: we published a zine. Zines, derived from the concept of magazines, are small do-it-yourself (DIY) publications that are an alternative way to analyze or bring awareness to a concept or topic, in contrast to more traditional flyers or pamphlets. The use of zines both inside and outside of academia reaps a variety of benefits including informal information distribution and raising awareness of social and environmental issues both through the creation and reading of the publication (Sharp et al. 2026). The small size of most zines improves accessibility, pushing the creator to simplify and focus their words and graphics. The DIY nature of the zines is designed in part to draw attention in places where conventional publications may be overlooked. They are also quick and easy to make. A zine became a way for us to share our findings unofficially and quickly, as the passing of the state law created a pressing need. This need was not addressed by the university's official map, as it contained errors and would not be updated quickly.

The creation of this zine was inspired by the Geography Zine Organizing Network (GEOZONe), a collective dedicated to the collection and production of zines regarding geographic phenomena and pedagogy. GEOZONe hosted a zine fair at the 2025 American Association of Geographers (AAG) conference in Detroit, MI, that included more than a dozen examples of geographer-created



Figure 10. Unofficial signs were added throughout the Africana studies building, pointing to the universal restroom.



Figure 11. At a gendered restroom in the arts building, an official sign indicates the location of the closest universal restroom.

zines from around the world (Sharp et al. 2026). We attended this conference and were inspired by the zines shared there to create one related to our ongoing research and activism related to identifying the location of campus universal restrooms.

Our audience includes faculty, staff, and students, and our zine aims to inform readers about the issue, including the university's official policy and restroom label disparities, while also drawing attention to a map of universal restrooms. This map was placed on the inside of the zine, a location that serves as an extra layer of protection for information about spaces that may be frequented by trans, non-binary, and gender non-conforming folks. The reader is required to read through the entire zine to locate the map revealing these spaces. This application of "secrecy" in the unfolding of the zine to view the map provides an element of comfort for the restroom user, as restroom use and access is generally private (Piepmeier 2008).

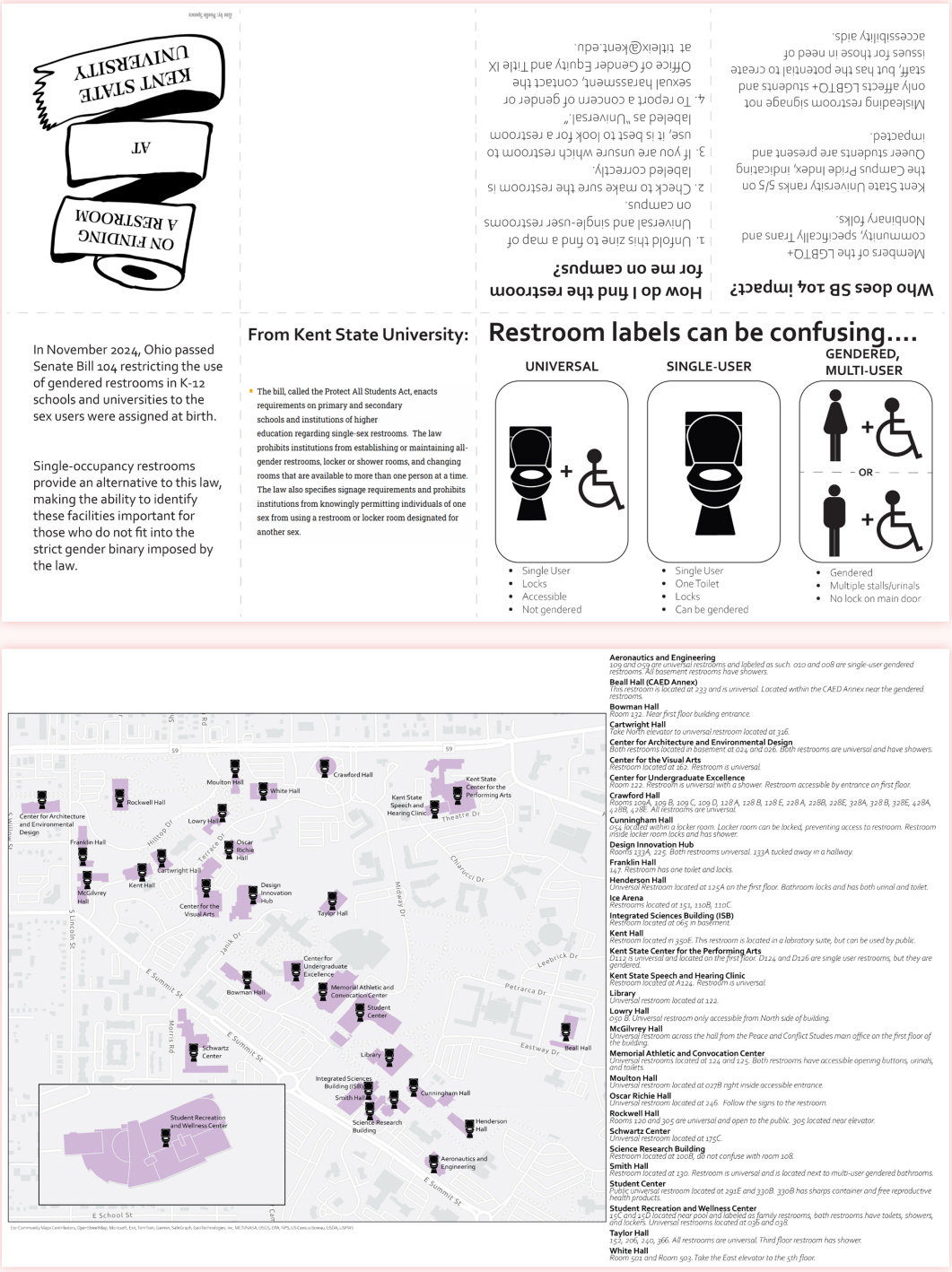


Figure 12. Our zine explains the impacts of the passing of the state law and provides a map showing universal restrooms on campus.

A MICROGEOGRAPHY OF CAMPUS RESTROOMS

While there are hundreds of colleges that list or map universal restrooms on campus, our research showed that access to these restrooms is often more complex than can be communicated with a simple point on a map indicating a building that includes a universal restroom. Returning to thinking about the microgeography of everyday landscapes, we found that, except in one new building, universal restrooms are not easily found and accessed on our campus. Instead, they can be unsigned, on different floors, in the basement, behind chairs, or

otherwise hard to access. Even just identifying buildings that are semi-public (monitored by office workers) reduces the total number by half of universal restrooms promised by the campus map.

At the conclusion of our research, we provided our human resources contact with a long list of suggested corrections to the official map of universal restrooms (including non-public restrooms, non-existent restrooms, gendered restrooms inaccurately listed as non-gendered, and universal restrooms that were missing from the map). As of April 2026, these changes have not yet been made. Given our experiences trying to find restrooms using the campus map, we realized that providing a QR code linking to the official campus map was not as helpful as we first imagined. We suggest instead, to campus colleagues who would like to help, that they post signage at gendered restrooms (easy to find) with specific directions to the closest universal restroom (harder to find). Directions beyond just room numbers could help provide place-based context that accounts for winding routes, elevator restrictions, and clarity about what spaces are public. Simple changes in door locks and signs could also improve access.

The microgeography of restrooms, along with associated signage, reflects our culture. As gendered public restrooms were established in the late 1800s and early 1900s, they reflected sexism and racism in our society. Today, design, location, and access to universal restrooms on campus and within buildings can reflect a disinterest in, or valuing of, inclusive facilities for trans and non-binary people. Our research revealed many different treatments of universal restrooms: from not offering them at all, to integrating these facilities throughout a building. In most cases, there was only one universal restroom per building, and it was hard to find or access. Additionally, the official campus map included numerous incorrect room numbers and other inaccuracies. Overall, while we appreciated that most public buildings on our campus included a universal restroom, the mapping process was an essential part of better understanding how to expand and improve access for a wide variety of restroom users.

DISCLOSURE

The authors have no financial interests to disclose.

REFERENCES

Alderman, Derek H., Joshua F. J. Inwood, and Ethan Bottone. 2021. "The Mapping Behind the Movement: On Recovering the Critical Cartographies of the African American Freedom Struggle." *Geoforum* 120: 67–78. **https://doi.org/10.1016/j.geoforum.2021.01.022**.

Anthony, Kathryn H. 2006. "An Update on Public Restrooms in the USA." Paper presented at World Toilet Forum 2006, Bangkok, Thailand, November 17, 2006. **https://www.ideals.illinois.edu/items/127163/bitstreams/415095/data.pdf**.

Anti-Eviction Mapping Project. 2021. *Counterpoints: A San Francisco Bay Area Atlas of Displacement & Resistance*. Oakland, CA: PM Press. **https://archive.org/details/counterpointssan0000unse/page/n1/mode/2up**.

Beemyn, Genny. 2024. "Trans-Supportive Campus Policies: Colleges and Universities That List Campus Gender-Inclusive Restrooms on Their Websites." Genny Beemyn - LGBTQ+ Educator, Author, Speaker, and Consultant. Last updated September 12, 2024. **https://www.gennyb.com/research/trans-supportive-campus-policies/gender-inclusive-restrooms/**.

Binte Mohiuddin, Maliha. 2025. "Everywhere She Maps Through the Lens of Feminist Standpoint Epistemologies." *Discover Global Society* 3: 46. **https://doi.org/10.1007/s44282-025-00188-3**.

Bottone, Ethan. 2020. "'Please Mention the Green Book:' The Negro Motorist Green Book as Critical GIS." In *Historical Geography, GIScience and Textual Analysis: Landscapes of Time and Place*, edited by Charles Travis, Francis Ludlow, and Ferenc Gyuris, 51–64. **https://doi.org/10.1007/978-3-030-37569-0_4**.

Buckley, Aileen R., and Nat Case. 2025. "Introduction to Ethics in Cartography." *Cartographic Perspectives* 105: 5–12. https://doi.org/10.14714/CP105.1997.

Chess, Simone, Alison Kafer, Jessi Quizar, and Mattie Udora Richardson. 2016. "Calling All Restroom Revolutionaries!" In *Everyday Women's and Gender Studies: Introductory Concepts*, edited by Ann Braithwaite and Catherine Orr, 385–92. New York: Routledge. https://doi.org/10.4324/9781315643205.

Cinderby, Steve, Carolyn Snell, and John Forrester. 2008. "Participatory GIS and its application in governance: the example of air quality and the implications for noise pollution." *Local Environment 13* (4): 309–20. https://doi.org/10.1080/13549830701803265.

Colburn, Selene. 2020. "Beyond the Bathroom Wars: Increasing Gender-Free Restroom Access in Libraries." *College & Research Libraries News* 81 (8): 387–90. https://doi.org/10.5860/crln.81.8.387.

Corbett, Jon, Logan Cochrane, and Mark Gill. 2016. "Powering Up: Revisiting Participatory GIS and Empowerment." *The Cartographic Journal* 53 (4): 335–40. https://doi.org/10.1080/00087041.2016.1209624.

Davis, Alexander K. 2020. *Bathroom Battlegrounds: How Public Restrooms Shape the Gender Order*. Berkeley: University of California Press. https://doi.org/10.1525/9780520971660.

Fileborn, Bianca. 2021. "Online Activism and Street Harassment: Critical Cartographies, Counter-Mapping and Spatial Justice." *Oñati Socio-Legal Series* 11 (5): 1198–1221. https://doi.org/10.35295/osls.iisl/0000-0000-0000-1144.

Gershenson, Olga. 2010. "The Restroom Revolution: Unisex Toilets and Campus Politics." In *Toilet: Public Restrooms and the Politics of Sharing*, edited by Harvey Molotch and Laura Norén, 191–207. New York: NYU Press. https://doi.org/10.18574/nyu/9780814759646.003.0020.

Hammonds, Evelynn. 2020. "Challenges and Change for Women of Color in Science – A Conversation with Evelynn Hammonds, Chair and Professor of the History of Science." Interview by Jennifer Berglund. *HMSC Connects! Podcast*. August 20, 2020. https://hmsc.harvard.edu/2020/08/20/challenges-and-change-for-women-of-color-in-science-a-conversation-with-evelyn-hammonds-chair-and-professor-of-the-history-of-science/.

Hamraie, Aimi. 2018. "Mapping Access: Digital Humanities, Disability Justice, and Sociospatial Practice." *American Quarterly* 70 (3): 455–82. https://doi.org/10.1353/aq.2018.0031.

Harley, J. B. 1991. "Can there be a Cartographic Ethics?" *Cartographic Perspectives* 10: 9–16. https://doi.org/10.14714/CP10.1053.

Harris, Leila M., and Helen D. Hazen. 2006. "Power of Maps: (Counter) Mapping for Conservation." *ACME: An International E-Journal for Critical Geographies* 4 (1): 99–130. https://doi.org/10.14288/1.0357973.

Human Rights Campaign. 2024. "Anti-Transgender Bathroom Bans." Last updated November 14, 2024. https://www.hrc.org/resources/state-maps/anti-transgender-bathroom-bans.

Kitchin, Rob. 2002. "Participatory Mapping of Disabled Access." *Cartographic Perspectives* 41: 44–54. https://doi.org/10.14714/CP41.563.

Kogan, Terry S. 2007. "Sex-Separation in Public Restrooms: Law, Architecture, and Gender." *Michigan Journal of Gender and Law* 14 (1): 1–57. https://www.proquest.com/scholarly-journals/sex-separation-public-restrooms-law-architecture/docview/236690077/se-2.

Koopman, Sara. 2024. "Will the Real People's Geography Please Stand Up? Community, Public, and Participatory Geographies in Conversation." *Geography Compass* 18 (4): e12745. https://doi.org/10.1111/gec3.12745.

Levine, Naomi Tova-Tmira. 2023. "If These Stalls Could Talk: Organizational Invitations to Identification Evoking a User's Sense of Belonging as Communicated through Infrastructure." Ph.D. Dissertation, Purdue University. https://doi.org/10.25394/PGS.23787420.

López Garrido, Gonzalo José. 2021. "Radical Geography and Advocacy Mapping: The Case of the Detroit Geographical Expedition and Institute (1968–1972)." *Journal of Planning History* 20 (4): 291–307. https://doi.org/10.1177/1538513220988673.

Maharawal, Manissa M., and Erin McElroy. 2018. "The Anti-Eviction Mapping Project: Counter Mapping and Oral History toward Bay Area Housing Justice." *Annals of the American Association of Geographers* 108 (2): 380–89. https://doi.org/10.1080/24694452.2017.1365583.

Monmonier, Mark S. 2018. *How to Lie with Maps*, 3rd ed. Chicago: The University of Chicago Press.

O'Sullivan, David. 2006. "Geographical Information Science: Critical GIS." *Progress in Human Geography* 30 (6): 783–91. https://doi.org/10.1177/0309132506071528.

Parker, Brenda. 2006. "Constructing Community Through Maps? Power and Praxis in Community Mapping." *The Professional Geographer* 58 (4): 470–84. https://doi.org/10.1111/j.1467-9272.2006.00583.x.

Peebles, Evan, Alyssa Ross, and Lora Ericson. 2024. "All-Gender Restrooms: Necessary and Possible." *Library Leadership & Management* 38 (2). https://doi.org/10.5860/llm.v38i2.7593.

Piepmeier, Alison. 2008. "Why Zines Matter: Materiality and the Creation of Embodied Community." *American Periodicals: A Journal of History, Criticism, and Bibliography* 18 (2): 213–38. https://doi.org/10.1353/amp.0.0004.

Prichep, Deena. 2024. "Transgender Bathroom Bills Are Back, Gaining Traction after Past Boycotts." NPR. May 6, 2024. https://www.npr.org/2024/05/06/1249406353/transgender-bathroom-bill-republican-states.

Rankin Climate. 2025. "Kent State University: Key Findings Report." https://www.kent.edu/node/1010522.

Regan, Amanda, and Eric Gonzaba. 2019. "Mapping the Gay Guides: Visualizing Queer Space and American Life." Mapping the Gay Guides. Last updated October 7, 2022. https://www.mappingthegayguides.org.

Seaman, Elliott S. L. 2022. "Lavender@MIT: The Case for an All-Gender Restroom Paradigm on the MIT Campus." Undergraduate Thesis, Massachusetts Institute of Technology. https://hdl.handle.net/1721.1/144751.

Shannon, Jerry, Katherine B. Hankins, Taylor Shelton, et al. 2021. "Community Geography: Toward a Disciplinary Framework." *Progress in Human Geography* 45 (5): 1147–68. https://doi.org/10.1177/0309132520961468.

Sharp, Wiley, Eden Kinkaid, Willow Ross, Nick Koenig, Priya Kunjan, and Rae Baker. 2026. "Mischief, Care, and Heterotopia: Reflections on the Potentials of Zines in Geography's spaces." *cultural geographies*. https://doi.org/10.1177/14744740251410945.

Swab, Jack, and Jack Jen Gieseking. 2022. "Toward Queering the Map 2.0: A Conversation with Michael Brown, Larry Knopp, and Bo Zhao." *ACME* 21 (4): 416–35. https://doi.org/10.14288/acme.v21i4.2217.

Velázquez Soto, Armando Octavio. 2024. "Alternative Cartographies of Mexico: Violence, Hope, and Future." In *Un-Mapping the Global South*, edited by Gero Bauer, Nicole Hirschfelder, and Fernando Resende, 21–36. London: Routledge India. https://doi.org/10.4324/9781003422853.

Vice, Jason, Beth A. Barstow, Sean Bowman, Tapan Mehta, and Sangeetha Padalabalanarayanan. 2020. "Effectiveness of the International Symbol of Access and Inclusivity of Other Disability Groups." *Disability and Health Journal* 13 (1): 100836. https://doi.org/10.1016/j.dhjo.2019.100836.

Warren, Gwendolyn C., Cindi Katz, and Nik Heynen. 2019. "Myths, Cults, Memories, and Revisions in Radical Geographic History: Revisiting the Detroit Geographical Expedition and Institute." In *Spatial Histories of Radical Geography: North America and Beyond*, edited by Trevor J. Barnes and Eric Sheppard, 59–85. Hoboken, NJ: John Wiley & Sons. https://doi.org/10.1002/9781119404781.ch2.